

NET.AESTHETICS, NET.HISTORY, NET.CRITICISM:
INTRODUCING NET.ART INTO A COMPUTER ART
AND GRAPHICS CURRICULUM

DISSERTATION

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By

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ABSTRACT

Net.art is an art form that uses the Internet as a medium, and has been created specifically for viewing on the World Wide Web. For the art instructor whose curriculum includes art criticism, art history and aesthetics with studio activities, including net.art in such a way that encourages critical thinking and new perspectives on art as well as the Internet is a daunting challenge. The art instructor needs the computer skills necessary to assist students in creating net.art, as well as an understanding of the cultural, technological and theoretical underpinnings of net.art in order to demystify it for students. Net.art tends to be highly conceptual, strongly challenges commonly held notions regarding art, and often requires the viewer to have some knowledge of the history of the Internet. It also requires the viewer to understand the Internet as a cultural phenomenon rather than a technological tool.

My primary empirical objective was to formulate effective pedagogical strategies for the high school art instructor incorporating net.art into their curriculum in such a way that would facilitate students' critical thinking, meaning making, and deeper understanding of the cultural aspects of the Internet. The principal research question is: how can net.art be integrated into a high-school level computer art and graphics curriculum?

Over the course of the study, the principal investigator engaged in reflective practices that enabled her to devise pedagogical strategies that, in turn, facilitated a demystification process that enabled the students to overcome their initial disorientation and became increasingly able to appreciate and understand net.art. Despite the students' familiarity with the Internet and traditional art forms, however, they were not able to translate their knowledge gained from these experiences into an adequate vocabulary in which to describe and interpret net.art as an artistic form. When asked to compare the web sites they are more accustomed to with net.art, these students defined a typical web site in terms of its functionality, how its form is dependent on its functionality, and its content; in direct contrast to a "typical" web site, most of the students described net.art's form and function as something quite opposite.

Dedicated to Jaron Bernstein, my wonderful spouse

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CHAPTER 1

INTRODUCTION

1.1 Need for the study

In the year 2003, the Internet's presence in the lives of people living in the United States is practically a given, including the lives of children. According to a July 2002 survey by the Pew Internet American Life Project, three in five children under the age of 18 and more than 78% of children between the ages of 12 and 17 go online; the most common online activity these youth undertake is schoolwork (Levin & Arafeh, 2002). Much of this online activity occurs in school. What does this mean for educators? To what degree are they facilitating and guiding their students' online use? Are they responding to the ways students communicate and access information over the Internet in a meaningful way, if they are responding at all?

Although I am not a part of the generation described above, my interest in how children use and understand the Internet is not exclusively academic. While it is true I do not belong to this younger generation (I am a GenXer), and I do remember what life was like without the Internet, I have been an enthusiastic and avid user of the Internet for over half my life. I have used it (and in some cases continue to use it on a daily basis) in its numerous guises: email, the World Wide Web, Instant Messaging, Usenet groups, MUDs (Multi-User Dungeons), MOOs (MUD, object oriented), listservs, online games, online

relationships, and online forums. In 1997, I became an aficionado of another Internet phenomenon that has, up to this very moment, continued to intrigue, baffle and excite me: net.art (pronounced net dot art, and sometimes referred to as net art, or web art). Net.art is art that uses the Internet as a medium, and has been created specifically for viewing on the World Wide Web. In net.art I discovered a phenomenon that has enabled me to combine the three passions that have shaped my life, art, education and the Internet.

As an artist, net.art intrigued me for a number of reasons. My experiences with works of net.art are often quite different from my experience with “typical” or “normal” web sites. With a work of net.art, my experience with it unfolds in such a way I cannot anticipate. In other words, I do not click on a link simply to obtain a bit of information meant to be useful in the near or immediate future, or satisfy an instantaneous (and often mundane) curiosity. Unlike most commercial web sites that are designed to be user friendly, engineered so the viewer can get to the information they want as quickly and efficiently as possible, net.art slows the viewer down. Not unlike a novel, I must read and examine every page in order to begin to know what the artist (or writer) is trying to convey. Aesthetically, net.art is idiosyncratic, a new visual language as it were, privileging form over function, experimenting with the conventions of hypertext and, in some cases, the conventional structure of the web browser itself. It is liquid and mutable, as it can be transformed daily by the artist, randomly by various viewers, or continuously by a perl script or database. It is global in scale, and if I choose to view it I do not have to go to a museum or gallery. It merges, recontextualizes and transforms other art forms

such as film, poetry, static computer graphics, typography and multimedia, to name a few. According to Jordan Crandall (2001), “with the Internet, we have a vehicle of artistic production and distribution on a scale we have never known before” (p. 3).

As an educator, net.art excites and baffles me. Of course, it wasn't long before the following thought popped into my head: “this stuff is *so cool!* How can I teach it?” On a more serious note, net.art excites me because it illuminates how the Internet has changed our notions of perception and representation, challenged notions of identity and embodiment, and brings the promises and pitfalls of globalization to the fore. I firmly believe that educators, art educators in particular, have a special responsibility when it comes to teaching students about the information technologies that have infiltrated their consciousness, and I am emphatically not referring to teaching them how to simply use the tools. Of course, teaching students how to use Photoshop or Gimp to manipulate images, for example, or how to use the Web to gather information for a paper, is part of what an educator should do, as immersion in the “tools” can serve as a basis for deeper understanding. But, it is only a part. I urge educators to go beyond technological determinism, viewing technology as a “neutral tool” whose impact is determined entirely by the users' intentions. I urge educators to think deeply about the relationship humans have with technology, a relationship that necessarily involves social practices.

This urging is based on my belief that interacting with technology involves interpretive processes. We become socially acquainted with technologies; we don't just “use” them. The world cannot be unproblematically split between “things” or “things we use” and what we conceive as the “social” (Birmingham, 1996; Holloway & Valentine,

2003). To explore how humans and non-human interact is to understand human activity and society. My attitude toward computers is best summarized by Holloway and Valentine (2003), who write

“We do not view computers as things ‘with pre-given attributes frozen in time’ (Star & Ruhleder, 1996, p. 112) nor as objects which impact social relations in fixed ways producing a predictable set of effects (either as positive...or negative). Nor do we understand computers to mirror the logic of their designers and manufacturers. Rather, we understand them to be “things” that materialise for children as diverse social practices and which may thus have as many everyday translations as the contexts in which they are used (Bingham, Holloway and Valentine, 2001). In other words, we understand computers and their users to be in a relational process of coming into being, in which each is transforming and transformative of the other (Ackrich, 1992)” (p. 14).

This leads me to two questions that spurred this research project: what would the computer art and graphics curriculum of an art educator who believes as I do look like? And, how does net.art illustrate the dual, interrelated notions of the Internet engendering social practices and a “relational coming into being?”

1.2 Statement of Problem

In a previous paragraph, I remarked on the special responsibility art educators have compared to educators in other disciplines with regards to teaching students about information technology. In my mind, this special responsibility is based on two components. First, I believe that art educators, when it comes to teaching new media and technology, have a responsibility to devise educational goals that go beyond preparing students for future employment in market-driven jobs. Secondly, I believe the responsibility of art educators mirrors the critical responsibility artists have in developing alternative visions of technology. I am not necessarily referring to artists who take a more

modernist approach towards technology, assimilating it into a framework of originality, “genius” and high culture and sublimating it into a tool for art making. Instead, I am referring to artists who, when engaging with information technology and electronic media, bring to bear a critical analysis of media-dominated cultural conditions that shape contemporary life.

At this point, the reader may be wondering why I have chosen to begin this manuscript in such a confessional style. On one hand, my answer is relatively straightforward. I want the reader to know something about me, along with my connection to this project, so he or she can make a more informed judgment regarding the nature of my research. On the other hand, my not-so-straightforward answer is situated within the debates regarding the sociology of knowledge. These debates stem from the work of Michel Foucault, his publication *Les Mots et les Choses* (*The Order of Things: An Archeology of Human Sciences*, 1970) in particular. He argued that knowledge production always comes from a viewpoint that is epistemologically positioned within a particular historical time period, as opposed to being determined by any objective measure of reality that exists outside of human perception and experience. Thus, by revealing myself as a person and a researcher whose views are reflective of a specific culture and time period, I am also making it possible for both the reader and myself to examine the lens through which this culture and time period is viewed.

Confessional moments aside, the purpose I had for embarking on this project is practical and concrete. My primary empirical objective for this study is to formulate effective pedagogical strategies for the high school art instructor incorporating net.art into their curriculum in such a way that would facilitate students’ critical thinking, meaning

making, and deeper understanding of the cultural aspects of the Internet. This objective can also be applied to an art educator who teaches at the college level, and wishes to develop coursework (or an entire course) based on net.art. For the art instructor who teaches computer graphics and whose curriculum includes art criticism (the description, interpretation, and judgment of artwork), art history and aesthetics in addition to studio activities, including net.art in such a way that encourages critical thinking and new perspectives on art as well as the Internet can be a daunting challenge. Not only does the art instructor need to acquire the computer skills needed to assist students in creating net.art, the art teacher also needs a good understanding of the cultural, technological and theoretical underpinnings of much existing net.art in order to help students comprehend and appreciate it. In turn, this level of understanding is meant to influence their learning behaviors and meaning making. As mentioned previously, net.art tends to be highly conceptual, challenges commonly held notions regarding art and aesthetics, and often requires the viewer to be highly visually literate and have some knowledge of Internet history. In addition, it often requires the viewer to have some understanding of the Internet as a cultural phenomenon, as opposed to merely a technological tool.

The principal research question, then, is as follows: how can net.art be integrated into a high-school level computer art and graphics curriculum? This research question is supported by five subordinate questions:

- What knowledge base should an art educator develop in order to teach students about net.art in a meaningful way? In other words, what should an art educator know about net.art?

- How can an art educator construct a curriculum including net.art in such a way that circumvents technological deterministic visions of information technology?
- What does the art educator need to know regarding art criticism, aesthetics and art history as they relate to net.art if she or he is to develop a curriculum that goes beyond studio production (e.g., the creation of a web site)?
- What skill set with regards to computer hardware and software should an art educator acquire in order to teach students to create net.art?
- What should an art educator know with regards to her or his students' internet use and attitudes toward the Internet in order to develop a curriculum that, while relevant to the students' lives and interests, also challenges their assumptions and conceptions about their use of networked technologies?

1.3 Overview: Related Literature on Computer Technologies in Art Education

The amount of literature regarding the use of new media technologies and the Internet in k-12 art classrooms and preservice art classrooms has been increasing, particularly since the early to mid 1990's. Much of this literature is framed within specific discourses that premise the Internet's potential to transform educational practice, expanded learning opportunities, a changing, postmodern educational landscape, and the notion of technology as tool (i.e., a curriculum development tool, a tool for assessment, an art-making tool, a communication tool, a research tool, etc.). While a few common threads exist throughout the literature, the specific approaches and topics are eclectic. In

addition, because the literature on this topic is still relatively new and the number of articles comparatively small, there is very little evidence of studies in this area building upon one another.

Earlier literature (Dunn, 1996; Heise & Grandgenett, 1996; Koos & Smith-Shank, 1996), for example, describes the various manifestations of the Internet (such as e-mail, the World Wide Web, and newsgroups) and provides a number of suggestions on how k-12 art educators can use them in their classroom. Gregory (1996) and Gigliotti (1998), while hopeful about the potential of the use of new media and interactive technology in art education, take a more cautionary approach toward the promises made on its behalf toward educational reform. Several years later, although it has become evident that many art educators are enthusiastic about using new technologies, in order to make use of them, Wang (2002) argues that various factors need to be in place in order for art teachers to be able to successfully implement computer technology in their classrooms. These factors include: the need for teachers to be clear about their goals for teaching technology and to internalize these goals; the support of the administration, colleagues and infrastructure staff; easy access to computer hardware and software; training and adequate time to make pedagogical and conceptual changes; funds to support teachers' efforts; and the presence of computers in the teachers' homes.

A number of art educators have taken an interest in demonstrating how new technologies have directly impacted teaching and learning in k-12 and preservice art classrooms. In discussing the various ways computers can alter the teaching practices of art educators, Kirschenmann (2001) explains how art educators can help students realize how their virtual lives and real lives have become intertwined. One article explores how

hypertextual approaches to inquiry allow learners to create visual documents that map the relationships/connections between the various units of instruction (Taylor & Carpenter, 2001); another article outlines and describes a checklist of factors shaping interactive electronic learning environments (Marschalek, 2001). Keifer-Boyd (1996) examines how hypermedia and the Internet serve as a vehicle for introducing art education majors to postmodern methods of art criticism based on plurality, nonlinearity and context, as opposed to art criticism methods that rely on singular, linear and formalist approaches. Lai (2001) discusses an online version of an art education course she had previously taught in a conventional, “real life” setting. She contends that virtual classes pose their own set of unique challenges, limits and possibilities, and that it is not just a matter of incorporating new technical tools into a conventional learning process.

Regarding what teacher educators need to know about their preservice students’ use of and attitudes toward new media technology, Galbraith (1997) poses two questions: how can technology enhance teaching and research within the preservice classroom, and how can technology assist research into the national issues affecting art teacher education? Taking a slightly different approach, Freedman (1997) discusses teaching preservice art educators about visual culture by focusing on the ways students use technology. She argues that it is necessary to teach students about how technological images come to have meaning, in addition to having them consider the production and viewing of technological images.

Several practicing k-12 art educators have also contributed to this body of literature. In looking at how art teachers can use new media technology to teach art history, Halsey-Dutton (2001) examines a secondary level, semester-long course titled

Multi Media Art History, in which she utilized the Internet, CD-ROM art collections, computers, digital scanners, and digital cameras. Frank Tomaskiewicz (1997), an Exploratory Art Technology Instructor at William M. Hadley Junior High School in Glen Ellyn, Illinois, presents a school program which allows students to experiment with computer-generated imaging, video, holography and photography. Long (2001) describes a collaborative development project which utilized multimedia software, that took place in a secondary school and involved a group of Year 10 students, an art teacher at a local school, and himself. The first objective of his study was to see if students were able to make connections between what they learned within an art context and the forms they experience outside the curriculum (music videos, computer games and web sites). The second objective of his study was to give students an opportunity to develop a critical awareness of contemporary art through practical exploration and related contextual studies.

Another recent development regarding the literature is an increasingly culturally critical approach some art educators are taking toward information technology. Garoian and Gaudelius (2001), for example, in their desire to challenge the assumptions of information technologies as shaped by the dominant culture, argue that the “cyborg myth” serves as a critical metaphor for exposing, examining, and critiquing the social, political, and aesthetic impact of information technology on the posthuman body and its identity. They characterize the work of performance artists Stelarc, Eduardo Kac, Orlan, and Guillermo Gomez-Pena and Roberto Sifuentes as “cyborg pedagogies” as examples that attempt to critique the inscriptions of digital culture on their bodies and identities. In doing so, Garoian and Gaudelius challenge the idea that identity is “merely inscribed” by

information technology, arguing that artists and art educators must create strategies of resistance that enable us to re-form our epistemological understanding of art, technology and the body.

1.4 Significance of the Study

In light of the literature on new media technology and art education that currently exists, my study is significant in several ways. First, my study is significant because no research on how net.art is being implemented in the art classroom currently exists. Not only am I focusing on a specific manifestation of the Internet (net.art), I am also investigating how the art educator employs net.art in the context of actual classroom practices. In addition, none of the literature I have mentioned above includes the perspectives or voices of students and children as a means to inform their arguments. I contend that it is crucial for art educators to be aware of how their students make use and make sense of the information technologies that have permeated their lives. According to Holloway and Valentine (2003), little is known about how children employ information technologies in their day-to-day living. Therefore, I have included the perspectives of the high school students in my study in hope they can inform future curricular initiatives undertaken by art educators interested in teaching net.art and new media. Finally, despite the increasing importance of information technology in the contemporary Western world (the Internet in particular), there are few empirical studies of how people actually use it in the context of their everyday lives (Hollway & Valentine, 2003), even fewer of how

teachers and students actually use it in the classroom. For example, Long (2001) argues that there is a current lack of a coherent body of knowledge amongst art educators as to what happens when they use multimedia in their classrooms.

Much of the contemporary writing about cyberspace in education and the social sciences is theoretical and/or prescriptive (Holloway & Valentine, 2003; Wang, 2002) rather than empirically informed. I contend that my study is also important because I have engaged in an empirical investigation of the ways net.art (and the Internet in general) are explored in practice by an art educator and students aged 14 to 18, and thus can directly inform future curricular developments and pedagogical approaches. Finally, I argue that my study is significant because I attempt to challenge the dominant view of computers and the Internet as “tools,” and present ways in which they can be perceived and taught as interpretive/cultural processes.

1.5 Chapters Summary

Although I have provided a brief description of net.art in this chapter, I believe a more thorough explanation, as well as some historical background, is warranted. Therefore, chapter two is devoted to providing the reader with a brief net.art history, along with a discussion of the issues and controversies surrounding its development. Much of the earlier writings on net.art which have provided me with my insights can be found primarily on the Web from sites such as nettime.org, an international mailing list dedicated to new media theory, political theory and information technologies, and new media art, and rhizome.org, a repository for net.art, new media art, interviews with artists working with new media and information technology, and new media events. I conclude

this chapter with an examination of the larger implications net.art has for new media artists and the art world, which necessarily includes art educators and art classrooms.

Chapter three is also meant to situate my study through an examination of related literature. Earlier in this chapter, I suggested that art educators should go beyond technological determinism when considering their and their students' use of information technologies. I define technological determinism as a set of narratives that position technology as having a direct and predictable impact (positive or negative) on society, replacing what has gone before and facilitating particular effects irrespective of time and place. Technological determinism has informed a considerable amount of theorizing about cyberspace and the use of new media and information technologies, regardless of whether the theorizing is celebratory or pessimistic, but such attitudes are not without precedent. Therefore, in this chapter I describe several theoretical positions regarding technology, determinist as well as contextualist, drawing primarily upon the work of philosophers Frederick Ferre (1995) Ian Barbour (1993), and Andrew Feenberg (1991). I use these positions to illustrate more recent conceptualizations of the Internet and Internet use. Following this section, I discuss Walter Benjamin's The Work of Art in the Age of Mechanical Reproduction (1968). I have chosen this particular work because his ideas have been fundamental to understanding the impact of technology on art, culture, and perception. I conclude this chapter with specific examples of net.art/art which makes use of the Internet and computer networks created by artists Heath Bunting, etoy and Eduardo Kac that challenge notions of technological determinism by demonstrating the mutual constitution of off- and online worlds, illuminating the relationships between the social and the technical, as well as the spatial and the temporal.

In chapters four and five, I position my study in terms of the methodological perspectives that shaped it and describe the specific research methods I used to conduct my research. Chapter four is devoted primarily to presenting my study in terms of my research paradigm (constructivist), my research design (action research case study), the specific methods I used to collect empirical data, and my modes of empirical analysis. The purpose of chapter five is to tell my research in a narrative fashion in order to fill in the gaps left by a more “traditional” description. My rationale reason for including such a chapter is that I believe that any description of my research methods, no matter how thorough, can only tell part of the tale that was my research project. In other words, a chapter in which I elaborate my teaching methods and my experiences as an educator and researcher out in the field weaves a more complete and meaningful story.

Chapter six is devoted to my analysis of the empirical materials and my field experience. These materials, in the form of transcribed narratives and conversations, field notes and reflective entries, student work, and classroom assignments and handouts, delineated my teaching as a learning process and reflected the students’ thoughts with regards to what they were expected to learn and understand about net.art. Much of this material is highly revealing, especially in terms of the assumptions both I and the participating art educator made regarding the students’ ability to transfer their already existing knowledge about using the Internet to viewing net.art, as well as how the students managed to overcome their resistance and make sense of the unfamiliar and often challenging art work I presented to them. Also illuminating were the students’ attempts to make meaning from the work, and apply (or fail to apply) meaning to their own projects.

Finally, in chapter seven, I attempt to draw some conclusions and discuss the results. Because meaning making through description, interpretation and judgment (Barrett, 2000) was an integral component of the net.art unit, and because meaning-making on the part of the students was so difficult, I argue that art educators need to devise pedagogical strategies specific to describing and interpreting interactive, new media art. Despite its challenges, I present ‘evidence’ that engaging in art criticism of net.art is necessary if the students are to create net.art of their own, and simply showing them how to make use of the tools for production is not sufficient. While guidelines and suggestions on how to engage students in postmodern art criticism and analysis with regards to more traditional art forms such as painting and sculpture can be helpful to a certain degree, I propose that guidelines that reflect the aesthetic qualities specific to interactive new media art such as net.art should be considered. In that vein, I present a set of guidelines that could possibly serve as a basis for future constructions of interpretive strategies regarding new media art in general, and net.art specifically.

CHAPTER 2

DEFINITIONS, CRITICAL PERSPECTIVES AND A SURVEY: WHAT IS NET.ART?

The purpose of this chapter is to answer the question, “what is net.art?” In doing so, I will explore net.art (or Web art, as it is also referred to) as a historical phenomenon as well as present a range of issues raised by its development. Net.art is a relatively new phenomenon, having come into existence in 1993 when the World Wide Web was first made available to the general public, although it must be noted that artists have been using computer networks such as BBSs and bitnet to create art as early as 1980 (Cramer, 1999). Despite the Internet being dominated by users residing in the U.S., European users of the Internet, especially those residing in Eastern Europe and Russia, were seminal in its early years as an artistic medium, not unlike how the U.S. military and the academy were critical to its development as a communication tool decades ago (Greene, 2000). This level of participation, at least for Eastern Europeans, was made possible in part by George Soros’s Open Society Institute and other NGO’s funding of new media centers such as Ljudmila in Ljubljana, Slovenia, and software and computer education programs (Greene, 2000). This is pertinent because despite the fact that the Internet is still used primarily by English speakers and people who live in the United States and North America, net.art is an international phenomenon in which many Europeans played a

prominent role in shaping it. As of this writing, most of the dialogue on net.art exists on Internet mailing lists, online forums and online publications dedicated to new media art and theory, including nettime.org, rhizome.org, metamute.com, and thing.net. The number of books and journal articles which include net.art or web art as a topic for exploration is still relatively small, but growing. In other words, art history is still very much being made with regards to this particular phenomenon.

As I mentioned, my intention in this chapter is to introduce the reader to some of the ideas, discussions and controversies surrounding net.art, not the least of which is its definition, i.e., what it *is*, and who defines it. The whole notion of what constitutes net.art has generated a considerable amount of lively dialogue amongst many new media art practitioners and theorists. Much of this dialogue took place between 1994 and early 1999 and can be found (although not exclusively) in the [nettime.org](http://www.nettime.org/archives.php) archives (<http://www.nettime.org/archives.php>) and nettime's ZKP series (<http://www.nettime.org/pub.html>). Embedded within these particular discussions surrounding the definition of net.art are more discussions regarding the ability (and the desirability) of net.artists to use the Internet to circumvent traditional art-world structures such as museums and galleries, and the implications of this circumvention. I will also include a brief survey of net.art in this chapter, in which I trace net.art's development, from static webpages, to networked applications, "hacktivism," online games, software applications and shareware. In doing so, I will present the work of a number of net.artists and work contained within net.art repositories such as ada'web, Irrational.org, rhizome.org, turbulence.org and the Walker

Art Center's Gallery 9 (<http://www.walkerart.org/gallery9/>), among others. Finally, I will also present and briefly discuss some of the seminal net.art events that have taken place since 1995, as well as a few seminal texts regarding net.art.

2.1 Defining net.art

One question that inevitably arises, aside from "what is net.art?" is, from where did the term net.art originate? This question generated a considerable amount of discussion and debate amongst its early (1995- 1997) practitioners and enthusiasts, a send-off of sorts, if you will. One answer, which was presented as quite specific, can be found in an email that was posted to nettime on March 18, 1997 [online: <http://amsterdam.nettime.org/Lists-Archives/nettime-l-9703/msg00094.html>] by Russian net.artist Alexei Shulgin (all misspellings and grammatical errors are his):

```
To: nettime-l@Desk.nl
Subject: nettime: Net.Art - the origin
From: alexei shulgin <easylife@hawk.glas.apc.org>
Date: Tue, 18 Mar 1997 01:05:08 +0300
Organization: moscow wwwart centre
References: <Pine.SUN.3.95.970308103406.11504C-100000@unix1.netaxs.com>
Reply-To: easylife@hawk.glas.apc.org
Sender: owner-nettime-l@Desk.nl
```

I feel it's time now to give a light on the origin of the term - "net.art".

Actually, it's a readymade. In December 1995 Vuk Cosic got a message, sent via anonymous mailer. Because of incompatibility of software, the opened text appeared to be practically unreadable ascii abracadabra. The only fragment of it that made any sense looked something like:

```
[...] J8~g#|\;Net. Art{-^s1 [...]
```

Vuk was very much amased and exited: the net itself gave him a name for activity he was involved in! He immediately started to use this term. After few months he forwarded the mysterious message to Igor Markovic, who managed to correctly decode it. The text appeared to be pretty controversial and vague manifesto in which it's author blamed traditional art institutions in all possible sins and declared freedom of self-expression and independence for an artist on the Internet. The

part of the text with above mentioned fragment so strangely converted by Vuk's software was (quotation by memory): "All this becomes possible only with emergence of the Net. Art as a notion becomes obsolete...", etc. So, the text was not so much interesting. But the term it undirectly brought to life was already in use by that time. Sorry about future net.art historians - we don't have the manifesto any more. It was lost with other precious data after tragic crash of Igor's hard disk last summer.

I like this weird story very much, because it's a perfect illustration to the fact that the world we live in is much richer than all our ideas about it.

Alexei
moscow wwart centre
<http://sunsite.cs.msu.su/wwwart>

This explanation caught on, and was accepted as truth for a period of time. However, Vuk Cosic later revealed that this explanation was a hoax, and was presented as a way (albeit in a tongue-in-cheek manner) to create a net.art “mythology” and position himself as a “legend” of net.art.

Before delving into what net.art is, I feel it would be helpful to first describe what net.art is not. It is not “art on the net,” namely, the use of the World Wide Web to post thumbnail images of art that has been created with another medium and scanned into the computer. In other words, “art on the net” treats the Internet as a virtual gallery of sorts where artwork can be “hung” and viewed by clicking on a text link or an image. Net.art, on the other hand, is a genre of art that uses the Internet as its medium and has a symbiotic relationship with it. More broadly, Dutch theorist Josephine Bosma (see Heck, 1999) defines net.art as art which uses computer networks as a medium in that the network itself and its content (technical, cultural and social) forms the basis for the work, or work that is based on net.culture but not necessarily dependent on computer networks per se.

2.1.1 Net.art discussions: Nettime.org. Some of the earlier discussions regarding the definition of net.art took place on nettime.org during the spring of 1997. In an April 22nd, 1997 email essay submitted to Nettime titled “What is netart ;-)?” that was originally a contribution to the 1996 exhibition and congress “(History of) Mailart in Eastern Europe” at the Staatliches Museum Schwerin in Germany, Joachim Blank states,

Netart functions only on the net and picks out the net or the “netmyth” as a theme. It often deals with structural concepts: A group or an individual designs a system that can be expanded by other people. Along with that is the idea that the collaboration of a number of people will become the condition for the development of an overall system. Netart projects without the participation of external persons are perhaps interesting concepts, but they do not manifest themselves as a collective creativity in the net (para. 4).

In this essay, Blank divides net.art into two approaches, “context systems” and “researchers, troublemakers, individual perpetrators.” He characterizes the former as a means of developing perceptible claims for artistic and cultural activities on the net under the auspices of collective group projects such as The Thing (thing.net), Public Netbase Institute for New Culture Technologies, and Internationale Stadt. The purpose of such an approach, he contends, is to develop an Internet infrastructure that facilitates an interdependent relationship between Internet providers, sponsors, and artists. Thus, as a medium of distribution, the Internet in this context functions not unlike an art broker. Blank concludes this characterization by stating that context systems can be summed up in two short formulas: structure=content and net=art.

The second approach, unlike context systems, allows for more independent and dispersed practices amongst individual net.artists and groups in that they do not have to concern themselves with providing a service in the same way as the collective entities mentioned previously. Instead, they have the freedom to operate and use the Internet as a

tool for artistic projects without having to account for the number of visitors on their websites, for example, or concern themselves with other limits of the medium. Blank continues with the assertion that these artistic practices have less to do with the Internet itself and more to do with people's reactions to and making sense of the changes in communication the Internet has wrought. According to him, net.artists are taking popular conceptions and buzzwords surrounding the net such as dislocation, identity, truth, reality and territory and "radically process[ing]" them through their work through their investigations of the conventions of the net. The purpose of such work is not to provide clarification; rather, it is to question these terms and cause confusion. Blank alludes to the fact that because the Internet is in constant flux, a constant process, constantly in motion, so to is net.art: it behaves like a "chameleon."

Other ideas regarding the definition of net.art were circulating around nettime during this same time period, some of which generated some controversy and considerable discussion. On March 12th, 1997, artist and media activist David Garcia posted a message on nettime in which he challenged the necessity of "naming" or labeling new forms of art such as net.art, as he felt that such naming or labeling should be avoided completely. Making reference to the theoretical discussions surrounding video art (as in what is and what is not "real" video art), Garcia claims these discussions are what stifled and eventually killed the excitement surrounding it. Therefore, his feeling is that similar discussions regarding net.art and what is "real" net.art should be avoided, the marriage between the terms "art" and "net" is a "simplistic device," and that the term "net.art" should be "quietly ditched." I interpret his reluctance to label net.art as based on the belief that such labeling "fixes" and institutionalizes it. In turn, this would result in

the stifling of experimentation by creating insiders and outsiders by shutting out others who don't conform to the definition of what this art form is "supposed" to be. For him, the term net.art is a label which moves it one step further towards institutionalization, and thus in order to keep net.art fluid and free the more generic description of "art that happens to be on the net" should be used instead.

One response to Garcia's message was posted to nettime on March 13, 1997 by Olya Lialina, a young Russian net.artist who is currently a professor for networks and online environments at Merz academy in Stuttgart. She states in her short posting that she feels the entire discussion ("directives-forecasts" (para. 3)) regarding what net.art should and shouldn't be is completely destructive. Her feeling is the best way to learn about net.art is to get to know and interact with the people who are making it ("turn to personalities" (para. 5)) and learn from them how they are investigating the Internet's possibilities ("their way of using net" (para. 5)). She expresses her displeasure over the attempt to create "famous net.artists" or a "cult of personality" of sorts around particular net.artists, and insinuates that this should be avoided if at all possible. She also expresses her displeasure with those (and by doing so, implicates Garcia) who write about the net.art phenomenon without actually analyzing works of net.art, stating, "what for to offer sense and context to people who have already created it or in the process of creation?"(para. 5). I believe what she is getting at is she doesn't believe discussions such as the one Garcia is engaging in is helpful or constructive for people who are actually engaged in making net.art. In other words, such discussions only serve as a distraction and would simply add layers of misunderstanding and diversion from what is actually happening regarding net.artists and their work. On one hand, like Garcia, Lialina

wishes to avoid the “art system”-izing of net.art. However, it seems as if Lialina interprets his instigation of the topic of what net.art is or what it should be called as a form of “art system”-izing.

A second response to Garcia’s message that appeared on March 13th, 1997, which also reflects Lialina’s ambivalence toward the discussion, is a tongue-in-cheek, somewhat sarcastic message posted by Alexei Shulgin, another Russian net.artist. He declares that the term net.art cannot be ditched until net.art has been entirely and thoroughly institutionalized and is no longer on the cutting edge in any meaningful way. He asks, how does one know when an art form is institutionalized? When “art stars” who create work with the art form emerge, and when living legends of net.art appear, “poor,” but unwilling to compromise. Some names will be forgotten, of course, to be unearthed later by net.art historians as key figures in the beginning of the movement. Net.art galleries, associations, magazines and museums are established, as well as net.art departments at universities. A few (albeit contradictory) net.art histories will be written. Finally, after this process of establishment and co-optation is fully entrenched, only then will the “few net.artists that survive will be able to proudly say, ‘yes, I am a real artist!’ denying their low roots in sake of prosperous present” (para. 3) Like Garcia and Lialina, Shulgin also displays ambivalence towards the institutionalization of net.art, as it creates insiders and outsiders. Any sort of institutionalizing of net.art is anathema to those such as Garcia, Lialina and Shulgin, who perceive it to be a democratic medium that allows artists to be able to circumvent the art world system which serves as the gatekeeper that designates what is art and what is not, as well as who is an artist worthy of attention, and who is not.

About two months later, on May 11th, 1997 artist Robert Adrian posted a thoughtful essay to nettime titled “net.art on nettime” in which he addresses a number of points raised by Garcia, as well as raising a few points of his own. He begins by favorably acknowledging the excitement net.art has generated among its practitioners and a number of new media theorists: “Everybody seems to agree that there is something happening in the networks that is connected in some way with the art of the 20th century. Everybody also seems to be in agreement that whatever it is and whatever it’s called, its pretty exciting” (para. 1) He continues by outlining the main issue framing his entire essay: if the naming of net.art and attaching to it a formula, adhering to it an “ism,” will diminish its vitality by turning it into “just another ism” in the art historian’s catalogue. He implies the futility of any attempts to name and “fix” net.art by citing an essay posted to nettime on March 8th, 1997 by Andreas Broekmann titled “Net.art, Machines and Parasites.” Adrian, quoting Broekmann, stresses net.art’s fluidity: it can be constantly updated and changed, and therefore can never really be a ready, fixed creation or “work.” Net.art is temporary, ever-changing, unstable, “like the networks themselves,” (para. 2) in a state of flux, and will continue to change “as its environments and agents change” (para. 2).

One of Adrian’s primary concerns is that, in his view, the 20th century has seen a number of new and open media forms of art that over time become moribund as a result of becoming “appropriated” and marketed as “movements” or “isms.” While he is sympathetic to David Garcia’s concern that net.art will meet a similar fate as a result of destructive internal struggles over what is “real” net.art, clashes over dogma and the engaging in “theoretical somersaults and tedious technological formalism” (para. 3), he

does not agree that the term net.art should be “quietly ditched” in favor of referring to it as “art that happens to be on the net.” He argues that the implication behind the moniker “art that happens to be on the net” is that the networks simply serve as another venue for artistic practice, albeit less traditional artistic practice, thus reducing it to a mere means of distribution. His assertion is the operative word is “net”: net.art is a part of and entirely dependent upon the Internet and this is what makes it different from other art in any other medium. The key concept is networking – net.art and networking.

Adrian continues by listing other art forms and movements others on nettime have linked to net.art as its predecessors: video art, sculpture, telematic art, land art, installation, mail art, experimental film, performance, conceptual art, electronic art, media art, fluxus, radio art, Dada, minimal art, computer graphics and xerography. What is fascinating to him is that while he considers these art forms and art movements practically defunct, he also sees them being kept alive in various guises as they are recovered, recombined and reborn as part of the overall strategy of creating net.art. As a result, he deduces that the “-isming” of a movement is an historical illusion, and that the Internet serves as a sort of “funnel” through which “the disparate forms of industrial culture are being squeezed and merged” (para. 4). He concludes his essay with a reference to what he considers an interesting and largely neglected aspect of the net.art phenomenon, the theoretical and practical input from net.artists and new media theorists living in “post-socialist” central and Eastern European countries. What is significant to him is that the net.artists in these countries are working within a tradition that is more about communicating in an “environment hostile to new forms” as opposed to a more

Western tradition focused on the “manufacture and marketing of cultural products.” In other words, he feels such artists are at an advantage when working within a gift economy such as the Internet.

2.2 Discussions about net.art

In addition to discussions regarding how net.art should or should not be defined, a number of net.artists and new media art enthusiasts engaged in discussions concerning the communicative qualities and political implications of net.art, as well as the practices of net.artists. One example is an essay/manifesto/“plea for movement” composed in 1999 by Natalie Bookchin, an Associate Professor of new media art at California Institute for the Arts, and Alexei Shulgin titled An Introduction to net.art 1994 – 1999, which can be found in its entirety at <http://www.easylife.org/netart/>. Their description of net.art, in addition to containing an element of humor and tongue-in-cheek, astutely outlines some of the political ramifications of net.art, particularly in reference to keeping a deliberately maintained position by its adherents and practitioners in order to situate it outside of mainstream art world structures. Bookchin and Shulgin make two assertions regarding net.art. First, referring to the intentions of net.artists regarding their work, they state that “net.artists sought to break down autonomous disciplines and outmoded classifications imposed upon various activists’ practices.” Second, they assert that net.art is about not compromising. This lack of compromise is accomplished by

maintaining independence from institutional bureaucracies; by working without marginalization and achieving a substantial audience, communication, dialogue and fun; by realizing ways out of entrenched values arising from a structured

system of theories and ideologies; T.A.Z. (temporary autonomous zone – a term coined by writer and political theorist Hakim Bey) of the late '90's: anarchy and spontaneity (para. 1).

In this essay, Bookchin and Shulgin also provide a list of what they consider the specific features of net.art:

- Formation of communities of artists across nations and disciplines
- Investment without material interest
- Collaboration without consideration of appropriation of ideas
- Privileging communication over representation
- Immediacy
- Immateriality
- Temporality
- Process-based action
- Play and performance without concern or fear of historical consequences
- Parasitism as strategy: movement from the initial feeding ground of the net to an expansion into real life networked infrastructures
- Vanishing boundaries between private and public
- All-in-one: a) Internet as a medium for production, publication, distribution, promotion, dialogue, consumption and critique, and b) disintegration and mutation of artist, curator, pen-pal, audience, gallery, theorist, art collector, and museum.

In an online interview between Bookchin and Shulgin, Bookchin (2000) makes the following observation:

The term “art” (as in “art on the Internet”) can be used to limit the impact of some activities in this medium. It is at times wiser not to place ourselves or our activities into the category of art, as it can be used to justify and tame otherwise quite radical activities (although others are bound to place us there). The term “art” can be used as a quick way to understand and justify an otherwise complicated series of activities (para. 13).

What is particularly interesting about this statement is that Bookchin is making a direct reference to how the Internet is changing the definition of art to the point where the term “art” is being used almost as a catch-all term to describe activities and processes no one has a name for. In other words, the question “what is art?” is being brought to bear on artists who use the Internet, while the question itself is being pushed to its extremes.

Another discussion regarding the qualities of net.art, including its aesthetic qualities, can be found in a transcript of a lecture given by David Ross, former director of SFMoMA and the Whitney, on March 2nd, 1999 at San Jose State University titled “Art and the Age of the Digital.” The transcript can be found at <http://switch.sjsu.edu/web/ross.html>. This lecture is one of the first given by a major institutional voice that directly addresses many of the issues instigated by net art. Unlike some of the others mentioned in this chapter, Ross is less hesitant to place Internet art within the tradition of other media, such as video art. At the same time, however, he also acknowledges that net.art is also radically different from any previously and currently existing media used for creating art; it is this difference that fuels his excitement. In his lecture, he provides what he feels to be the twenty distinctive features of net.art:

1. Net.art moves and assembles audiences – the net allows an artist to take an audience and move them into another work, to transform them, or to transform the space in which they are placed in a space which is no longer controllable.

2. Net.art shifts the authority between reader and writer – artists are able to generate work in which both the nature of audience dispersal/assembly and the critical line between writer and reader are blurred or eliminated.
3. Net.art is based on an economy of abundance – there is a significant amount of freedom on the Internet as well as a low cost once one has access to the (now identical) tools of production and distribution.
4. Net.art allows for the production of epic work – in the past, art has always been about compression, always within a confined space of materiality despite the large-scale possibilities; an economy of abundance can now make epic work possible.
5. Net.art is purely ephemeral – it leaves no physical trace; it can have poetic brevity, a brief life in the collective consciousness.
6. Net.art is produced within a medium in which extraordinary digital tools are available – artists are now able to make images and create and reproduce sound of unprecedented quality.
7. Net.art affords the possibilities of simulation and construction of truly credible images, which is due to a) the shifting of identities, i.e., the use of easily falsified or manipulated identity on the web and the constructions embedded within this anonymity and presence, and b) the relationship or equity between individuals and larger corporate entities. In other words, their power, presence, and ability to manipulate the audience and the tools themselves are equitable.
8. Net.art is intimate in scale – it's directly “in your face”; there's rarely someone else in your presence
9. Net.art is iterative in nature – there is a back-and-forth continuum quality of the net.

10. Net.art embeds discursive qualities in the actual work – the work and its critical reception and its transformation in relation to its reception is the same.
11. Net.art collapses the distinction between critical dialogue and generative dialogue.
12. Net.art makes use of small-scale surfaces – net.artists are working within a scale that is “paper size,” e.g., 8.5. by 11 inches, and this scale calls upon certain kinds of approaches to the graphical organization of space.
13. Net.art has the ability to choose not only the transformation of the audience, but the exact size of the audience – one can create work that is generated to the entire Internet space as point-to-space kind of broadcast, or one can identify groups or individuals that one wishes to communicate with or create a work of art within.
14. Net.art is transactional – selling, buying, voting, reacting distinctly to an offer and bartering can take place on the ‘net.
15. Net.art is not directly commodifiable – it enables a different kind of transaction in which the artist is in the center and in control.
16. Net.art is anarchic and dangerous – the people for whom the net is the last free space will be dragged away “kicking and screaming”.
17. Net.art is not cinema, drawing, or sculpture.
18. Net.art allows the morphing of images and texts – the graphical ability of net.art to transform text and images blurs the relationship between the two.
19. Net.art is inherently global – one can argue that cinema or books are global, but net.art is inherently and instantaneously global.

20. Net.art inspires the creation of a corporate entity – artists seem to want to cluster in this way, perhaps because of production costs, or because of the way people work clustered together.

Of course, the debate about art has been perpetual, regarding its definitions, boundaries, functions, aims and means. This debate has also included discussions about art's accessibility, politics, and status, discussions about the high art/popular culture divide, exclusion versus inclusion, and the allocation of funds. Net.art is not singular in this regard. In a general sense, the debates surrounding net.art can be seen as an extension of the debates about art which have taken place before. Nevertheless, as evinced by the examples provided in the chapter, there are a number of features of net.art which are unique enough that these debates are being taken in unprecedented directions. In my view, the primary unique, telecommunications-enabled feature of net.art is its connectivity (in the form of the hyperlink), the way it builds on connections between remote persons, evolving into a complex network or infrastructure, or makes use of information located in distant locations (Wilson, 2002). This feature serves as the pretext for a considerable amount of both earlier and current discussions about net.art. To be more specific, net.art fosters and builds upon several forms of connectivity. For example, some net.artists have explored ways to build upon this connectivity by creating artificial worlds and other conceptual structures to support synchronous and asynchronous chat, stretching across global and political boundaries. A number of net.artists have created work that facilitates wide participation in the generation, accumulation, control, distribution and/or the manipulation of information. In addition, many artists have used the Web to create art that reflexively comments upon the Internet itself, deconstructing

and recontextualizing topics such as the representation of knowledge, the commercialization of the Internet, the machine/body interface, utopic visions of the Internet, advertising, privacy, censorship, surveillance and intellectual property (Wilson, 2002).

2.3 A decade of net.art: A survey from 1993 to 2003

In this section of the chapter, I provide the reader with a very brief survey of net.art. Despite my labeling this section as a survey, it is also meant to serve as a continuation of the previous two sections, elaborating on the issues of how net.art should be defined, approached, and discussed. Although (as I had mentioned) the phenomenon of net.art is very young, there has been a proliferation of excellent and thought-provoking net.art works, and it is veritably impossible for me to mention them all, much less do justice to them all. Thus, this survey can be seen as only a sampling. I have chosen to arrange the works chronologically as opposed to thematically, as net.art/Web art/Internet experimentation encompasses an extremely broad range of disciplines (art, cyberculture, architecture, computer science, psychology, anthropology, entrepreneurship) thematic approaches (identity, communication, surveillance, net.criticism, politics, storytelling, collaboration and collaborative environments, hacktivism and tactical media, voyeurism, archiving, censorship) and practices (is it art? literature? information science? cognitive engineering? graphic design? political activism?), making the boundaries of art ever more porous. In addition, because net.art practices are so diverse, spanning from the use of the Web as a distribution system and a means of making global communication possible, to its use as a hypermedia authoring environment, to the pushing of technological

boundaries, and because many of the works are constantly changing, I feel it is still premature to use a rigid set of criteria for categorizing net.art work at this point in time. However, I do realize that a chronological treatment of net.art is also problematic. Not only does it imply linear progress and development, it also assumes that the works being described are static. In other words, it implies that a work created in 1996 either a) still exists in 2003, and b) if it still exists, it still looks and/or functions the same way it did when it was first created. Neither of these are safe assumptions, which puts me in a rather difficult position. Nevertheless, I begin with works created in 1993 and 1994, when networked art began appearing on the World Wide Web, and I continue with a sample of works from every year until the present. In doing so, I will attempt to give the reader an idea of the immensely wide scope of ideas and approaches taken by the artists.

However, before I begin, despite the fact I am concentrating solely on work created for the Internet (the WWW in particular), I do not want to leave the reader with the impression that art created with computer networks and communication technologies is a phenomenon without precedence that began with the World Wide Web, as this is not the case. Nor do I want to leave the reader with the impression that no precedents for networked art exist; the 1950's saw the birth of Mail Art, for example, as one art form which could arguably be said made use of networks. Contemporary artists such as Robert Adrian and Carl Loeffler had been using conferencing systems and BBSes since the early 1980's. Some other examples of early art projects which made use of computer networks and telecommunication technologies were created by telematic artist Roy Ascott and collaborative artists Sherrie Rabinowitz and Kit Galloway. Ascott's La Plissure du Texte: A Planetary Fairy Tale, a homage to Roland Barthe's Le Plaisir du Texte, was created for

the Electra exhibition at the Musee D'Art Moderne in 1983. This work involved the collaboration of groups of artists located in eleven different cities around the world, in which they created a text based on their roles as fairy tale archetypes. The story evolved as the group members typed in their portion of the story from public computer terminals, which were linked to data projectors located in the same space with the audience at the museum or gallery. Not only were audience members able to see and read the stories, they were also able to contribute to the fairy tale through keyboards located in different locations.

Rabinowitz and Galloway were the original co-creators of the Electronic Café project, which began in 1984 and was officially commissioned by the Museum of Contemporary Art in Los Angeles. Based on the notion of an electronic museum, it was initially designed for the 1984 Olympic Arts Festival as a way to link people, places and art works in an electronic environment (Lovejoy, 1997). The version commissioned by MOCA LA linked the museum and five ethnically diverse communities in Los Angeles through a telecommunications computer database, a dial-up image bank, and computer terminals located in cafés located throughout the city. In 1989, the Electronic Café had grown into a global-scale multimedia teleconferencing facility in Santa Monica, California, and promoted artists' networking and interactive events such as tele-poetry, tele-theater and tele-dance. Artists in more than sixty locations around the world were able to communicate and collaborate using technologies such as video, fax, audio, and email (Lovejoy, 1997).

2.3.1. Early net.art: 1993 – 1994. Some of the earliest works that appeared on the WWW include David Blair's Waxweb (<http://www.waxweb.org>), Antonio Muntada's

The Fileroom (<http://www.thefileroom.org> or <http://www.cd.sc.edu.es/FileRoom/documents/homepage.html>), Alexei Shulgin's Hot Pictures (<http://sunsite.cs.msu.su/wwwart/hotpics/>), Mark Amerika's Alt-X Online Network (<http://altx.com/home.html>), Nina Sobell and Emily Hartzell's Parkbench (<http://www.cat.nyu.edu/parkbench>), Joseph Squier's The Place (<http://theplace.walkerart.org/place.html>), Douglas Davis' The World's First Collaborative Sentence (<http://ca80.lehman.cuny.edu/davis/Sentence/sentence1.html>) and Handshake (<http://sero.org/handshake/>), a project by Barbara Aselmeier, Joachim Blank, Armin Haase, and Karl Heinz Jeron, members of the Berlin new media arts collective Lux Logis.

David Blair's Waxweb originated as a feature-length fiction video, Wax: Discovery of TV Among the Bees, and in 1993 was one the first videos to go out on the World Wide Web's digital channel M-BONE (multicasting backbone). M-BONE originates with NASA's space shuttle and cannot be accessed through a phone line because it requires bandwidth and software only available through some universities and research labs. A second version of Waxweb, served from the Institute for Advanced Technology in the Humanities at the University of Virginia, exists as a hypermedia authoring database that allows Web or MOO users to make immediate, publicly visible hypermedia links to the main document. In this version, visitors have the ability to make immediately visible links from any word to any other word, add comments to any page, and contribute to narrative of the main Waxweb by adding their own pages. This version of Waxweb consists of more than 900 pages of hypertext, available to both and MOO (text only) users. English, German, French and Japanese text versions of the film's monologue are automatically inserted into the hypertext, based on the user's wishes. Web

users have access to the hypermedia portions of the document, which includes the entire film embedded as 1600 color stills, 560 mpeg video clips, and 560 AIFF audio clips, including the soundtrack in English, French, German, and Japanese (Blair, 1996, para. 3).

An updated version of Waxweb, Waxweb 2.0, which is supported by the Brown University Graphics Laboratory, headed by Andries VanDam, with Tom Meyer serving as the technical director of the project, implements a dynamic version of VRML (Virtual Reality Modeling Language). In this version, users can also add to the narrative with their own immediate, publicly visible hypermedia, including hypertext, pictures, audio, video, and hyperlinked VRML. In addition, all VRML objects in the network Waxweb database have their attached hyperlinks changed “on the fly” (instantaneously), dependent on user interaction. Users enter the 3-D VRML world from specified locations within in the 2D text/picture WAXWEB 2.0 WWW document. Text links or picture buttons on the flat page take the reader to a 3-D scene. Once "in" the VRML world, users press 3D hyperlinks to travel through that world to automatically change the page on their electronic book (the Web browser), or cause a part of the feature-length movie to play.

The File Room, a work/interactive database that began in 1994 and is considered one of the first works to be created for the Web, is an ongoing project about censorship and began with 450 well-researched entries of examples of censorship. The work was originally part of an installation at the Chicago Cultural Center, referencing the building's past as a library, a public repository of information. It has continued to serve as a cultural archive of censorship infractions, dating all the way back to the ancient Greeks. Visitors to the site are invited to submit their own entries providing examples or anecdotes of censorship and instances of harassment over religious, intellectual and sexual orientation,

including anonymous contributions documenting offenses by totalitarian regimes, some still in power. The site makes these examples/anecdotes available through a variety of interactive map interfaces that organize the information according to location, date, media of cultural production, and grounds for censorship. In addition, the site provides links to the websites of free speech organizations such as the American Civil Liberties Union. As a means to address issues of censorship and providing the viewer/user with a tool for discussing and coming to terms with cultural censorship, Muntadas conceived of the work as a social sculpture that travels between its three-dimensional, real-world existence as an installation and the “unknown” dimensions of the Net (Muntadas, 1994, para. 5).

Alexei Shulgin created Hot Pictures, the first Russian online photography gallery, as a way to present art works created by Russian artists that illustrate the blurring of boundaries between media such as painting, photography and computer graphics. This project marked the beginning of his activities on the Internet in 1994, as a way for him to explore the intersection of photography and new technologies for dissemination through the Internet. He was interested in presenting the work of artists representing a wide range of approaches and a wide range of ages, from the unknown to the relatively well known. Another one of the earliest net projects, which began in 1993, that also served (and still continues to serve) as an information repository/distribution hub is the Alt-X Online Network, created by artist Mark Amerika. According to Amerika (2001), Alt-X was meant to serve as an experimental conceptual art project that looks into the interrelationship between new media publishing technologies and online exhibition

contexts (Amerika, 2002, para. 2). The site houses an electronic book review, digital art exhibitions, a net.radio program, and a virtual imprint featuring out-of-print novels, story collections and interviews with contemporary writers, artists and theorists.

ParkBench, a public artwork created by Nina Sobell and Emily Hartzell, was created to address issues of access to technology, use the Internet to explore the theme of communication, and serve as a safe place to congregate in cyberspace in a city where strangers rarely talk to one another on real park benches. The artists also conceived of Parkbench as a way to address the physical disconnectedness of the information age by creating a safe place to congregate in cyberspace (Sobell & Hartzell, 1998, para. 2). The idea for ParkBench originally came from Sobell's idea for a public artwork linking two skating rinks in Central Park, in which networked video would project live imagery of skaters from each rink onto a large screen at the other. While Sobell's initial idea had been to create a metaphor of communication using the skaters' movements, both Sobell and Hartzell felt the Internet was highly conducive to the creation of an on-line forum similar to the interactive television programs Sobell had created in the past. On one hand, they both felt the Internet had certain advantages over interactive TV in that more than one participant could engage the content simultaneously. On the other hand, it had the significant disadvantage of not being nearly as ubiquitous as TV's, and as a result, their concern turned to the issue of access (Hartzell, 1998, para. 4).

The next stage of ParkBench was Sobell and Hartzell's conceptualization of it as a network of kiosks, through which videoconferencing, Internet access, and a collaborative drawing space would enable people in diverse neighborhoods to access the Internet, interact with one another, and communicate in a collaborative and creative way.

They then imagined adding a ParkBench kiosk underground in order to engage segments of the public who rarely partake of the city except to enter it by train each morning, work indoors all day, and leave the city each night. Sobell and Hartzell received permission from the Metropolitan Transit Authority to place their kiosks in Herald Square Station, opposite the token booth by the PATH trains. They also planned to place a videophone at the MTA site, enabling commuters to engage with those in the park. (Hartzell, 1998, para. 23)

Once they had everything in place, they began to design the kiosk enclosure and the system interface, to experiment with desktop videoconferencing applications, and to scout for additional kiosk sites. It was critical for them that the kiosks accommodate several participants, in order that ParkBench be a gathering place in physical space as well as cyberspace and that it be both child and wheelchair-accessible (Hartzell, 1998, para. 24). They used Director to prototype an interface that integrated videoconferencing, collaborative drawing, and local neighborhood information services, and they were able to put up one of the first Webcams with the help of Richard Wallace, a professor of robotics at New York University's Center for Advanced Technology, where they were both artists in residence.

The Place represents a more narrative, hypertextual approach to using the Internet as an artistic medium. The creator, Joseph Squier, is an artist and associate professor of electronic media at the University of Illinois at Champaign-Urbana. The work consists of a series of intimate, emotionally compelling and provocative short pieces, including Life With Father, a digital photo-essay reflecting upon death and loss through an allusion to the narrator's troubled relationship with his abusive (deceased?) father, io, an

experimental hypertextual piece, and Urban Diary, a fragmented, mysterious work chronicling the life of an anonymous urban dweller. In a poetic manifesto, Squier (2000) writes of The Place:

In the place there are no objects, spaces, or bodies. Remember these things are not sacred in themselves.

The place explores the boundary between tool and myth, instrument and concept (to see the ways in which they mutually constitute each other). In the place, the translation of the world becomes a problem in coding.

The place requires new constructions of bodily reality. Never fail to recognize the difference between self and other. Avoid any confusion of boundaries.

The place will not be appreciated by all. But it presents its own seductions. The place is inhabited by random memories, dream-addicted mercenaries, and secondhand scraps of excitement.

The place is governed by assembly, disassembly, investment, and exchange.

The World's First Collaborative Sentence was created by video artist Douglas Davis. The premise of the piece is that users are invited to add words and image files to an ongoing, running text. The work began in December 1994, when Susan Hoeltzel, director of the Lehman College Art Gallery, commissioned it as part of "InterActions," a survey of Douglas Davis' early work (1967-81). While working with professor Robert Schneider in the department of mathematics at Lehman College, Davis documented the exhibition on the web and created an entirely new work (Sentence) linked to the exhibition's theme. Davis also collaborated with Gary Welz in designing the formal interactive structure of the site. On December 7, 1994, the site was linked to a live performance in the Lehman College Art Gallery. Artist Nathalie Novarina participated in the performance via phone from Geneva and provided the site's original image and first

words. As of early 2000, the estimated number of actual contributions was approximately 200,000 and incorporated dozens of languages. The only "rule" of Sentence is that the user is not allowed to type a period at the end of their contributions. Over time, Sentence has grown to incorporate far more than words, including photographs, video, sounds, graphics, and links to thousands of other websites, contributed by people of all ages and cultures (para. 1). In what can possibly be considered the first commercial acquisition of an artistic Web site, Davis originally sold the piece to collector Eugene Schwartz, who received a floppy disk, titled "1/Infinity," containing the first day's contributions to the sentence. When Schwartz died in 1995, the disk was donated with the rest of his collection to the Whitney.

Handshake is a project created by members of Lux Logis, founded in the spring of 1991 by a group of twenty Berlin artists whose purpose was to “propagate a nonchalant cultural use of technology and new media... as a node for electronic arts in Berlin, [Lux Logis] is interested in cooperation and exchange with institutions, autonomous groups and artists in the world and realizes interactive PROJECTS within the Internet” (Lux Logis, para. 2). On the Handshake website, the artists Barbara Aselmeier, Joachim Blank, Armin Haase, and Karl Heinz Jeron have provided an English version of the work’s definition: “a connection-oriented protocol exchanges control information with the remote system to verify that it is ready to receive data before sending it. When the handshaking is successful, the systems are said to have established a connection” (Lux Logis, para. 1). Handshake was the first communications project in Germany to incorporate the Internet, making use of email, Usenet newsgroups, ftp, IRC, and the World Wide Web.

Realized as an interactive room installation in Berlin in October of 1994, Handshake was intended to be a communications interface between the electronic network and the outside world. The artists prepared and made available through the Internet a number of communications and perceptual experiments (such as analyzing Rorschach tests, the creation and interpretation of symbols, exploring the implications of new media art, new media art in Eastern Europe) based on text, visual and auditory stimulation, and invited participation through online announcements. Although the work was configured to connect Berlin techno clubs via terminals to enable clubgoers to chat with one another (Lovink, 2002), the creators' larger intention was to reach a global audience through Handshake. They were also interested in juxtaposing to the peculiarities specific to certain cultures with the common ground shared by all participants, regardless of where they were from or which culture they identified with. The creators of Handshake saw the project as a continuous process in which they would be able to observe the interaction between humans and machines through electronic networks (Lux Logis, 1994, para. 1).

2.3.2 Art as Communication and Communication as Art: The proliferation of net.art from 1995 to 1997. The mid 1990's saw an immense increase in the number of Internet users, from approximately a few thousand users in the early 1980's (Hafner and Markoff, 1991) to 24 million in November, 1995 (Castells, 2000). In 1994 and 1995, artistic practice on the Internet "took off," so to speak, and a number of art-oriented, left-leaning Internet nodes, mailing lists and net.art sites formed and flourished. They did not simply function as structures for promotion and the distribution of information; they simultaneously functioned as both content and community. Some of the more influential

sites devoted to Internet art and culture that went up during these years include The Thing, Syndicate, Echo, etoy, Entropy8, zuper (now combined as entropy8zuper!), The Well, Word, ada'web, Irrational.org and Cybercafe.org, Old Boys Network, faces, jodi.org, The Blue Dot, Artnetweb, Public Netbase, Nettime, Rhizome and Feed. Art institutions such as the Walker Art Center's Gallery 9 (<http://www.walkerart.org/gallery9/>), the Guggenheim and the Dia Center for the Arts began commissioning works which made use of the Internet and computer networks, such as Shu Lea Cheang's Bowling Alley installation (<http://bowlingalley.walkerart.org>), the Brandon Project, based on the life of Brandon Teena and also created by Shu Lea Cheang (<http://brandon.guggenheim.org>), and site-specific web piece Fantastic Prayers (<http://www.diacenter.org/rooftop/webproj/fprayer/fprayer.html>), created by writer Constance DeJong, artist Tony Oursler, and musician Stephen Vitiello.

ada'web, named after mathematician and world's first computer programmer Lady Ada Byron Lovelace, was founded by Benjamin Weil and John Borthwick in 1994. Ada'web's original "home" was the content provider Digital Cities, which was then bought by AOL in 1998. Because ada'web was not able to generate a sufficient amount of revenue, it was dropped. It was then acquired by the Walker Art Center, where it currently resides (<http://adaweb.walkerart.org>). At its inception, Weil invited well-known artists such as Vivian Selbo, Laurence Weiner, Julia Scher and Jenny Holzer to experiment with the Internet as a new artist's medium and explore new forms of visual creation. The inaugural work launched by ada'web in May 1995 that generated a considerable amount of interest is Jenny Holzer's Please Change Beliefs (<http://adaweb>.

walkerart.org/project/holzer/cgi/pcb.cgi), a conceptual, text-based Internet piece in which visitors are able to access, respond to and edit her “truisms,” supply their own alternatives, and vote for a favorite. In this work, Holzer explores notions of authorship, authority and interactivity in which net.art is presented as a collaborative editorial act rather than an autonomous act of creation.

Another example of work created for the net by artists who were already relatively well known is Vitaly Komar and Alex Melamid’s 1995 The Most Wanted Paintings on the Web (<http://www.diacenter.org/km/index.html>), hosted by the Dia Center for the Arts. This piece is a continuation of two earlier offline works created in 1994, The Most Wanted Painting and The Least Wanted Painting, intended as a wry commentary on market-research consumerism and opinion poll politics. Komar and Melamid hired the research firm Marttila & Kiley, Inc. to conduct a scientific nationwide poll that surveyed people’s aesthetic preferences and tastes in art, and then created two paintings based on their interpretation of the poll results. The Most Wanted Painting and the Least Wanted Painting were exhibited in New York at the Alternative Museum under the title "People's Choice." After receiving funding from Chase Manhattan Bank, Komar and Melamid expanded their market research to thirteen countries, and created a version of the Most Wanted and Least Wanted paintings for each. Digitized versions of the paintings and the accompanying survey statistics are still available for viewing on the Dia web site. In addition, visitors to Komar and Melamid's web page were invited to take the market survey questionnaire, and between November 1995 and March 1997, 3001 visitors completed the online poll. The results of the web poll are available online, along with the Web's Most Wanted and Web's Least Wanted images. Interestingly, the images

created according to the Web polls are quite different from those created from the polls taken of people from the individual countries. Although paintings were made, the Web's Most Wanted and Web's Least Wanted are images of the paintings in context, intended to be viewed only on a computer screen (<http://www.diacenter.org/km/intro.html>, para. 2).

Irrational.org and Cybercafe.org were initiated in 1995 by British systems analyst Heath Bunting, who began using the Internet to create performances pieces in 1994 such as Kings Cross Phone-In. His work was (and continues to be) intentionally low tech – he eschews plug-ins in favor of highly compressed images - making connections between electronic networks and urban contexts. Two of his earliest works (both created in 1995, as part of his Cybercafe series), Communication Creates Conflict (<http://www.irational.org/tokyo/index.html>) and Visitor's Guide to London (<http://www.irational.org/london/>) are examples of how Bunting engineers the convergence of on-line and off-line interaction. For instance, Communication Creates Conflict consists of a web page containing a cryptic poem with links that enable visitors to create a fax, postcard, send fill-in-the-blanks email, and/or leaflets, which were then distributed to people in several Tokyo subway stations by Cybercafe members. Bunting and his colleagues are extremely prolific, and have created a large number of net.art works since 1995, which can be accessed through [irational.org](http://www.irational.org).

jodi.org began in 1995 as a collaboration between Dutch artists Dirk Paesmans and Joan Heemskerk shortly after they had spent time in San Jose, California observing employees at companies such as Netscape and Apple. Jodi's modus operandi is to create programs using CGI (Common Gateway Interface), a method of scripting that is used to process data sent via e-mail from a visitor of a web site to the host computer, and

Javascript, a scripting language that can be written into a web page, to create interactive behaviors and functions that trigger dysfunctional models of computer behavior. Jodi takes the conventions of coding, design and the organization of 'content' on the Web and pushes them beyond their limits; the result is the appearance of a nearly indecipherable alphanumeric soup, as if the user's computer or browser has been attacked by a virus, or hacked into. When one looks at a jodi.org project, the HTML coding, which is normally obscured, is laid bare. In one example, in an early version of 404.jodi.org, the visitor to the site is prompted to type an entry into the dialog boxes present on the screen. The submission, in turn, is reconfigured and the entry's vowels are regurgitated onto the screen, or the visitor's IP address is posted. A recent version of 404.jodi.org prompts the user to type in an entry, which appears in a refreshed screen without its vowels. The entries of previous visitors also appear on the screen in a presumably chronological order, leaving semi-decipherable evidence of their presence in their wake. In an interview with Tilman Baumgartel (1997), Paesmans states, "It is obvious that our work is directed against high tech. We also battle with the computer on the level of graphics... We explore the computer from inside, and mirror this on the Net. When viewers looks at our work, we are inside their computer. There is this hacker slogan: 'We love your computer.' Like hackers, we get inside people's computers. And we are honored to be inside somebody's computer" (para. 18).

The influence of several prolific Eastern European artists on net.art's development during this time period cannot be underestimated. One artist who was particularly active between 1995 and 1997 is Muscovite Alexei Shulgin, a photographer, installation artist, and creator of Hot Pictures. During these years he authored and curated

net.art sites such as the Moscow wwwart Centre (<http://sunsite.cs.msu.su/wwwart/>), wwwart Award (<http://www.easylife.org/award/index.html>), easylife.org, Refresh (<http://sunsite.cs.msu.su/wwwart/refresh.htm>), done in collaboration with Andreas Broekman and Vuk Cosic, Link X (<http://www.desk.nl>), Form Art (<http://www.c3.hu/collection/form>), Desktop Is (<http://www.easylife.org/desktop>), and the collaborative work Between Before and After (<http://easylife.org/between/>) with artist Natalie Bookchin. Shulgin's approach toward net.art, while both playful and irreverent, often reflects his ambivalence toward traditional art world institutions and structures. In a January 1997 interview with Dutch journalist Josephine Bosma that took place during the Anti with E conference hosted by Backspace.org in London, he explains how he perceived the Internet as a way to circumvent the labels (Russian artist/an artist from Moscow/Eastern European artist) that curators often placed on him and his work. He felt these labels forced him into a niche in which he served as a representative from a particular place, or a particular culture. What initially was so appealing to him about creating art on the Internet, therefore, was his perception that the geographical location of the artist or the artwork becomes irrelevant, as the work can be located on a server anywhere in the world.

Vuk Cosic, an artist who resides in Ljubljana, Slovenia and is a member of the Ljudmila Digital Media Lab (<http://www.ljudmila.org>), has created a series of works for the Net, including ASCII History of Art for the Blind (<http://www.vuk.org>), Classics of Net.art (<http://www.ljudmila.org/~vuk/books/>), and Grant Program for Net.art (<http://www.ljudmila.org/~vuk/philantropy/>). He created his first web site for the Net.art Per Se conference that took place in May, 1996 in Trieste, Italy (<http://www.ljudmila.org/>

naps). However, he is best known for his 1997 Documenta Done (<http://www.ljudmila.org/~vuk/dx>). This work can be seen either as a parody of stolen identity, or simply theft: Cosic downloaded a readily available robot program (or “bot”) to copy and paste onto his own web site the Documenta X web site in its entirety shortly before it was to be taken down and burned onto a CD, which would then be marketed and sold to the public. Cosic’s rationale was that the Documenta X site was “too institutional” and “too pretentious” (Greene, 2000), and thus an easy target. In response to his critics, he declared that the stolen Documenta site was his “readymade”; in an interview with Tilman Baumgartel he states that net.artists are “in a way...Duchamp's ideal children” (1997, para. 7).

A third Eastern European film critic, curator and prolific net.artist is Olia Lialina, originally from Moscow and currently a professor of networks and online environments at Merz Akademie in Stuttgart. She was introduced to the web in January of 1996 when Shulgin helped her construct a website for CINE FANTOM, an experimental film club of which she was the director. Her approach to net.art was the exploration of the web as a means for storytelling, and her first net.art work is the powerful My Boyfriend Came Back from the War (<http://www.teleportacia.org/war>). A simple, yet elegant and evocative piece reminiscent of a filmic narrative depicting a fated romance, it has been described by Lev Manovich (2001) as a combination between the “informationally dense visual narratives of Renaissance and Baroque painters with the ‘attention demanding’ shot juxtapositions of twentieth-century film directors” (p. 324). What is particularly striking about the work, according to Manovich, is that it adds onto the dimensions of montage (differences in images’ content, composition and movement) another entirely

new dimension, the position of images in space relative to each other. Other works she produced during this time period include Anna Karenin Goes to Paradise (<http://www.teleportacia.org/anna/>), based on Tolstoy's Anna Karenina and can be interpreted as a sly juxtaposition between search engines and the use of the Internet to search for personal fulfillment, and Agatha Appears (<http://www.c3.hu/collection/agatha/>), a story about a fired systems administrator who meets Agatha, a woman from a small village, whom he shows how to use the Web. Lialina is also the creator of Teleportacia.org, the first online gallery devoted exclusively to net.art, which she began in 1999.

Digital storytelling and online collaborative storytelling was (and continues to be) a fruitful area of exploration. Abbe Don's Bubbe's Back Porch (1996; <http://www.bubbe.com>), a web-based extension of her multimedia installation work We Make Memories, is modeled on the notion of a kindly Jewish grandmother (or "bubbe") who reminisces about her past and invites others to share their family stories. The site serves as a repository for oral histories and familial tales submitted by various users ("Cold Forceps," "god's will," "No Soup, Just Matzo Balls"). Juliet Martin's OOOXXXOOO (1997; <http://www.julietmartin.com>), while not collaborative, can be described as a personal exploration of non-linear fiction. OOOXXXOOO is a story that can be entered and exited at various different points, beginning with a stem of "yes" and "no" statements that serve as an entry point to several narratives. Many of these narratives make use of scrolling to create animation and facilitate the notion of journey. The subject of the piece is the sensual nature of computers; underlying the site's design is the notion that even basic visual elements such as ASCII text can be used to create something beautiful.

A number of works created during this time period explicitly foregrounded some of the ways information is politicized through the Internet. Digital Hijack (1996; <http://www.hijack.org>), created by the members of etoy, an “artistic version of a multinational corporation” (Wilson, 2002, p. 844), can arguably be described as “hacking.” In this work, visitors to various search engines are redirected to the Digital Hijack web site if they enter particular words. The purpose of the piece was to challenge the notion of a hierarchy of information created by search engines; in other words, search engines create hierarchies by ranking websites according to their relevance to the words typed into the search engine’s entry field. This ranking, as the members of etoy wished to show, is not necessarily innocent, random or benign, and that search engines are not necessarily neutral indexing tools. Another net.art site with an overtly political purpose is RTMark (1997; <http://rtmark.com>), a site which represents a collection of individuals who have set themselves up as a privately owned, legally registered corporation. They make use of familiar corporate and free market methodologies as a means of circumventing corporate control by acting as a clearinghouse for ideas and acts of anti-corporate activism by connecting funding sources to selected activists, and engaging in public relations media promotion. One RTMark web-based project that generated a considerable amount of attention was GWBush.com (2000; <http://gwbush.com>), a site which visually mimicked the “official” George W. Bush presidential campaign web site, but instead contained unflattering and embarrassing information about him and his political activities while governor of Texas.

One particularly significant, politically motivated work is Name.Space (<http://name.space.xs2.net>), launched by activist artist Paul Garrin (the creator of

www.mediafilter.org, one of the first media activist sites on the web) in October, 1996. In early 1996 he authored a manifesto, “The Disappearance of Public Space on the Net” in which he warns

“...the race toward ‘privatization’ [of the Internet] is taking place behind closed doors and in corporate boardrooms, well outside the sphere of public debate, and threatens the very existence of free speech over electronic networks. Just as shopping malls are private property, where ‘freedom of speech’ means that the owners of the property have the right to silence those with whom they disagree, often using their own private security personnel (rent-a-cops), the private spaces on the Internet will follow the same model” (para. 2)

This mindset is what prompted him to create Name.Space, a means for him to challenge the monopoly of Network Solutions, Inc., formerly InterNIC, the only company in existence entitled to sell .com, .org, and .net domain names. The challenge would take the form of creating as many top level domains as possible and making the content contained within these domains available on alternative root name servers set up in New York (Media Filter, Zero Tolerance), Helsinki (muuMediaBase), Amsterdam (desk.nl), Berlin (Internationale Stadt) and Ljubljana (Lois/Ljudmila) (Lovink, 2001). Unfortunately, the project was not able to take hold in the way Garrin had envisioned. The network of test servers, plagued by numerous technical difficulties, was not able to sufficiently expand. Also, although there was support for Name.Space in Europe, there was not enough support in the United States. Thus, Garrin was not able to push his project into the next phase of a business plan, similar to what a number of Internet startups had managed to do around that time (Lovink, 2001).

Surveillance is a theme that is woven throughout several net.art works, as well as web sites not necessarily deemed “art.” One site that gained a considerable amount of

notoriety is Jennicam (<http://www.jennicam.org>), a web site created by Jennifer Riley in 1996 which displays live, real-time web camera (webcam) shots of her apartment on a constant, ongoing basis, regardless of the activity taking place. The Multicultural Recycler (<http://recycler.plagiarist.org>), a piece created by Amy Alexander in 1996, allows the user to select two or three web cameras located at various places around the world, download an image from the selected cameras, and create “cultural compost” by having the site run a cgi script that combines the images into an entirely new image. According to Alexander, web cameras are a source of documentation as well as function as surveillance of the user's surroundings. Through the use of web cameras, the user becomes a part of web culture while subjecting themselves to constant surveillance. Thus, issues of voyeurism and spectatorship, previously reserved for media such as cinema and television, are now applicable to those who voluntarily become the objects of the websurfer's gaze (Alexander, 1996, para. 1). Another work which investigates the notions of surveillance is The Persistent Data Confidante (1997; <http://www.textgenomics.com>), by Paul Vanouse, Eric Nyberg and Lisa Hutton. The site invites the visitor to share a secret or a confession by entering it in a text field provided. In return for sharing a secret, the site “shares” a confession provided by another anonymous visitor, which the current visitor is invited to rate according to its quality. The higher a confession is rated, the more likely it is to be shared with other future visitors.

Superbad (<http://www.superbad.com>), described by creator and graphic designer Ben Benjamin as “colorful, splashy Art-Lite (TM). E-Z Art for people on the go” (Salvaggio, 1999, para. 1), started in 1997 as an experimental staging ground where Benjamin tested out technical and graphical problems for his commercial Web work.

Since its inception, he adds to it on a near-daily basis, and it has evolved into a seemingly endless maze of pop imagery culled from a wide variety of pop cultural venues, from Japanese pop culture and interactive games, to sardonic depictions of childhood, and his grocery bills. However, to describe Superbad as a graphic design portfolio or a repository for Benjamin's experimentation with HTML, while on a certain level may be true, would not be entirely accurate. On another level, Superbad attempts to draw attention to the language of design itself by using graphic design as a language to describe the piece as a pop cultural artifact. Parody plays a large role in the piece; earlier versions of Superbad parodied the proliferation of personal home pages on the web. As the web became more commercialized, Superbad evolved into a parody of this commercialization through Benjamin's varied uses of corporate logos, corporate design, and cartoonish images of political figures such as Chairman Mao.

One of the most ambitious net.art works from this time period is the Web Stalker (<http://www.backspace.org/iod/iod4Winupdates.html>), created by the British artist's collective I/O/D (Simon Pope, Colin Green and Matthew Fuller) in late 1997. The Web Stalker is a network-ready software tool, a browser similar to Netscape Navigator or Internet Explorer. But not too similar – instead of displaying what the web site's original producers and designers intended the viewer to see, Web Stalker maps the external links from an given HTML page, tracing out the spaces between web pages. The piece is designed to disassemble Web pages, presenting a collection of parts instead of an integrated whole. When the user launches Web Stalker, s/he is able create multiple windows on a black or magenta background field and assign functions to them such as "crawl," "map," or "extract." "Crawl" enables the user to connect to a site and follow

every link on that site - and every subsequent link. "Map" displays all the links out from the selected page, represented as a bouquet of circles with lines for stems; it traces the progress of the crawler. "Map" is, in essence, a basic real-time dynamic visualization of the underlying link-node structure of the web. The "extract" function pulls the text out of a Web page and displays it in a scrollable window. Other functions include "dismantle," which enables the user to take links out of a page and save separately using the "stash" function. In addition, early versions of Web Stalker do not read images; later versions of Web Stalker are able to read GIF images.

The impetus behind Web Stalker was a desire to challenge the way web browsers and Internet technologies shape the user's experience of the Web. In other words, a user with access to powerful technologies will have considerably more access to certain types of information than a user whose access is limited to outdated technologies. However, the user will often devise ways to try and overcome these limitations. At the very least, regardless of their degree of access, will try to shape their own means of experiencing the web. In an interview with Geert Lovink (1998), I/O/D member Matthew Fuller states, "one of the things that drove us to make the Web Stalker was that we, and pretty much everyone else, don't really use web-sites in the way that they are supposed to be used. Whether it's switching off gifs or blocking cookies or whatever there's an element of street knowledge that you use to get to the stuff that you really want" (para. 2). In addition, I/O/D members were interested in portraying the Web through its actual qualities as a network, rather than making use of web design conventions that mimic traditional graphic design conventions meant for print publication.

2.3.3 From web pages to networked applications: net.art from 1998 to 2000. Web Stalker foreshadowed a shift in approach towards net.art. While earlier net.art often reflected the technical constraints (such as low bandwidth) many artists had to contend with, as computer technology capabilities expanded, so did the capabilities of net.artists. Although net.artists still continued to create works that consisted of web pages, the field expanded to include software products, online activism (i.e., “hacktivism”), browser art, e-commerce and radio. In addition, these years saw a marked increase in the attention paid to net.art on the part of prestigious museums, galleries and funding organizations. To provide a few notable examples, in 1998 the International Museums and the Web conference in Toronto included an online exhibition of net.art titled Beyond Interface (<http://www.archimuse.com/mw98/beyondinterface/>), curated by Steve Dietz, Director of New Media Initiatives at the Walker Art Center. 1999 saw the first major museum exhibition devoted entirely to net.art, Net_condition (http://on1.zkm.de/netCondition.root/netcondition/start/language/default_e), at the Center for Art and Media Technology (ZKM) in Karlsruhe, Germany. Also during this year, the Whitney announced that it was planning to include net.art in its 2000 Biennale. Net.art was well represented at this event, including a wide range of projects by artists and artist collectives such as Fakeshop, Ken Goldberg, Annette Weintraub, RTMark, Ben Benjamin and Mark Amerika, among others. From November, 1999 to May 2000, the California Institute for the Arts and the Museum of Contemporary Art in Los Angeles hosted <net.net.net> (<http://www.calarts.edu/~ntntnt/ntsite/html/index.html>), a lecture series that featured net

artists, net activists and net collectives from around the United States and Europe.

Creative Capital, a new artists' funding source which began in 1999, includes a category for artists working on Internet-based projects.

Continuing in the tradition of manipulating browsers and HTML objects, Mark Napier, a New-York based artist, created Shredder (<http://www.potatoland.org/shredder>) and Digital Landfill (<http://www.potatoland.org/landfill>). The title of Shredder is a metaphor meant to challenge the notion of web design following the format of graphic design for print publications; one can literally “shred” print publications, as they are made of paper, but how does one “shred” HTML scripting and digital imagery? On the Shredder website, Napier describes the web browser as an “organ of perception” that organizes and tidies up the vast soup of code and scripting that comprises the World Wide Web by taking that code and rendering it invisible through a display filtered by the browser. With Shredder, this code is no longer invisible – when the user types in a URL in the text field provided, instead of being filtered, it is part of the display. The web page is reconfigured (i.e., “shredded”) and presented as a chaotic collage of HTML script and digital images. A 1999 sequel to Shredder is Riot (<http://www.potatoland/riot/>) a multi-user browser that builds kinetic collages out of the three Web pages most recently submitted by visitors. Digital Landfill is also a metaphor, and the site functions in a manner similar to Shredder. In this piece, the visitor is encourage to deposit their “digital debris” into the digital landfill, whether it be unwanted e-mails, HTML scripts or spam, by entering a title and the contents into two text fields. This content is “added” to the “landfill,” and displayed along with the contents submitted by other visitors in a random,

chaotically layered pattern. The title of this piece also alludes to a change in perception regarding the Internet: where it was once touted as a “village” or “community,” a rarified digital space for a lucky few in academia, government or industry, its popularization and explosion into a global mass media form has rendered it into a veritable, incomprehensible “digital dump.”

Another alternative browser, Netomat (<http://www.netomat.net>), was created in 1999 by New York artist Maciej Wisniewski. Unlike typical web browsers which return structured web pages, Netomat is a “metabrowser” or “anti-browser” (Wisniewski, 2001) that produces one-of-a-kind collages of images, texts and audio in response to user input, whether it be questions using natural language or keywords. Netomat is capable of retrieving all forms of data on the Internet, including streaming audio, jpegs, gifs, .aiff and .wav files, html, xml and plain text. In other words, Netomat does not navigate the Internet using URLs (Universal Resource Locators); navigating the Internet with Netomat requires the typing of keywords, phrases, sentences and question in the input field at the bottom of the screen. Modular and adaptable, Netomat can be described as a platform that permits users to create their own browser interfaces; instructions for creating browser interfaces are known as netomatic. When the user opens Netomat, it builds a browser interface and functionality on the fly by retrieving components and instructions for combining components from the net. The netomatic is the set of instructions that are written in a simple and very natural language known as, netomatics or nml (netomatic markup language) (Wakkary, 1999, para. 2). The larger purpose of Netomat is to change the way users perceive the vast network of resources in cyberspace. Instead of going to a

specific page through clicking on links to go forward or backward, Netomat presents the user with a constant stream of data. Unlike a mainstream browser, it doesn't present the network as a purveyor of linear streams of information as in a magazine, radio station or a book. Instead, it cuts through the flow of information and “presents a snapshot of the Internet from several different sources” (Mirapaul, 1999, para. 11).

Another highly interesting shareware software project produced in 1998 is Heritage Gold (<http://www.mongrel.org.uk/heritagegold>), released by the British/Jamaican artist's collective Mongrel (although the number of members in this collective fluctuates, the core members are Graham Harwood, Matsuko Yokokoji, and Richard Pierre-Davis). The work is based on the graphics software Adobe Photoshop, but it functions as a means of revealing ways in which oppressive social or economic relations are subtly (or not) reinforced. In an interview with Geert Lovink (1998), Harwood describes it as a “family-oriented heritage changing software... You can invent a new family. You can have a bastard birth, revert your genes, you can have immigration, repatriation, whatever” (para. 26). In a candid exploration of race and class, Heritage Gold replaces Photoshop's ordinary commands with commands loaded with racial and ethnic significations, such as “Define Breed,” “Paste into Host Skin,” and “Rotate World View.” This socially engaged software program enables the user to add, modify or reduce the levels and inflections of ethnicity in their photographs, from East Asian to Caucasian, African American to Indic, etc. A second project that also explores race and class issues involving Graham Harwood of Mongrel and Matthew Fuller of I/O/D is Natural Selection (<http://www.mongrelx.org/Project/Selection/>). In this project, Harwood and Fuller hacked

a popular internet search engine (it is not clear which one, but Yahoo! is implied) in such a way that any searches made on that engine for racist material resulted in the user being diverted to a parallel network of web-sites set up by Mongrel.

The Tactical Floodnet (<http://www.thing.net/~rdom/ecd/floodnet.html>) was developed in 1998 by Ricardo Dominguez, Stefan Wray, Carmin Karasic and Brett Stalbaum as a means of engaging in a particular form of online activism sometimes referred to as “hacktivism” (which, it must be noted, is a rather misleading term, as Floodnet does not allow users actual access into a computer system). Originally used as a means to disrupt the servers hosted by the Mexican government in support of the Zapatista movement, the way Floodnet works is that it reloads a targeted web page several times per minute, enabling a collection of Internet users to “spam” targeted server error logs. A particular web site of an institution is chosen for “flooding” on a particular day, and a link to FloodNet is posted in a public call for participation. On the chosen day, netsurfers who choose to participate follow the provided link; by leaving their browser open, the FloodNet Applet automatically reloads the target web page every few seconds. The intent behind the applet is to disrupt access to the targeted web site by flooding the host server with requests for that web site. As FloodNet performs automatic reloads of the site in the background, slowing or halting access to the targeted server, FloodNet also encourages interaction on the part of individual protesters. Users are able to voice their political concerns on a targeted server via a built-in “personal message” form which sends the surfer's own statement to the server error log. Additionally, a mouse click on the applet image (containing a representation of the targeted site), sends a predefined message to the server error log (Stalbaum, 1999, para. 3).

Another politically motivated site that emerged in 1998 is plagiarist.org, hosted by Amy Alexander, an assistant professor of art at the University of California at San Diego. Functioning as a repository for projects “made from raw materials “plagiarized” from the Internet” that deal with “proprietaryship, appropriation, corporate dominance, and the infinite recursiveness of the web” (Alexander, 2003, para. 5), it was originally inspired by the increasing number of corporate takeovers occurring in the mid- to late 1990’s. Conceiving of the domain name as a metaphor for the corporation, Alexander, as “Plagiarist,” created a work (<http://plagiarist.org/acquisitions.html>) set out to form the “world’s largest corporation” by “acquiring” 27 of the world’s largest corporations into the plagiarist.org domain. The existing sites of corporations such as Microsoft, McDonald’s, DuPont and Starbucks, among others, were given addresses within the plagiarist.org domain - microsoft.plagiarist.org, mcdonalds.plagiarist.org, dupont.plagiarist.org, starbucks.plagiarist.org, etc. The “Plagiarist Acquisitions” page listed all twenty-seven of the acquired subdomains, with links to the corresponding websites under their new plagiarist.org addresses. If relative links were used within a particular corporate website, visitors were able to traverse the entire website with the site’s plagiarist.org address, which appeared in the location bar throughout. In addition, search engines indexed these corporations’ [plagiarist](http://plagiarist.org) websites. In June 1999, however, DuPont Company threatened legal action in conjunction with the 26 other corporations against UC San Diego. Alexander was subsequently forced to remove the Plagiarist Acquisitions site, although she replaced it with documentation of the legal dispute. DuPont also attempted to have Alexander remove this site as well (Lialina, 1999).

Smell.bytes (<http://smellbytes.banff.org>) was created in 1999 by Jenny Marketou under the auspices of The Banff Center in Banff, Canada. Designed for the web and implemented as a web site and as a computer controlled web streamed video environment, the work explores issues of hacking, “dataveillance” (the surveillance of the body through the use of databases), the body and privacy, and biotech. Marketou’s presence in the work is manifested as a “bot” (automated programs that gather statistics or index content and build databases – the term “bot” is based on the word “robot”) named Chris.053. Chris.053 is programmed to be “driven by its insatiable olfactory desires, relentlessly lurking and sniffing by gaining unauthorized access to servers and IP addresses of CU SeeMe teleconference environments and chat rooms online” (Marketou, 2001). Parodying and satirizing scientific studies taking place at the Ludwig Boltzman Institute of Urban Ethnology and Human Biology in Vienna proclaiming a direct relationship between symmetry, beauty and body smells, Smell.bytes mimics this environment in which subjectivity has been reduced to classification systems comprised of data based on biochemical traits. For instance, users can enter the “odor lab,” browse through graphic images based on the molecular structures and data of 7,000 odors, and watch the ongoing downloading and analysis of grabbed human profiles. Those with attractive faces are assigned seductive odors, while those who are unattractive are given unpleasant odors.

Net.artists also began exploring the aesthetics of games. One such example is Natalie Bookchin’s The Intruder (1999), an experimental computer and video game hybrid based on Jorge Luis Borges’ La Intrusa, a tragic short story about a fated love triangle. In this piece, players move through a linear narrative by shooting, fighting,

catching, or colliding with another character. When they “win,” instead of receiving points, a player is rewarded with a piece of the narrative from the short story. At particular segments in the game, the logic of games (i.e., the purpose of playing the game is to gain points, or to win) is subverted and the player must lose or receive a penalty in order to continue the story. Playing transforms readers into participants, as they are placed inside of and implicated in the story. Throughout the game, the players’ subject positions are constantly shifting, forcing them to play on different and opposing sides in the same story, paralleling the less-than-firm roles often performed in real-life conflicts. The story is told in 10 game scenarios; taken together, they also present a loose parallel narrative of a history of computer games. The Intruder begins with a reconstructed version of one of the earliest computer games, Pong, and ends with a war game. Like its real-life counterpart, the war game serves to both reinforce and abstract violence, portraying the narrative’s violent end.

New economic models spurred by the Internet also provided artists working with the Internet with a rich source for investigation, including the commercial potential of their work. One early effort is the sale of Richard Rhinehart’s online work "An Experience Base - A Boolean Typhoon" (<http://www.coyoteip.com/eb/>) for \$52.50 on the eBay auction site to New York artist Robbin Murphy, which took place in 1999. As a result of this transaction, Murphy received a digital copy of Rhinehart’s piece. Other artists used eBay as a site for the work itself, such as the satirical attempt by Washington D.C.-based artist John Gates to sell his artistic abilities on eBay (<http://www.outtacontext.com/ebay/ebay.html>), and the akshun auction (<http://www.calarts.edu/~nudell/archive/archive.html>), in which wall space at the CalArts Gallery was auctioned

off on eBay by a CalArts student group to Allen Bukoff and Chris Butler of Fluxus Midwest. A later piece (2001) consists of African American performance artist Keith Obadike's auctioning off his Blackness on eBay (<http://obadike.tripod.com/ebay.html>).

On the flip side, some net.artists were highly critical of notions regarding the ownership of net.art, including, although not limited to, those that involved financial transactions. Two actions that gained a considerable amount of notoriety among net.artists and their supporters was the downloading and duplication of the "Surface" net.art show organized by HELL.com, which was open to the public for 48 hours through the Rhizome.org web site, and Olia Lialina's Art.Teleportacia online gallery. The replicas, acquired by an artist collective operating under the pseudonym "Luther Blissett," were posted on their Web site 0100101110101101.org. In an online interview with Tilman Baumgartel (1999), 0100101110101101.org provide their rationale for copying the HELL.com site, explaining that they wanted to take a site that normally operated as a closed system (HELL.com was only available to select users with a password for accessing the site) and make it accessible to everyone. For them, HELL.com, due to its exclusivity, violated everything they felt the web "could and should be" (para. 10), a completely open source for information. However, their work is not meant to be explicitly political in that they are not interested in performing similar actions with the websites of corporations. Instead, they are interested in exploring the contradictions brought to bear by the Internet on notions of originality and reproduction, authorship and network, and copyright and plagiarism.

Among the innovations mentioned above, artists using the Internet continued (and still continue) to make compelling works that consisted of web pages. Some of these

include Jennifer and Kevin McCoy's Maintenance Web (1998; <http://www.thing.net/~m/>) and Airworld (1999; <http://www.airworld.net>). Maintenance Web is a fictional portrayal of the spacecraft Greenfields, where the three scientist/crewmembers Dr. Carl Snoot, Lieutenant Diane Rivers and Frontiersman Joe Gibbon perform and maintain a variety of scientific experiments. The work is meant to portray the "underbelly" of science and technology that is often omitted from the public discourse surrounding these disciplines, namely the ongoing maintenance (which often amounts to drudgery) which makes scientific and technological innovation possible. Airworld investigates the eroding borders between the worlds of advertising and e-commerce through the use of the Doubleclick.com network; the purpose is to eventually distribute over one million banner ads. Each ad consists of a benign, yet slightly off-kilter business-speak slogan, such as "option: business as usual" or "welcome, we are air." Doubleclick.com, the project sponsor, does not inform the sites on which the ads will be displayed that they are hosting a conceptual art piece. In addition, in a separate process, the textual content of the host site is lifted and inserted into an Airworld database, broken into sentences and stripped of any reference to its source, which is then automatically generated for each visitor. The result is a replica of a meta-corporate Web site that follows what has become standard information architecture of corporate online presence, containing sections labeled "solutions", "technology", "alliances", and "shopping." For each of those sections, text is dynamically generated from the database; because they are generated through a standardized routine by a machine, these texts, which have been configured into a sort of corporate doublespeak, are ultimately meaningless (Stalder, 1999).

2.3.4 Current directions: Net.art from 2001 to the present. The years from 1998 to 2000 can be seen as transition years, when net.art progressed in a relatively short amount of time from a relatively unknown, esoteric phenomenon with few practitioners and adherents, to an art form that garnered a considerably larger following and mainstream attention. This transition is still occurring, albeit considerably more slowly than these years would have indicated. In other words, a veritable net.art “explosion” in which new media departments at museums and galleries have proliferated (although the number of new media departments at academic institutions continue to rise) and the number of net.artists have increased exponentially hasn’t happened as of yet. Unfortunately, the net.art oeuvre has suffered some setbacks as a direct result of the economic downturn in the years 2001-2003, 2003 especially. Due to the cutback in foundational support, one strongly felt setback is Rhizome.org’s transition in early 2003 from a freely available web resource to one that is available to dues-paying members (although it still continues to be free on Fridays). Another significant setback is the May 2003 dismissal of the Walker Museum’s new media curator Steve Dietz, also a result of budgetary cutbacks. What is particularly disheartening about Dietz’s dismissal is that he has taken on a seminal role in promoting new media art to the general public. In addition, it is not clear at this writing that the Walker’s online component Gallery 9 (<http://www.walkerart.org/gallery9/>) will be maintained or remain publicly available. While I do not wish to imply that mainstream museums are the only (or necessarily the best) source of links to Internet art, I also realize that such institutions may serve as the most readily accessible portal to online work for art educators who are unfamiliar with the genre and are therefore unsure of where to look.

Nevertheless, my intention is not to paint an entirely gloomy picture. Despite the fact that working with technology can be an expensive, time-consuming endeavor that at times requires close collaboration with other computer programmers and engineers (challenging the modernist notion of the lone artist creating in their studio), artists, including those who have been previously mentioned in this chapter, have continued to create net.art, including software packages and online games. In addition, museums in the United States have continued to showcase digital and Internet art in their collections and curate shows devoted solely to technological art which include online work. Three notable examples include 010101: Art in Technological Times, which was held at SFMOMA from February 2001 to July 2001, Bitstreams and Data Dynamics both held in conjunction at the Whitney Museum from March, 2001 to June, 2001, and Telematic Connections: The Virtual Embrace, held at the San Francisco Art Institute from February 7, 2001 to April 1, 2001 (<http://www.telematic.walkerart.org>). However, the most recent (and interesting!) European exhibit featuring net.art was Written in Stone, a Net.art Archaeology at the Oslo Museum of Contemporary Art, held from March 23, 2003 to June 25, 2003. The exhibit does not include actual online works of net.art displayed on computers, however. Rather, the exhibit, while satirizing grandiose modernist displays of “great movements in art,” pays homage to a particular period in net.art’s history through memorabilia, elaborately framed screenshots of various net.art pieces, and a tongue-in-cheek art-world lionization of net.art’s earliest “heroes”: Olia Lialina, Vuk Cosic, Alexei Shulgin, Heath Bunting, and Joan Heemskerck and Dirk Paesmans of jodi. The distinctive

curatorial approach taken in this sharply humorous exhibit is summarized in the first paragraph of Josephine Bosma's (2003) online review, which can be found in its entirety at <http://www.rhizome.org/thread.rhiz?thread=8400&text=16935#16935>:

Artist Per Platou has curated an exhibition on net.art which is an odd mixture of artistic installation and almost archeological introduction to what was probably the most infamous period in network art: net.art. The exhibition shows work of Jodi, Alexei Shulgin, Heath Bunting, Olia Lialina and Vuk Cosic. The largest part of the exhibition is not about the art works though, which is what is so extraordinary, even strange if you will. Most of the exhibition is taken up by a trip through memory lane, by objects and paraphernalia which somehow reflect the atmosphere of net.art in the mid nineties. The first thing you see when you enter the exhibition is a small white pillar with a Perspex cube on it. It stands, all alone, in the middle of a high, nineteenth century space. In it we see a small golden marble or ball on a red velvet pillow. It represents the dot in net.art. It is the dot, the dot on a velvet pillow (para. 1).

Olia Lialina has also written a reaction to the show, which can be read at <http://art.teleportacia.org/observation/oslo/oslo.html>.

Among the artists already mentioned who have continued to explore the use of the Internet and computer networks include Olia Lialina, Alexei Shulgin, Amy Alexander, Vuk Cosic and Natalie Bookchin. Lialina's most recent work Zombie and Mummy (2000; <http://www.zombie-and-mummy.org>), which she created in collaboration with computer programmer and musician Dragan Espenschied for the Dia Center's Artists Projects for the Web series, portrays the adventures of two characters, Zombie and Mummy. Their mishaps are chronicled through twenty weekly comic strips that are available for download to a personal digital assistant (PDA). Lialina drew the strip using a PDA, and Espenschied created the comic strip's soundtrack.

Alexei Shulgin, Amy Alexander and seven other collaborators developed runme.org (<http://runme.org>) in January 2003, as a continuation project of the Read_Me

Festival 1.2, which took place in Moscow on the 18th and 19th of May, 2002 (http://www.macros-center.ru/read_me/abouten.htm). Runme.org serves as an open, moderated database serving as an online repository for software art. Runme's about page (<http://runme.org/about.tt2>) describes software art as the intersection between two "almost non-overlapping realms: software and art," each having a "different meaning and aura... software culture lives on the Internet and is often presented through special sites called software repositories. Art is traditionally presented in festivals and exhibitions" (para. 2) The page continues with an explanation of Runme.org's aim, the creation of an exchange interface for artists and programmers that provide a context for this new cultural form. Alexander has been involved in a number of other recent projects, including b0timati0n (<http://b0timati0n.org>), a live software/net art performance which consists of the display of text results from an internet search engine "bot" in continuously animating patterns, and theBot (<http://thebot.org>), a realtime, time-based animation and audio net art project that uses a web search engine robot to reveal the "narrative" of the web. Text gathered by the robot moves as "packets" across the screen and is heard as layered speech spoken by a speech synthesizer.

Vuk Cosic has continued to explore the use of ASCII (American Standard Code for Information Interchange) graphics and ASCII art with works such as ASCII Architecture (<http://www.ljudmila.org/~vuk/ascii/architecture/>), a piece in which he endeavored to project an ASCII rendering of the surface of St. Georges Hall onto the structure, and Instant ASCII Camera (<http://www.ljudmila.org/~vuk/ascii/camera/>), a device that is similar to a passport photo machine but prints out images in ASCII format. Another recent project he has undertaken is File Extinguisher, commissioned by Hamaca,

an organization located in Barcelona, Spain based on a platform devoted to the development and dissemination of net.art (<http://www.hamaca.org/Eng/HamacaEs.htm>).

Natalie Bookchin has continued to explore the genre of games with her recently released Metapet 1.0 (<http://metapet.net>). This project can be described as a “virtual pet” strategy game which is set in the near future and takes place in a biotechnology firm. Players take on the role of managers by selecting a worker, (a pet) and choosing between three offices in which they and their pet will work: a leading gene therapy company, a genetics diagnostic devices manufacturer, and a biopharmaceutical company. The challenges for the player include maximizing the performance of the pet to make as much money as possible, becoming the best manager, and promoting her or his pet. Players are also expected to overcome the limitations of the pet's mind and body by using state-of-the-art technologies such as genetic screening tests, the latest biochemical pharmaceuticals, and body surgeries. The point of the project is to have players develop emotional attachments to their pet, while coming to understand that biotechnology puts business aspects first, while the science is relegated to second place.

Online (and offline) gaming has continued to serve as a source for artistic exploration; Bookchin is one of a number of artists who have chosen to work in this arena. The summer 1999 issue of the online journal Switch, devoted entirely to the intersection of art and games (<http://switch.sjsu.edu/web/v5n2/ednotes.html>), was also accompanied by an online exhibition titled Cracking the Maze - Game Plug-ins and Patches as Hacker Art (<http://switch.sjsu.edu/CrackingtheMaze/>), which consisted of fourteen artists' game patches. Game patches can be considered as game add-ons, in which preexisting game source code in terms of graphics, game characters, architecture,

sound and game play are modified and manipulated. The curator of Cracking the Maze, Anne-Marie Schleiner, created the online game patch Velvet-Strike (2003; <http://www.opensorcery.net/velvet-strike/>). Velvet-Strike consists of a collection of spray paints that users can insert as graffiti on the walls, ceiling, and floor of the popular online network shooter terrorism game "Counter-Strike" (<http://www.counter-strike.net>). Schleiner originally conceptualized Velvet-Strike as a response to President George W. Bush's "War on Terrorism," and visitors to Velvet-Strike are encouraged to submit their own "spray-paints" relating to an anti-war theme. Schleiner also co-founded Playskins (<http://www.playskins.com>) in 2001 with Melinda Klayman, an art historian who works at the Los Angeles County Museum of Art. Their most recent development is an online multi-player, role-playing game titled Anime Noir, which meshes Japanese anime and film noir and is set in Japan during World War II.

Alison Craighead and Jon Thompson, a pair of British artists, are the creators of e-poltergeist (2000 - 2001; <http://thomson-craighead.net/original/go.html>), a work which uses the browser as a medium. The idea for the piece came from the artists' awareness that the act of searching for information Internet has become in itself a significant pastime. The work, which was included in the SFMOMA 010101 exhibit, mimics the Yahoo interface but utilizes a hidden, "invisible" browser that opens multiple windows and emits an eerie soundtrack loop, as if the user's Internet connection is possessed. Searches for phrases such as "Can you hear me?" and "Please help me" suggests the isolation users feel while connected to the world as they sit alone at their computers. E-poltergeist, ideally, is encountered unwittingly as an intervention that takes control of the

user's browser; in this type of situation, users are unable to stop the work without forcing their computer to shut down their browser. If the user does not shut down the browser, the work shuts itself off in thirteen minutes.

Seoul-based Young-Hae Chang Heavy Industries (<http://www.yhchang.com>), a collaboration between Young-Hae Chang and Marc Voge, consists of a collection of pieces that combines moving or flashing black text on a white background with jazz music to create works in Macromedia Flash. Using simple techniques, the work, which cuts across digital animation, motion graphics, experimental video, i-movies, and e-poetry, shuns interactivity, graphics, photos, illustrations, banners, colors, and all fonts except for Monaco. The goal of the entire collection of pieces is to express what Chang considers the essence of the Internet: information, which can be boiled down into the form of text, sans any other form, including interactivity. The writings on the site are in English, Korean, and French. In an interview with the Iowa Review's Thom Swiss (<http://www.uiowa.edu/~iareview/tirweb/feature/younghae/interview.html>), the members of Heavy Industries describe their choice of language as the biggest historical influence on their work, explaining that each language they use comes with a full baggage of history and culture. They contextualize this explanation by describing how language, as the gateway to the Web, is the essence of the Internet, and writing, reading, and chatting in English on the Internet is to implicitly justify a certain history. Their specific literary and artistic influences on their work include Ezra Pound – their piece DAKOTA (<http://www.yhchang.com/DAKOTA.html>) is based on a close reading of his Cantos I and first part of II – Marcel Duchamp, Roy Lichtenstein and Andy Warhol.

Lisa Jevbratt's 1:1 and 1:1(2) (http://cadre.sjsu.edu/jevbratt/c5/onetoone/2/index_ng.html), created in 1999 and updated in 2001 and 2002, consists of a database meant to eventually contain the addresses of every Web site in the world and creates an interface through which to view and use the database. The way the piece works is "crawlers" are sent out on the Web to determine whether there is a Web site at a specific numerical IP (Internet Protocol) address; if a site does exist, regardless of whether it is publicly accessible, the address is stored in the database. Because the Web changes very quickly, by 2001 the database was outdated. Therefore, 1:1(2) is a continuation of the original project, which includes a second database of addresses generated in 2001 and 2002, as well as additional interfaces that show and compare the data from both databases. When the project was first created in 1999, approximately two percent of the IP address spectrum was searched and 186,100 sites were included in the database. In the fall of 2001, the search was started again. The original idea was to continuously search the IP space to eventually have covered the whole spectrum. Because the Web has changed drastically since 1999, Jevbratt decided it was more interesting to search the same areas again to be able to make comparisons between the Web in 1999 and the Web in 2001. The five interfaces in the work, Migration, Hierarchical, Every, Random and Excursion, visualize the databases and provide means of using the databases to access and navigate the Web. For example, the Migration interface reveals in one image how the Web has "moved" over the last few years. The other four interfaces show the two databases in parallel and various ways. According to Jevbratt (2001, <http://cadre.sjsu.edu/jevbratt/c5/onetoone/2/description.html>), when one navigates the Web through the databases via the five 1:1(2) interfaces, one experiences a very different Web than when

navigating it with the "road maps" provided by search engines and portals. Instead of advertisements, pornography, and pictures of people's pets, 1:1(2) "presents the Web as an abundance of inaccessible information, undeveloped sites and cryptic messages intended for someone else" (para. 6).

Apartment (2001; <http://www.turbulence.org/Works/apartment/>), a work by Marek Walczak and Martin Wattenberg, begins simply, with a blinking cursor, and the visitor is asked to type in a sentence in order to begin construction. As the visitor types, "rooms" begin to take shape in the form of a two-dimensional plan, similar to a blueprint. The architecture of the room is based on a semantic analysis of the viewer's words, reorganizing them to reflect the underlying themes they express. The apartments are then visually clustered into buildings and cities according to their linguistic relationships. Each apartment blueprint is then translated and transformed into a navigable three-dimensional dwelling, creating a visual contrast between abstract plans/texts and experiential images/sounds. Walczak and Wattenberg's inspiration for Apartment is based on the idea of a memory palace, derived from Cicero's imaginings of the inscription of themes of a speech on a suite of rooms in a villa, and then reciting that speech by mentally walking from space to space. The purpose of Apartment, therefore, is to explore the equivalence between language and space, connecting the written word with different forms of spatial configurations. I must note the Turbulence.org (<http://turbulence.org>) web site serves as a repository for a substantial amount of excellent, recently created net.art, including but certainly not limited to Jody Zellen's Disembodied Voices (2003; <http://www.disembodiedvoices.org>), a piece that meditates on the changing nature of public space due to the proliferation of technologies such as the cell phone, and Cory Arcangel's Data

Diaries (2003; <http://turbulence.org/Works/arcangel/index.html>), a piece consisting of 11 hours of video footage which was generated by his tricking Quicktime into thinking the RAM of his home computer was video.

They Rule (2001; <http://www.theyrule.net>) by Josh On and the Futurefarmers, a web design firm in San Francisco, is an investigation of corporate power relationships in the United States. The website permits visitors to browse through a variety of maps that function as directories to companies such as Pepsi, Coca-Cola, and Microsoft. The work depicts the connections between these companies through diagrams of their power structures, specifically their boards of directors (e.g., the CEOs). The CEOs, represented as a minimalist, iconic male or female holding a briefcase, highlights these connections and gives these representatives of the ruling power elite a uniformity of sorts. The directors' girth increases proportional to the number of boards they sit on. Visitors to the site can also run web searches on these CEOs by clicking on their briefcase and accessing various bits of information about them, such as the donations they have made, or their company profiles. Visitors can also add to a list of URLs relevant to a particular company or person, or save a map of the connections they made, complete with annotations, for others to view. As a result of mergers and takeovers, They Rule displays how a decreasing number of companies exert more control in nearly every sector of the international economy. As a many-to-many broadcasting system and vast information resource, the Internet is a perfect medium for making visible the intricate web of relationships between these corporate entities. They Rule employs the features of networked technologies, such as dynamic mapping, hyperlinking and instant searches, to create a subnetworks representing power systems, as well as utilizes the Internet's

potential for access and transparency of data to create a qualitative description of these relationships (<http://www.whitney.org/artport/exhibitions/biennial2002/on.shtml>). On is currently working on an updated version of They Rule.

Artists Miranda July and Harrell Fletcher are the creators of a web/performance piece titled Learning to Love You More (2002-2003; <http://www.learningtoloveyou.com>); the web component of the piece is maintained by Yuri Ono. The entire work is comprised of a web site and a corresponding series of offline, physical exhibitions comprised of art made by the public in response to assignments given by artists, which are posted on the web site. The results of the assignments, which are sent to the artists via the web, as well as regular mail or package delivery if the visitors to the web site also created physical objects, are displayed on the site. The list of assignments, which are continuously added on to by July and Fletcher, include projects such as “Re-create three minutes of a NPR Fresh Air interview,” “Start a lecture series in your town,” “Make a paper replica of your bed,” “Recreate a poster you had as a teenager” or “Write your life story in under 24 hours.” Anyone can go to the site, choose an assignment and complete it by following the simple but specific instructions. The visitor who chooses to complete a project is asked to send in the finished result, whether it be a photograph, CD, video, etc., which is then posted on-line on the Learning to Love You More web site. In addition to the web site, there are a series of corresponding offline exhibits in museums, galleries, schools, senior citizens centers, radio shows and film festivals. These exhibits are comprised of work resulting from the assignments; July and Fletcher select these works from the web site, and chosen artists are asked to mail their piece to the site of the show along with a self-addressed stamped packaging to ensure its return. In addition to the

assignments given by Fletcher and July, the web site has several different sections that are updated every few months: “Friends,” “Helping,” “Love,” and “Displays,” which documents all of the Learning to Love You More exhibitions.

2.3.5 Epilogue. What I have hoped to do in this chapter is provide a small sample of works that use the Internet as a medium and represent a rich diversity of approaches. However, I do realize that there are many shortcomings in this chapter, particularly the sections describing net.art works. First, time and space constraints do not permit me to include nearly as many works as I would have liked, and I realize that the most honest way to describe my survey is tiny. Although I have done my best to include what I consider exceptionally strong work, regardless of whether it was created by an internationally known, established artist or a little-known or unknown artist just beginning their career, it is nearly impossible for me to do justice to even a fraction of the works currently in existence. Secondly, I have relied on my own, personal firsthand experiences with the works, along with whatever online and offline documentation was available to me. While the Web has evolved into an excellent research tool, it is still imperfect. Some works are well documented, some much less so, and I have very little way of knowing if my searches for documentation were adequate. If one is to conduct research on the web, s/he must acknowledge that such research privileges countries and institutions with extensive Internet infrastructures. Finally, because of the interactive, mutable nature of many of these pieces, I realize that my experiences with these works will differ from the experiences others will have with them. Some of these works were (or are) able to be viewed in another, offline context such as a gallery or a museum, and some are not. Obviously, one’s experiences with the work will change depending on the

context in which it is viewed. In my case, I viewed all of these works at my home computer, a first generation iMac with a Road Runner Internet connection, a Flash plugin (although not the most recent), and a RealPlayer sound plugin. Obviously someone with access to more powerful technology will experience these works differently than I, as well as someone with access to considerably less powerful technology and less online “know-how.” Nevertheless, despite these shortcomings, I hope I have provided a hint of the richness of this emerging art form, and provided the reader with an account compelling enough that s/he would want to continue exploring net.art on their own.

CHAPTER 3

VISIONS OF TECHNOLOGY

Why is it important for the reader, and by extension art educators, to be informed of the various ontological positions regarding technology? As new media technology has increasingly become part of the core art curriculum, art educators have been encouraging students to use computers and other digital technologies for personal and collective self-expression. New media technologies such as the Internet have also contributed greatly to the proliferation of images and visual messages in industrialized nations. As a result, an increasing number of art educators and art education scholars are insisting that young people need to be taught skills to decode, understand, analyze and challenge them (Villeneuve, 2003; Duncum, 2002; Duncum, 2000). I agree that it can be beneficial for art educators and students to explore how computer technology can be used transparently, as a medium for developing art making skills and knowledge, for instance, or as a source for information on art related topics. I also agree that introducing the study of visual messages/visual culture into the art curriculum is a welcome and necessary addition. Nevertheless, I believe these explorations can be taken even further.

First, I believe that art educators' attitudes toward these technologies in terms of what they believe the role of technology should be, not only in the classroom, but also in

homes and workplaces, determines how they are contextualized within the formal curriculum. By extension, I argue that art educators must interrogate the information technologies they are now expected to use, as well as interrogate their own perceptions of them. It is all too easy to take information technologies for granted, once their use has been sufficiently woven into everyday classroom practice. However, computers are not “just there,” waiting to be used toward instructive or destructive ends, contrary to discourses surrounding computer technology framing it as a “tool,” whether it be a tool for art making, assessment, information gathering, and so forth. On one hand, it would not seem worthwhile to examine computer technology if it were only a “neutral tool.” On the other hand, if information technologies are not neutral tools, but are instead seen as objects that constitute our social and cultural worlds, how are we to understand our relationship to them? Art educators and scholars are insisting students become more informed about how images are constructed and disseminated, yet to examine how images are constructed and disseminated without examining our relationships to the technologies that are used to produce them is to neglect a part of the larger picture. Visual images are used and understood within a range of normative social and cultural practices, and this holds true for computers, information technology, and the Internet.

In order to put together a conceptual framework from which to investigate our interactions with and attitudes toward information technologies and make a case for troubling technological deterministic beliefs regarding their use, I have relied on the work of three contemporary philosophers of technology: Frederick Ferre (1995) Ian Barbour (1993), and Andrew Feenberg (1991). Each of these scholars have explored in considerable depth human attitudes toward technology, and have devised broad

categories to frame these attitudes. Although they have used different terminology for these categories, their conceptualizations are congruent; therefore, I was able to group their categories into three descriptive categories of my own: technological optimists, technological pessimists, and technological contextualists (a term I borrow from Barbour). I have devoted the first portion of this chapter to explicating technological optimism and technological pessimism in general terms, using the writings of philosophers and theorists such as R. Buckminster Fuller, Karl Marx, Jacques Ellul, Martin Heidegger and Herbert Marcuse as examples. I follow up this portion with two sections, one outlining optimistic visions of cyberspace and the Internet, and one narrating pessimistic visions of cyberspace and the Internet. Both of these sections include corresponding visions of the impact the Internet and computer/new media technologies have had on education.

While both optimism and pessimism adequately characterize the most common attitudes toward the technologies we live and interact with, Barbour and Feenberg argue that these points of view reflect a pervasive technological determinism that places technology outside of and separate from human intention and social practice. Therefore, they propose an alternative vision of technology, which Barbour (1993) refers to as contextualist and Feenberg (1991) a critical theory of technology. Although Feenberg writes from a Marxist perspective (a perspective I do not share) and Barbour places his arguments within a broader political context (he puts particular emphasis on environmentalism and the environmentalist movement), both philosophers have provided me with a useful place to start with regards to constructing my own ideas about technology. Therefore, I have included a section that discusses Barbour's contextualism

and Feenberg's critical theory of technology. I then expand upon this section with a recent example of empirical research supported by technological contextualism that has informed my research more directly, the work of Valentine and Holloway (2003).

In the second portion of this chapter, I attempt to address the question, "what does all this have to do with art and technology?" In order to bridge the first portion of this chapter with the second, I have turned to a seminal figure, Walter Benjamin, the first philosopher to focus on mass culture and critically examine the relationship between art and technology (Lovejoy, 1997). His essay The Work of Art in the Age of Mechanical Reproduction (1968), a significant assessment of the impact photography had as a catalyst and instrument for change in twentieth century art, continues to shed light on the power of technology and its impact on art, culture, artistic practice, and the relationship between art, technology and the wider cultural sphere. This work, along with "Author as Producer" (Benjamin, 1978) underscores the notion of technology altering the way art is produced, disseminated and valued. What I hope to do in presenting Benjamin's work is to support the contention I made earlier in this chapter: art educators must go beyond perceiving technology as a "tool," examine how it constitutes/forms our cultural world, and thus, by extension, interrogate how it has changed the premises for art.

The purpose final section of this chapter is to provide three examples of net.art which highlight technology as a social/cultural practice. In other words, these works make transparent how art, technology and everyday life merge in ways that (at least on the surface) appear seamless; the works range from playful, to aggressive and activist-inspired, to subtle and elegant. The first example I will discuss is King's Cross Phone-In, an Internet work instigated in 1994 by British "artist" Heath Bunting. The second

example I use is an event that took place during the years 1999 and 2000 known as the “Toywar,” in which eToys, an online toy retailer, attempted to buy etoy.com from European art group etoy, and offered upwards of \$500,000 in cash and stock options for the domain. etoy refused, and on November 29, 1999, eToys obtained a court injunction preventing etoy from operating their website, www.etoys.com, which had been registered before eToys even came into existence. The result was a concerted and ultimately successful on-line effort on the part of artists and activists worldwide to persuade eToys to drop their lawsuit against etoy. The third example, a biotelematic interactive installation by Eduardo Kac titled “Teleporting an Unknown State” (1996 – 2001), is a piece which facilitated the growth of a small plant located in a darkened space in a gallery. Through the use of Internet videoconferencing, anonymous individuals pointing digital cameras to the sky were able to transmit sun light directly onto the plant.

3.1 Theoretical Positions on Technology

I begin this section with an elaboration on three theoretical positions regarding technology, drawing upon the writings of philosophers of technology Andrew Feenberg (1991), Ian Barbour (1993), and Frederick Ferre (1995). I have categorized these positions as “technological optimists,” “technological pessimists,” and “technological contextualists.” Technological optimists and technological pessimists each reflect, in almost identical ways, a particular technological determinism that positions technology and technological change as determinants of social forms and processes. In other words, technological determinism is a position molded by a set of narratives that presume “new”

technologies impact (positively or negatively) directly upon society, replacing what has come before, and producing a predictable set of effects regardless of the unique specificities of time and place (Bingham, Holloway & Valentine, 2001).

The ideas regarding technology that have most strongly informed my own are those put forth by technological contextualists, who reject technological determinism in favor of a stance that positions technology as inextricably intertwined with normative social and cultural practices. What is missing from technological determinism, according to Thrift (1996), is “any concerted sense of new electronic communications technologies as part of a long history of rich and often wayward social practices (including the interpretation of those practices) through which we have become socially acquainted with these technologies” (p. 1472). The dilemma of technological determinism, according to de Castells (1996), is arguably a false problem, because technology *is* society [emphasis his], and society cannot be understood or represented without its technological tools. This does not mean, however, contextualists take the opposite approach and view technology as a “neutral tool” whose impact is determined entirely by the user. This approach, conflating technological determinism with social determinism, assumes the meanings of technology are stable and unproblematic and constructs a dichotomy in which humans have the status of actors, not technology. In addition, it ignores the interpretive processes that emerge when humans become socially acquainted with technologies, whether through their design and manufacturing, or their domestication in the home or workplace.

3.1.1 Technological optimists. This first category is described as “bright visions [of technology]” (Ferre, 1995, p. 54), “technology as liberator” (Barbour, 1993, p. 4), or “instrumental theory” (Feenberg, 1991, p. 5). To describe what he means by “bright

visions,” Ferre positions Karl Marx and R. Buckminster Fuller as exemplars of thinkers who held an optimistic assessment of modern technological phenomena. To give an extremely brief synopsis of Ferre’s characterization of Marx’s theories, Marx was strongly influenced by Hegel, although later in his career he diverged sharply from idealistic Hegelian thought. He adopted from Hegel the idea of dialectics, which can be (very) briefly described as a way of solving problems by bringing together a thesis and an antithesis, out of which comes a synthesis. This synthesis then gives rise to a new thesis and antithesis, and the cycle begins again. Marx’s dialectic differed from Hegel’s, however. For Hegel, thought processes are primary, i.e. that ideas influence the social world, and ideas can be examined separately from the human beings who held them. Marx’s dialectic, on the other hand, was materialist. He felt that it was social conditions and human activities that influenced people’s ideas, and that people’s ideas could not be examined separated from their material, lived experience. For Marx, the driving forces of history can be found in the material challenges and conditions of life, particularly the universal needs of living things to provide for their own subsistence. Such needs, along with the human methods of meeting them, are economic realities.

The tools and implements that construe these methods make up a large part of what Marx called the “forces of production;” these forces of production are always interacting with the “relations of production,” i.e., the social arrangements between persons engaged in economic activity. Such relations were generally considered by Marx to be exploitative. While the relations of production for much of human history have tended toward technological stability, for Marx, the new forces of production brought about by the industrial revolution carry within them the potential to expose the

contradictions of earlier relations of production, namely feudalism. At the same time, Marx also postulated that while capitalism contains its own internal growth incentives for constantly new inventions, implements and incentives for the “constant revolutionizing of production, uninterrupted disturbance of all social conditions, everlasting certainty and agitation” (Marx, 1968, p. 38), it also contains the seeds of its own demise.

From this demise would evolve a new economic order where no contradiction between the forces and relations of production exists. This would require technology at its optimal to assure the post-capitalist world of conditions of material plenty. According to Ferre (1995), the attitude of Marx is ultimately hopeful in that he sees modern technology as a goad toward necessary changes in society and as an intensifying stimulus to revolution against the contradictions in capitalism. For Marx, as an indispensable, positive ingredient in the dynamics of the material dialectic of history, technology serves as a lure to a new equilibrium of productive forces and social arrangements that will fulfill all human hopes (Ferre, 1995).

Futurist R. Buckminster Fuller believed that the distinguishing mark of human beings is the Reason of Plato (Ferre, 1995). He felt that this reflective capacity gave humans their special status as well as their ability to consciously and progressively participate in a universal evolution, and those who would survive are the ones who are able to trust scientifically designed instruments over bodily sensory signals. For Fuller, the increasing instrumentation of the human race by theoretical intelligence is what provides us with our special powers and destiny; although the universe is full of phenomena undetectable by our naked senses, theoretical intelligence combined with high technology provides us access to these otherwise unknowable dimensions. Fuller

perceives science and technology as forces at work exploring what has already been anticipated by intellect in nature, and therefore human destiny is bound up with the techno-scientific enterprise (Ferre, 1995). Fuller also believed that the full embrace of modern scientific technology could decisively lead the way to an unprecedented reawakening of democracy and stimulation of the economy. If humans fail to do this, however, Fuller (1963) warns that the cosmic process may go on without us.

Barbour (1993) groups those whose appraisal of technology is one of enthusiasm and optimism under the rubric of “technology as liberator.” It is true that throughout modern history technological developments have been welcomed for their potential for liberating humans from hunger, disease and poverty and celebrated as the source of material progress and human fulfillment. In addition, technological fixes are very often sought for social problems brought on by technological developments, rather than trying to change human behavior or forge a consensus on political policies. Therefore, the position of “technology as liberator” is a relatively familiar one, particularly in the West. Barbour explicates the technological optimist’s position by outlining four kinds of benefits which, according to the optimists, can be distinguished from looking at the recent history of technological development:

- Higher living standards, brought about by technological developments such as new drugs, better medical attention, improved sanitation and nutrition, and machines which have released us from backbreaking labor.
- Opportunity for choice, a result of technologies that have enabled greater social and geographical mobility, as well as a power over nature which gives greater opportunity for the exercise of human freedom.

- More leisure, as increases in productivity lead to shorter working hours and computers and automation hold the promise of eliminating much of the monotonous and dangerous work typical of earlier industrialism; laborsaving devices free us to do what machines cannot.
- Improved communications, due to the development of electronic technologies which have drastically increased its speed, range and scope, as well as offering the possibility of instant worldwide communication, greater interaction, understanding and mutual appreciation.

Andrew Feenberg (1991) refers to the category that treats technology as subservient to values established in other social spheres as “instrumental theory” (p. 5). This theory is based on the premise that technologies are socio-politically neutral, universal tools without valuative content of their own, ready to be put to either good or evil use via their users. There are several points to be made in order to explain what the notion “neutrality” means in this context. First, it infers that technology, as pure instrumentality, is indifferent to the variety of ends it is used to achieve. Technology, on its surface, appears detached from politics, particularly in the modern world with respect to capitalist and socialist societies. The socio-political neutrality of technology is generally attributed to its “rational” character and its embodiment of universal truth in the sense that it is based on verifiable causal propositions. Instead of being relative, technology, like science, maintains its cognitive status and norms of efficiency in every conceivable social context. Also, this universality implies that identical standards of measurement can be applied in different settings; therefore, for example, technology can increase the productivity of labor in different countries, eras and civilizations.

The instrumentalist understanding of technology is congruent with Ferre's description of "bright visions" and Barbour's category of "technology as liberator," in the sense that it advocates an unreserved commitment to technology's use. This does not mean that an instrumentalist would never make exceptions and refuse to use specific devices out of deference to moral values. However, the notion of "trade-offs" is central to instrumentalist thinking in that if ethical, religious or environmental goals are to be achieved, they can only be achieved at the expense of efficiency. Thus, according to this view, the technical sphere can be limited by non-technical values, but not transformed by them (Feenberg, 1991).

3.1.2 Technological pessimists. The second category comprises a flip side of sorts, representing pessimistic views of technology. Ferre (1995) describes it as "somber visions [of technology]" (p. 63), Barbour (1993) as "technology as threat" (p. 10), and Feenberg (1991) as "substantive theory" (p. 7). To represent the somber views of technology, Ferre refers to the work of Martin Heidegger and Herbert Marcuse. He points out in the beginning of his description of Heidegger's thought that although he has been interpreted as merely negative towards technology, Heidegger cannot simply be read as "anti-technological" despite his warnings and his grim view of technique. The primary question regarding technology, according to Heidegger (1977), is "what it is" (p. 4). In other words, technology is an end-seeking human activity that uses equipment, tools, machines and the like to achieve those ends. Such an "instrumental and anthropological" (p. 5) definition is correct in that it accommodates the common view that technology is a mere means, something that is manipulated toward practical ends and contained within human mastery.

However, modern technology challenges this view because it is "something completely different, and therefore new" (p. 6) in that it demands the extraction of energy from nature for storage and manipulation at will and has a much more intimate

relationship with modern science than older forms of technology ever had. From this Heidegger derived the notion of the technological a priori, which is not itself a machine or anything overtly technological, but a machine way of thinking which allows nature to be approached as something to be mechanized, reducing it to a manipulable standing reserve for ordering and regulation. As the will to mastery itself, the danger of the technological a priori lies in our efforts to control modern technology: the more we will to master it, the more it masters us through the technological quality of our act of willing. Finally, and most dangerous of all, is a possible time in the future when the essence of modern technology as a form of revealing reduces human experience of everything that is to “nothing but” instrumentality and resources, “[driving] out every other possibility of revealing....The rule of Enframing threatens man with the possibility that it could be denied to him to enter into more original revealing and hence to experience the call of a more primal truth” (Heidegger, 1977, p. 27-28).

Marcuse’s vision of technology was influenced by Marx, Fuller and Heidegger (Ferre, 1995). He agreed with Marx’s postulation that industrial capitalism exploits workers, yet he disagreed that they are likely to revolt against their more sophisticated technocratic masters. Like Fuller, he felt that technological intelligence is capable of ordering a world without poverty, yet he refused to celebrate technological progress as a manifestation of human destiny. He shared Heidegger’s conviction that the technological

a priori dominates contemporary consciousness, although he believed in the possibility of engaging in political critique and activity against the flattening effects of what he termed the “happy consciousness” (Marcuse, 1964, p. 76).

According to Marcuse, the central problem of technology is its totalitarian, radically engulfing nature:

By virtue of the way it has organized its technological base, contemporary industrial society tends to be totalitarian. For “totalitarian” is not only a terroristic political coordination of society, but also a non-terroristic economic-technical coordination which operates through the manipulation of needs by vested interests (Marcuse, 1964, p. 3)

The ones who have political power in society are the ones who have control over the machinery, and the ones who have control are the political, economic and technical elites. It is the transformation of society into a rational system which makes this total control possible, a smoothly running system in which everything works together to maximize productivity. Of course, the ones who contribute the most and benefit the least from this system are the common people. But what is particularly insidious about modern technological society is that the system it has engendered has stolen people’s awareness of their oppression and victimization, rendering them unaware that they are being manipulated and controlled at every point. Without this particular awareness, according to Marcuse, there is no hope for liberation. The root of this technological repression lies in consciousness itself. The social controls wrought by modern technology’s relentless rationality are subtle because they operate at the level of basic, instinctive human needs, such as sex.

Those who perceive technology as a “threat to authentic human life” (Barbour, 1991, p. 10) consider technology inimical to human fulfillment. The human costs of

technology are many, according to its critics. One of the costs include the uniformity that results from a mass society: standardized products created via mass production, a mass uniform culture produced by mass media, homogeneity promoted via industrialization. Technology promotes a narrow criteria of efficiency in that it leads to rational and efficient organization, requiring fragmentation, specialization, speed, and the maximization of output. In other words, the criterion is efficiency in achieving a narrow range of objectives. Relationships in a technological society tend to be specialized and functional, and technology has been utilized for subtle yet insidious and pervasive forms of manipulation, surveillance and psychological conditioning. When a technological mentality is dominant, people are viewed and treated like objects. Critics of technology also cite technology's uncontrollability, as an interlocking system or total and mutually reinforcing network that seems to lead a life of its own. They claim it goes beyond being merely a set of adaptable tools for human use, forming an all-encompassing pervasive structure with its own dynamic and logic. Finally, Barbour (1993) refers to the influence Marx has had on technological pessimists with regards to his theories of worker alienation resulting from capitalist technologies. Barbour also refers to the work of technological pessimists such as French philosopher Jacques Ellul (1964), who argued that technology is an autonomous and uncontrollable force that dehumanizes all that it touches, and psychologist David Kipnis (1990), who postulates that those who control a technology have power over other people, and those with such control conflate this power with moral superiority.

Feenberg (1991) also refers to the work of Ellul and Heidegger to illustrate his concept of the substantive theory of technology. Substantive theory, according to

Feenberg, argues that technology “constitutes a new type of cultural system that restructures the entire social world as an object of control” (p. 7; Winner, 1977). This system is embodied by an expansive dynamic that ends up mediating every pre-technological enclave and shapes the whole of social life, and the only solution to this dilemma is retreat. Feenberg expands slightly on Barbour’s (1993) discussion of Ellul, explaining how Ellul made the link between the rationalization of society and technology through his argument that the technical phenomenon has become the defining characteristic of all modern societies regardless of political ideology. What substantive theory tries to make people aware of is the cultural character of technology, i.e., that through our decision to use particular technologies we unwittingly make certain cultural choices. Technology is not only a means to an end, but has become an environment and a way of life: this is its “substantive” impact (Feenberg, 1991, p. 8).

3.1.3 Technological optimism and the Internet. In recent years, there has been an upsurge in writings about cyberspace and the Internet, both in the academic and popular realms. Most of these writings characterize either technological optimism or technological pessimism; both sets of writings share a technological determinism that represents cyberspace and the “real world” as distinct, unconnected and possessing different, often oppositional qualities (Doel & Clarke, 1999; Holloway & Valentine, 2003). For technological optimists, the “virtual” is conceived as an “improvement” upon the “real,” and cyberspace as holding a considerable amount of promise for all global citizens. Technological pessimists, on the other hand, view cyberspace as a very real threat, and the “virtual” as an inauthentic, poor imitation of the “real.” What these two views also have in common is that they are constructed within a discourse of

disembodiment. In other words, they have a tendency to ignore the way on-line activity is thoroughly embedded within the context of offline spaces and the social relations of everyday life (Holloway & Valentine, 2003).

For example, cyberspace has been heralded by technological optimists as a disembodied medium (Hayles, 1996) that offers the possibility to transcend everyday life, an environment where the constraints of the body and the material world can be shed (such as pain, vulnerability and mortality). This opportunity to leave one's body and its accompanying racial and cultural markers also enables users to "try on" and play with various identities (Plant, 1996; Turkle, 1995) in an atmosphere un conducive to discrimination and prejudice. Another similar premise of cyberspace posited by technological optimists is the new forms of social interaction made possible by communication technologies such as the Internet, where users all over the globe are able to meet mind-to-mind, unconstrained by geographical proximity. Therefore, such relationships have the potential to become more intimate, richer and liberating in comparison to "real life" friendships because they are based on genuine mutual interests. Finally, cyberspace has served as a source of inspiration for optimistic promoters of globalism and global capitalism, particularly those who perceive the World Wide Web as ushering a new human condition. In a 1996 interview with Wired magazine contributor Kevin Kelly, Derrick de Kerkhove, head of The McLuhan Program in Culture and Technology, describes the Web as a "new guise of language" in a tribal world in which the cosmos "has a presence. It's alive. The tribe shares in this huge organic reality." He continues with

“...the agenda of the Web is that of a tribal chieftain: the language is shared, not imposed...The screen is the collective shared image. The content of that screen is a collaboration of zillions of synaptic connections. That’s what the Web is for me, it’s so close to a mind” (para 6, 7).

Optimistic visions of technology have also appeared quite readily in educational contexts. Children’s command of computer technologies is celebrated by optimists as essential to society’s future, the first generation of “founders of the Digital Nation” (Katz, 1998, p. 1). Educational theorists and classroom educators have claimed that communication technologies such as the Internet will completely transform teaching and learning, precipitating in a major shift in how schools and universities operate. Digital technology, and the Web in particular, has been seen by educational reformers as a technocratic solution to the so-called “problem” of education that it offers access to enormous amounts of evidence, experiences, people, writings and visual materials from all over the world (Sefton-Green & Reiss, 1999). This solution is based on the following two (fallacious) assumptions: 1) people do not already have enough access to information, or that people are bereft of information, and 2) information is knowledge (Bromley, 1998; Winner, 1986). By and large, people living in industrialized nations are already drenched in information. Therefore, the problem isn’t about getting enough - it is about making coherent sense of what is available. Information (i.e., raw data and facts) does not constitute knowledge until it is processed and shaped by intelligence; knowledge does not constitute ideas until it is further digested.

Technological optimists place computers in the center of educational discourses regarding the central aim of education: to prepare students for effective participation in an information economy driven by knowledge (Bryson & de Castell, 1998). Of course, it

is crucial for all children, regardless of their socioeconomic status, location, race or sex, to acquire the necessary technological knowledge that is now deemed invaluable in the workplace as well as the academy. However, technological optimistic visions of educational technologies construct computers as value-neutral tools that are educationally valuable only when there is a distinction made between certain forms of computer-based pedagogical activities, such as “drill-and-practice” software and online games on one hand, and “learning environments” on the other. For instance, some educators have championed the nonlinear design of interactive multimedia programs and the Web as enabling students to become active participants in their own learning, as opposed to passive observers and consumers of meaningless and irrelevant facts (Gregory, 1997). Multimedia learning environments have also served as an example of student-centered constructivist pedagogy in which students acquire higher-order thinking skills through self-directed activities such as gathering information, solving meaningful problems, communicating with others, and constructing their own knowledge of the world (Parrish, 2000).

Bryson and De Castell (1998) caution against making such quick judgments with regards to positing a direct relationship between children’s acquisition of “higher” forms of thinking and use of particular learning styles such as metacognitive thinking and their engagement with certain computer programs and/or environments. They argue that rhetoric on “thinking styles” and “learning styles” often glosses over or ignores socioeconomic inequities by “creating essentialist ontological categories out of what are far more plausibly seen as vastly unequal access to power in school” (p. 72). Technological optimism such as this does not sufficiently acknowledge sociopolitical

differences amongst learners and resultant inequitable relations to educational technologies, thus severing these technologies from the normative contexts of social practice in which they are used.

3.1.4 Technological pessimism and the Internet. Just as there have been enthusiastic proponents of the Internet, there have been its detractors as well, ranging from cautionary to hostile. Implicit in their arguments is the assumption that there exists a reality or state of being which exists independently of technology, and technology is attributed with a certain level of autonomy and self-propelling logic (Kendrick, 1996). For example, information technologies are seen as challenging the status of human subjectivity (Barglow, 1994) by fostering a worldview that privileges analytical thinking over holistic forms of understanding (Robins & Webster, 1999), making possible new metaphors linking the functions of mind to the function of machines, or likening a student to an information processing apparatus. Neil Postman (1992), nostalgic for a time when we controlled our technologies instead of the other way around, writes “we have relinquished control, which in the case of the computer means that we may, without excessive remorse, pursue ill-advised and even inhuman goals because the computer can accomplish them” (p. 114). On-line communication, interaction and relationships are regarded as distinct from, and less authentic than the complex human engagements that take place in the off-line world (McLaughlin, Osbourne & Smith, 1995). At the same time, Internet users are portrayed as withdrawn, overly attached to on-line culture, neglectful of their social and physical surroundings and “real-world” obligations.

Children’s access to and use of the Internet has also served as fodder for technological pessimists (as well as concerned, conscientious adults, to be sure) who feel

that children's use of the Internet puts their physical and emotional well-being at risk. Some commentaries have painted the computer as the new "electronic babysitter," replacing the television as the medium that detaches children from their friends and families and keeps them indoors and immersed in their own private on-line worlds, away from public outdoor spaces. The Internet has also been portrayed as a dangerous for children, as its unregulated nature makes material such as pornography, neo-Nazi hate sites, sexually explicit discussions, and other forms of racial and ethnic hatred too easily accessible. In addition, children's use of the Internet has prompted fears that they are easy targets for pedophiles and other dangerous strangers, child-sex tourism and child-sex abuse (Sardar, 2000). Holloway and Valentine (2003) explain that such discourses are problematic because they essentialize childhood (i.e., the "angelic child" and the "dangerous child"), deny children their status as social actors, and rely on deterministic understandings of communication technologies. Underlying these discourses is, on one hand, a desire to protect children's "innocence," even more so than protecting them from on-line stranger-dangers. Yet, Lumby (1997) notes that

"Concerns about children and the Internet point to broad cultural anxieties about the way the labile world of the Internet and the possibilities of virtual life are changing traditional social hierarchies, including the boundaries between adults, adolescents and children...The flood of new media formats...has made the job of filtering information increasingly difficult...The Internet represents the apotheosis of this undermining of the graduated and hierarchical world of print media. The proliferation of information is rendering the social body and its competing identities increasingly unstable" (p. 45; Holloway & Valentine, 2003, p. 74).

Although many of the cautionary tales about children and technology do contain some truths and have considerable power in practice, the ways children interact with the Internet is much more complex, as they are able to use it in balanced and sophisticated

ways (Holloway & Valentine, 2003). Children negotiate their use of the Internet within different “communities of practice” (Holloway & Valentine, 2003, p. 14), and the means through which computer technologies are understood by children are mediated through various institutional cultures such as school, or in the home.

3.1.5 Contextualism and a critical theory of technology. Feenberg (1991) and Barbour (1993) have each offered a third way of looking at technology which, in their estimation, can serve as an antidote to the technological determinism (i.e., “technology is destiny”) of the optimistic, technology as a “neutral tool” perspective and the pessimistic “only a god can save us now” perspective. Barbour (1993) refers to this third position as “contextualist” (p. 21), referring to those who hold the position that technology is neither inherently good nor evil but rather an ambiguous instrument of social power whose consequences depend on its social context. Contextualists believe that as social constructions, technologies are seldom, if ever neutral because particular values and purposes, as well as social goals and institutional interests, are already embedded in their design. There are choices with regards to how the technologies are designed as well as deployed. In other words, there is no “one best way” to design a technology, and therefore the various choices available to designers and users should be explored and scrutinized.

Although contextualists tend to be critical of technology in a similar manner to pessimists (Barbour, 1993), they differ in that they are willing to offer hope that technology can be used toward more humane ends, either by political measures or by changes in the economic and political systems themselves. Contextualism allows for a two-way interaction between technology and society; it does not perceive technology

only as an actor upon culture, nor does it single out for scrutiny the cultural forces upon technology. When technology is treated as one form out of many of cultural expression, its distinctive characteristics tend to be overlooked. Barbour (1993) also contends that contextualists are more likely than optimists or pessimists to give prominence to questions of social justice when evaluating technology because they interpret it as both a product and an instrument of social power. Conflicts concerning technology, therefore, must be resolved primarily in the political arena, while technology itself must be redirected toward the realization of specific, commonly agreed upon human values (Barbour, 1993).

Andrew Feenberg (1991) also disputes the technological determinist view that reason, in its technological form, is beyond human intervention or repair. He rejects the reform of technology by placing boundaries around it; he also rejects the use of moral solutions. Although he agrees with the view that refuses technology's imperialism and places it in relation to other dimensions of human experience, he faults its critics for refusing to see its potential and foreclosing its possible future by condemning its current form. Even if one were to limit technology's reach and reform it within its own domain, the problem of defining that domain is still a problem because of the difficulty of reaching a consensus as to which activities ought to be protected from technological mediation. He also questions placing spiritual values in direct opposition to technology, as this removes the possibility of a technologically rational society that enhances rather than undermines those values. In addition, Feenberg questions the act itself of bounding technology, asking if the choice to leave something untouched by technology is not a

subtle form of technical determination. He wonders if it is even possible to leave the technical sphere if the very act of bounding a reservation instrumentalizes it (p. 10).

Feenberg (1991) proposes a critical theory of technology, a course of action that calls for the invention of a politics of technological transformation. This theory analyzes new forms of oppression brought about by modern industrialism, argues that they are subject to new challenges, and attempts to explain how modern technology can be redesigned to adapt it to the needs of a freer society (p. 13). In this way Feenberg is influenced by early Marxist Lukacs and the Frankfurt school, but he argues that they (with the exception of Marcuse) stop short of actually explaining the new relation to nature implied in their idea of a radical reconstruction of the technological base of modern societies. In addition, he argues that none of them come close to formulating a concrete conception of the “new technology” (p. 13) they invoke.

The critical theory of technology has in common with substantive theories the notion that technology is more than the sum of its tools and “enframes” the world in an autonomous fashion, but it denies that modernity is ultimately exemplified by our atomistic and authoritarian consumer culture. Like instrumentalism, the critical theory of technology rejects the fatalism of Ellul or Heidegger and proposes that the choice of civilization can be affected by human action, and cultural and technical innovations can be spurred by political struggle. Unlike instrumentalism, it rejects the neutrality of technology, positing that the values and interests of ruling classes and elites are installed in the design of any technical innovation even before they are assigned a goal. The dominant form of technological rationality stands at the intersection between ideology and technique where the two come together to control human beings and resources in

conformity with “technical codes” (Feenberg, 1991, p. 14). One of the purposes of critical theory is to demonstrate how these codes “invisibly sediment values and interests in rules and procedures, devices and artifacts that routinize the pursuit of power and advantage by a dominant hegemony” (Feenberg, 1991, p. 14). Critical theory also argues that technology is not a “thing,” but an “ambivalent” (p. 14) process of development suspended between different possibilities; therefore, technology is situated as a scene of struggle, a social battlefield rather than a destiny. Finally, Feenberg (1991) argues that society as it currently exists possesses a suppressed potentiality for a “coherent civilizational alternative based on a system of mutually supporting transformations of social institutions, culture and technology” (p. 18). He acknowledges that the notion of potentiality no longer has the popular support it once did, but he dismisses the possibility that one can reject potentiality and still maintain a radical stance.

As I had mentioned in the introduction of this chapter, both Barbour (1993) and Feenberg (1991) have provided me with some useful ideas that allow me to investigate my own attitudes toward technology, and I have found myself strongly gravitating toward technological contextualism. Although my particular area of interest does not match either Barbour’s or Feenberg’s, what their writings have enabled me to do is understand and articulate why I have found discourses of disembodiment, “placelessness,” and the removal of human action and intent surrounding technology, cyberspace and the Internet to be so unsatisfying. I reject notions that deny humans their status as social actors when interacting with technology, and I also reject notions that posit the interaction between humans and technology as merely “use,” as opposed to a mutually constituting relationship. I am most interested in how humans negotiate their relationship with

technology in their everyday lives, in an everyday context – the key words, here, are “negotiate” and “everyday”. This is not to say that technology has not, to use a well-explored example, altered our notions of the self or of subjectivity. It has, in significant ways. However, I do not believe that the use of any particular technology guarantees or predetermines any particular use or outcome. Therefore, I am keenly interested in recent literature and empirical research that is supported by technological contextualism, particularly as it pertains to art, education and/or children’s use of the Internet.

One such example is Sarah L. Holloway and Gill Valentine’s book *Cyberkids: Children in the Information Age* (2003). I found this work to be quite helpful, for two pertinent reasons. First, it explores in depth the ways in which teenaged children use computer technology and the Internet, both in school and at home; the result of Holloway and Valentine’s exploration is a depiction of teens who use it in balanced and sophisticated ways in their everyday lives. Their intention is to challenge the “grand claims” (p. 159) of technological determinists by focusing on the “routine, mundane and the banal” (p. 159), and in doing so, have “provided detailed empirical evidence that clearly demonstrates the complex mutual constitution of children’s on-line and off-line worlds” (p. 159). Second, they use their findings to challenge technological determinist accounts of the Internet. They found that information and communication technologies (ICT), rather than having inevitable or fixed outcomes (positive or negative), emerge in practice as different tools for different “communities of practice” (p. 156). They have also found that children, when interacting with ICT, are competent social actors in their own right in their ability to resist adults’ control at school, home and on-line and their potential to make strategic alliances with adults to avoid domination with other children

(p. 159). Holloway and Valentine discovered children to be as competent as adults regarding their use of ICT in that they are able to manage their time and activities sensibly and in a balanced manner, identify and avoid potential dangers, and use their skills to enhance their off-line social identities and relationships at home, school and in their local communities (p. 156).

3.2 Walter Benjamin

I now turn to the essays by Walter Benjamin, The Work of Art in the Age of Mechanical Production (1968) as an example of philosophical thought that combines art, technology, and mass culture. What is particularly significant about this essay is its underlying premise, that widespread integrated changes in technology can bring about significant changes in cultural development (Lovejoy, 1997). This essay has been a traditional starting point for those who are grappling with the aesthetic changes wrought by the relationship of mechanization to modernity. Thus, Benjamin's theory of an original artwork's aura has remained central to our understanding of contemporary art's essential character, framing what continues to be a central question confronting those who are trying to comprehend the social and aesthetic relationships established by new technological paradigms (Ross, 1999). By extension, this question has considerable influence on our understanding of art. With this in mind, my intention for examining this essay is to bridge the previous section with the following section, which describes examples of contemporary art that merges social and cultural practice with new technology, the Internet in particular, raising questions about the type of aesthetic

changes Benjamin examined. I believe Benjamin's essay serves as a bridge because questions regarding technology are being applied specifically to art and culture, filling a gap in the literature of the previous section.

The technologies in question in this essay are photography and film. Their significance for Benjamin is their infinite reproducibility, eliminating "aura" and the "original" work of art. Benjamin sought, on one level, to examine societal understanding of photography and its contested presence in a world of art and ideas in his time. He asked several questions: Is photography actually art? Can it function as an extension of the work of the artist? Is it possible for a photograph to contain the auratic qualities essential in a work of art? He did not answer these questions directly, however. Instead, he proposed a far more profound question: how had photography's invention changed the central idea of art itself? Going one step further, this implies another question: how had mechanization in the era of mechanical reproduction, out of which flowed the invention of photography, changed completely the ground rules of our social lives, the nature of representation, patterns of communication and corresponding aesthetic practices (Ross, 1999)? These questions have continued to vex artists throughout the remainder of the 20th century and into the 21st, our current post-mechanical, "cybernetic" era.

In the case of photography and film, Benjamin (1968) believed that the work of the hand has been subsumed by the machine, thus changing the character of human perception in accord with the manner of production. Aura can be defined as uniqueness, the "unique phenomenon of a distance, however close it may be" (p. 222) and authenticity as "the essence of all that is transmissible from its beginning, ranging from its substantive duration to its testimony to the history which it has experienced" (p. 221).

This uniqueness and authenticity of art has its basis in ritual in the sense that its origins lay in magic, and later, religion. With the advent of modernism and the theory of autonomous art, the role of ritual has not disappeared despite art's becoming *l'art pour l'art* ("art for art's sake"). Ritual can be found in the "eternal" value assigned to art's independence because art's autonomy is an illusion: it still serves the power interests of the class for which it is produced.

According to Benjamin (1968), mechanical reproduction wrests art from ritual and cult value and places it within the realm of the political. He was not using the term political in terms of using art for sloganeering or beautifying political statements; he was highly aware of the implications of this type of use in the service of Fascism. For him, to politicize art means to put the machinery of art production into the hands of workers, allowing them to show themselves the reality they are in the process of making (Snyder, 1989). Art, then, will come to be defined through the expression of the perceptions, interests, and values of the class for which it is produced.

The ensuing focus on photography and film's exhibition value anticipates a crisis of authenticity and raises questions about audience, communication and art's role in society. In photography and film, according to Benjamin, there are no counterparts to traditional art's authority and originality and singularity of the work. The authority of the individual disappears from the photograph because such authority is unachievable: what can be shown can not be seen without dependence on the camera (Snyder, 1989). With film, there is no original in that it does not become a work of art until all of its individual pieces are spliced together. It does not represent a world; rather, it makes a world. Benjamin envisioned both photography and film as democratizing tools, in which art

would be produced by, of and for workers. This vision of democratization brought about by technological tools can also be found in his Author as Producer (1984), where he points out that through the accessibility and growth of reproduction technologies it becomes possible for anyone to become a writer (Lovejoy, 1997), i.e., consumers are able to become producers.

Benjamin's vision of technological reproduction did not remain this hopeful, however. His shift in thought can first be seen in his essay The Storyteller, which he wrote in 1936. In this essay, he asserts that "the art of storytelling is coming to an end" (p. 83), attaching the loss of the capacity to tell stories to the boundless development of technology and the privatization of life that it brings (Rochlitz, 1996). For Benjamin, the forms which confirm the decline of storytelling are the novel and the popular press, or, more specifically, information. For example, the press accentuates this decline through the news story, which attacks the public status of experience and the authority of tradition by mixing in the private lives of individuals and adhering to the notion of satisfying the most immediate interests of readers (Rochlitz, 1996). His vision of progress in his Theses on the Philosophy of History (1968), written in 1940 as he fled German fascism, is one of foreboding:

The angel's eyes are staring, his mouth is open, his wings are spread. His face is turned toward the past. Where we perceive a chain of events, he sees one single catastrophe which keeps piling wreckage upon wreckage and hurls it in front of his feet. The angel would like to stay, awaken the dead, and make whole what has been smashed. But a storm is blowing from Paradise, it has got caught in his wings with such violence that the angel can no longer close them. The storm irresistibly propels him into the future to which his back is turned, while the pile of debris before him grows skyward. This storm is what we call progress (p. 257 – 258).

The work of Walter Benjamin still continues to have a strong influence on theorists who examine new media technologies. In addition to Lovejoy (1997) and Ross (1999), Bill Nichols' essay The Work of Culture in the Age of Cybernetic Systems (1996) serves as an example of the influence Benjamin's thought has had on contemporary theorists who incorporate his ideas when looking at how the implications of information technologies are brought to bear on cultural practices. Nichols' primary intention is to "ask how cybernetic systems, symbolized by the computer, represent a set of transformations in our conception of and relation to self and reality of a magnitude commensurate with the transformations in the conception of and relation to self and reality wrought by mechanical reproduction and symbolized by the camera" (p. 121). He begins with an acknowledgement of Benjamin's ambivalence toward mechanical reproduction, explaining that such ambivalence has not disappeared, since both the dominant tendency toward control and the latent potential toward connection and collectivity exist side by side within cybernetic systems.

Nichols asks how our sense of reality is being changed by computers and digital communication and if these changes in our perception have liberating potential. He speculates upon the possibility of the transformation of the structure of capitalism through a new, communal form of perception mediated by the simulation of direct encounters. Drawing parallels between the explosive potential of film as described by Benjamin in terms of its reordering of the physical world, such transformation, for Nichols, holds the promise of the democratization of power through a promotion of collectivity and affinity via interconnectedness, systemic networking and shared decision-making. He points out that while mechanical reproduction rendered the notion of

authenticity and originality problematic, cybernetic simulation renders experience and what we consider “real” problematic through its alteration of our relationship to our environment and our mind: the chip has replaced the copy (Nichols, 1996). In other words, cybernetic systems simulate social processes by giving an external form to our thought processes and social interactions, mediating through computer technology social cohesion and consciousness. The computer has also extended the concept of “what if” even further than the camera, from “what if I can see more than the human eye can see?” to “what if I can render palpable transformations of existing states that the mind can scarcely contemplate?” (p. 128). Cybernetic simulations redefine some of the things commonly taken for granted, such as a life and reality.

Nichols states that the industrial economy Benjamin situated his theories within essentially relied on the notion of “clear and distinct” people based on the Renaissance concept of the individual. Inherent in such a metaphysical tradition are the tensions between free will and determinism, and autonomy and dependence. Nichols argues that such a tradition of free will and subjectivity is being eroded by cybernetic systems and the cyborg (or cybernetic organism, a man-machine hybrid) as human metaphor, substituting one set of ambivalences for another. The liberating potential of cybernetics, according to Nichols, cannot be found within seeing ourselves as “cogs in a machine or elements of a vast simulation, but rather in seeing ourselves as a part of a larger whole that is self-regulating and capable of long-term survival” (p. 142). He notes that this whole is still controlled by parts that achieve hegemony, although he believes that the “apperception of the cybernetic connection” (p. 142), which privileges system over parts and social collectivity of mind over the autonomous ego of individualism, might provide

the conceptual tools needed to decenter control and break down hierarchy. He concludes with the assertion that the task is “not to overthrow the prevailing cybernetic model but to transgress its predefined interdictions and limits, using the dynamite of the apperceptive powers it has itself brought into being” (p. 143).

3.3 Art, Technology and Social Practices

In this final section of the chapter, I provide three examples of artwork and cultural activism which was facilitated by the Internet: Heath Bunting’s King’s Cross Phone In (1994), Toywar (1999), and Eduardo Kac’s Teleporting to an Unknown State (1996 – 2001). Although I have many works from which to choose, my selection of these three pieces is not arbitrary. Although the meaning and intent behind each of them is quite different, what they all have in common is that the social practices and modes of communication made possible by the Internet is integral to the success of the work. In other words, each piece demonstrates how cyberspace and “real life,” despite the exhortations or lamentations of technological determinists, are not separate from each other. At root, these two modes of being (I do not describe them as “two worlds,” as this implies separateness) do not represent a disjuncture in human existence; they are woven together and negotiated meaningfully by the people who choose to engage with them. The works I have chosen certainly demonstrate how social and aesthetic practices, representation, patterns of communication, how social and aesthetic practices, representation, patterns of communication, and our notions of art have changed as a result of the Internet and the World Wide Web. Of course, it is difficult to say whether Walter Benjamin would have been dismayed, intrigued, horrified or delighted by the changes his

“storm” of progress has wrought. However, there is a thread of technological determinism in his ideas, particularly his later, more pessimistic ideas that I believe are challenged by the works I have chosen to highlight.

3.3.1 Kings Cross Phone-In. Heath Bunting's earliest Internet project Kings Cross Phone-In (1994), is one playful example of net.art that facilitates the collision between physical public space, everyday life and communications technology. The project involved Bunting's creation of a Web page that lists the phone numbers of thirty-six phone booths in and around London's King's Cross train station. The crux of the work was Bunting's use of the Internet to publicize an event that could only occur if the online “audience” participated. Having publicized his project on Usenet newsgroups alt.cyberpunk and alt.artcom, as well as the artnet and cybercafe bbs's, he includes instructions and an explanation for individuals perusing the page: "During the day of Friday 5th August 1994 the telephone booth area behind the destination board at Kings X British Rail station will be borrowed and used for a temporary cybercafe. It would be good to concentrate activity around 18:00 GMT, but play as you will" (<http://irational.org/cybercafe/xrel.html>). After listing the telephone numbers of the phone booths on the same page, Bunting invites people to:

- (1) call no./nos. and let the phone ring a short while and then hang up
- (2) call these nos. in some kind of pattern (the nos. are listed as a floor plan of the booth)
- (3) call and have a chat with an expectant or unexpectant [sic] person
- (4) go to Kings X station watch public reaction/answer the phones and chat
- (5) do something different

The project was successful, as random telephone calls created an auditory intervention of sorts that disrupted the daily routine of an urban transportation hub, as commuters passing through the station chatted with strangers around the world calling to say hello. The function of networks was configured on the level of a friendly phone call, while public space was reconfigured aurally and socially (Greene, 2000). One could argue that in this piece Bunting draws upon a logic fostered by the Internet - the creation of a networked communications environment accommodating multiple participants simultaneously - and expands upon it using an individualized medium such as the telephone. King's Cross Phone-In reconceptualizes the public phone booth not just as an instrument for personal, one-to-one conversation, but also as a conduit for engineering encounters between members of a worldwide public. In a real sense, Bunting is grounding and intertwining two worldwide communications networks (the Internet and the telephone) within a specific local context.

The phone-in, at least in principle, despite the distance and anonymity between participants, constitutes a collective act through individual actions (i.e., phone calls) due to their simultaneity. Although the callers do not know whether they are the sole followers of the artist's instructions, or even if they are contributing to an intervention in public space, they act in the belief that their individual, solitary action is still part of a greater pattern. Here an individualist medium such as the telephone becomes a medium of collectivity, both in the imaginations of its participants and in the local context of Kings Cross, where a chorus of ringing telephones created a localized disruption by drawing upon an absent and scattered "community" (Berry, 1999).

3.3.2 Toywar. In November 1999, the online toy retailer eToys attempted to buy etoy.com from European art group etoy, offering the group upwards of \$500,000 in cash and stock options for the domain. etoy refused the offer; on November 29, 1999, eToys obtained a court injunction preventing etoy from operating a website at www.etoys.com, which had been registered long before eToys' existence. eToys' rationale for the injunction was that etoy.com was allegedly confusing customers, and contained pornography and calls to violence. etoy.com had never made reference to either eToys or toys, nor had it ever featured anything on the site even remotely resembling eToys' accusations.

During subsequent weeks, activists worked against eToys using a variety of means, such as a Disinvest! campaign and a Virtual Sit-in that took place between December 15th and 25th (RTMark, 2000). These efforts were widely credited with contributing to the 70% decline in the value of eToys stock, a decline that began the same day as the protests (RTMark, 2000).

The Dec. 15-25 Virtual Sit-in crippled the eToys servers. eToys filed a restraining order against one of the organizations responsible for the Sit-in, and anonymously threatened another activist (RTMark, 2000). A "virtual sit-in" can be best described as a simultaneous collective requesting of a Web site. If the user requests a Web site faster than it can be transferred onto and built on the end user's screen, the server receives a message telling it that the first request is no longer valid along with a new request. Scripts running on one's own computer or on go-between servers automate this process, and after a certain number of requests, the server under attack begins to suffer under the strain. In other words, one engages in a "virtual sit-in" by downloading and running software tools

that constantly reloads the target web sites. If a sufficient number of individuals participate in this process, the result is a crippled web server that has received more requests than it can handle.

In the case of eToys, activists ran their respective versions of the virtual sit-in software for short spans of time (six fifteen-minute periods on ten Christmas shopping days) to avoid completely bringing the server down. Although one activist had written a "killer bullet script" which was capable of doing just that, its use was unanimously opposed. A participant on an online activism forum wrote, "I'm not ready to trade the distributed, swarming community of activists model for a single tactical nuke" (Grether, 2000, para. 19).

There were eight rotating mirrors around the world running five different virtual sit-in scripts, along with several similar tools circulating around on the Internet available for installation on personal computers. The combination made it possible to keep eToys's server busy performing routine tasks. One example, "killertoy.html", is a non-linear script that fills up cookies-based shopping carts without actually making a purchase. For every new item, the server must refigure the complete list, a process that takes longer as the cart fills. Several mirrors were generating nearly a hundred thousand requests a day. On the first day of the virtual sit-in, eToys' server was able to process the simple request for pages without any significant problems. However, the more complex scripts introduced on the second day of the sit-in blocked requests for particular IP addresses, veritably removing eToys from these networks (Grether, 2000).

Simultaneously, the Disinvest! campaign filled eToys investment boards and other outlets with messages about the situation. Many investors responded by dumping

their eToys stock. Even those who refused to see a link between activist attacks and the eToys stock fall were at a loss to explain how it could lose so much money, so consistently, on consistently good financial news. Some suspected foul play by eToys management, and the possibility of a class-action lawsuit was raised (RTMark, 2000).

On December 29 1999, eToys announced it was "moving away" from its lawsuit in response to public outrage. etoy and the activists were delighted by the news; a formal counterpart to eToy's statement was expected shortly thereafter. However, when nothing concrete happened over the course of several weeks, it became clear that eToys' announcement had been an empty verbal concession, made in an effort to derail activist momentum. Nevertheless, activists were able to quickly renew their campaign. As a result, on January 25th, 2000, eToys officially withdrew its lawsuit, ceding full rights to etoy.com on etoy's terms, without precondition and with payment of court costs and other expenses.

It must be noted that virtual sit-ins have received criticism from other leftist activists, some quite harsh (although not unjustified, in my opinion). In an online article written for AlterNet, Shachtman (2002) includes these critical voices. For example, one user to Indymedia.org, an online gathering point for anti-globalization activists states, "the 'protesters' assaulting the WEF [World Economic Forum] web server are little more than petty fascists who see plurality of opinion as dangerous, and are therefore the lowest of criminals themselves." Another activist writes, "you scream to demand your voices be heard, yet you distribute these tools to silence the voices of others? How hypocritical of you." A third example, "Oxblood," a member of the hacker group Cult of the Dead Cow, added, "They use the metaphor of the sit-in. But it doesn't translate. There are no

sidewalks in cyberspace. No one walks past you and sees what you are doing. There's no chance to engage the public. The public knows the site is down, but they don't know why" (para. 20).

3.3.3 Teleporting an Unknown State. "Teleporting an Unknown State," a work by artist Eduardo Kac, can be described as a biotelematic interactive installation which merges computer-based telecommunications with biological processes, metaphorically transforming the Internet into a life-supporting system. The installation consisted of a darkened room with a pedestal covered with a mound of earth, which contained a single seed. A video projector was suspended above and faced the pedestal, through which remote individuals sent light via the Internet. This light, in turn, enabled the seed to photosynthesize and grow. Viewers were unable to see the video projector itself; they were only able to see its cone of light projected through a circular hole in the ceiling, not unlike a ray of sunshine breaking through the clouds. Anonymous individuals from around the world, using free videoconferencing software, pointed their digital cameras skyward, re-emitting photons through the projector in the gallery, transmitting sunlight onto the seed. The slow process of growth of the plant was then transmitted live via the Internet for the duration of the exhibition. The graphical interface of the work was projected directly onto the bed of earth on the pedestal, enabling direct physical contact between the seed and the photonic stream (Kac, 1996).

Three versions of this work were exhibited between 1996 and 2001. The first version was shown at the New Orleans Contemporary Art Center as part of the SIGGRAPH Art Exhibit "The Bridge," which took place between August 4, 1996 and August 9, 1996. The second version was exhibited at the KIBLA Art Gallery, in Maribor,

Slovenia, from October 24, 1998 to November 7, 1998. What made this version different from the first version is that it was realized on the World Wide Web, in which participants activated a global network of webcams directed at the sky from eight regions of the Earth: Slovenia, Vancouver, Paris, Moscow, Chicago, Tokyo, Cabo San Lucas, Mexico, Mawson Station, Antarctica, and Sydney, Australia. As remote participants interacted with the work, the piece's web site was projected onto the soil piled on the gallery floor. These participants would click on a portion of a 3 by 3 grid representing the eight locations on the site, resulting in the dark areas on the site gradually lighting up. Live still images from the different locations displayed the sky, capturing the sunlight. The live stills projected by participants faded to black after sixty seconds, enabling other online participants to interact with the work (Kostic, 2000).

The central image, showing the projected webcam views, was captured and uploaded automatically with a self-contained camera server. When projected, this image concentrated the light sent by Web participants and projected it onto the seed. The eight surrounding images were automatically captured by the KIBLA server from webcams around the world and made available every five minutes. One of the benefits of webcams is that while they make global information sharing of live still images possible, they do not require highly sophisticated technology, and Kac was able to avoid problems of slow transmission telephone lines in several parts of the world (Kostic, 2000). A third, highly similar version of this work was exhibited at the Austin Museum of Art in Austin, Texas throughout November, 2001 as part of the traveling exhibition "Telematic Connections: The Virtual Embrace", organized by Independent Curators International (ICI), New York, and curated by Steve Dietz.

What all three versions of the work have in common is that they each foster a sense of community and collective responsibility without the exchange of a single verbal message. The collaborative action and shared responsibility of anonymous individuals around the world, enabling photons from distant countries and cities to be teleported into a gallery, makes possible the birth of a fragile and small plant (Kac, 1996). This piece demonstrates a dramatic reversal of the regulated unidirectional model imposed by broadcasting standards and the communications industry. Instead of transmitting a specific message from one point to many passive receivers, "Teleporting an Unknown State" enables remote individuals to transmit light to a single point in a gallery space. What this work makes evident is an ethic of Internet ecology and social network survival through a distributed, collaborative effort and shared responsibility. During the each of the shows, photosynthesis depended on remote collective action. Birth, growth, and death on the Internet form a horizon of possibilities that unfolded as participants dynamically contributed to the work and made possible the survival of the organism (Kac, 1996).

CHAPTER 4

METHODOLOGY

The purpose of this chapter is to outline the methodological principles and methods of investigation that have served to guide my research project. This chapter begins with a summary of the foundational conceptual assumptions upon which my investigation rests; the remainder of this chapter is devoted to describing the research methods and procedures I used to gather and interpret empirical materials.

My project is most adequately categorized as an action research case study (Stenhouse, 1988), situated within a qualitative, constructivist framework. Therefore, I will open this chapter with a section describing the basic tenets of qualitative research, along with an overview of the constructivist inquiry paradigm; constructivism is the paradigm that most adequately summarizes the epistemological and ontological point of view from which I conceived and conducted my research. I conclude this section by outlining my rationale for my use of qualitative research methods. In the section which follows, I highlight the strengths as well as what some perceive to be the weaknesses of a qualitative methodological perspective. More specifically, with regards to the weaknesses of qualitative research, I address issues of validity and how I have compensated for these issues in my own research project

Next, I include a section on my research design, where I begin with a definition of case study (Merriam, 1998) and briefly delineate six different types of case study research, as described by Merriam (1998) and Stark (1998): intrinsic, instrumental, collective, descriptive, interpretive and evaluative. I then explain how my research design fits Merriam's (1998) definition of case study and why my project can be best described as an intrinsic, descriptive case study.

The following section contains a definition and description of participatory action research as outlined by McTaggart (1997), as well as a definition and description of action research as outlined by Schubert and Schubert-Lopez (1997). Although the terms participatory action research and action research has sometimes been conflated, I provide an explanation for both of these terms because the authors listed above have made a strong case for distinguishing each from one another. The reason I have qualified my case study as action research is because the purposes which frame action research have directly informed my philosophical stance (i.e., constructivist) and guided my data collection methods. I conclude this section elucidating how my project can justified as action research based on Schubert and Schubert-Lopez' (1997) explanation.

The final sections of this chapter provide the specific details of my research project: the location and participants of my study; the project timeline; my data collection procedures; my methods of data analysis; the analysis and assessment structures I utilized; and the limitations of my study.

4.1 Defining Qualitative Research

Qualitative research is the term attached to a broad set of theoretical paradigms, interpretive practices, and methodologies. Because it does not have any particular theories or paradigms to claim as its own, securing a clear definition can be exceptionally difficult (Denzin and Lincoln, 1998). Nevertheless, Denzin and Lincoln (1998) offer what they consider an “initial, generic” (p. 3) definition of qualitative research:

“Qualitative research is multimethod in focus, involving an interpretive, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret phenomena in terms of the meanings people bring to them. Qualitative research involves the studied use and collection of a variety of empirical materials – case study, personal experience, introspective, life story, interview, observational, historical, interactional, and visual texts – that describe routine and problematic moments and meanings in individuals’ lives. Accordingly, qualitative researchers deploy a wide range of interconnected methods, hoping always to get a better fix on the subject matter at hand” (p. 3).

Marshall and Rossman (1999, p. 3) have constructed a list summarizing what they consider the characteristics of qualitative research:

- It takes place in the natural world
- It uses multiple methods that are interactive and humanistic
- It is emergent and evolving, rather than tightly prefigured
- It is fundamentally interpretive

In addition to this, they have also constructed a list describing the qualitative researcher:

- Views social phenomenon holistically
- Systematically reflects on who s/he is in the inquiry

- Is sensitive to her/his personal biography and how it shapes the study
- Uses complex reasoning that is multifaceted and iterative (Marshall and Rossman, 1999, p. 3)

Qualitative research differs from quantitative research in five significant ways (Denzin and Lincoln, 1998; Becker, 1993): the qualitative researcher's position on positivist assumptions and acceptance of postmodern sensibilities; the qualitative researcher's willingness to incorporate the individual's point of view and commitment to examining the constraints of everyday life; and the use of thick, rich description to interpret and "write up" the data. These five points of difference demonstrate each tradition's commitments to contrasting styles of research, contrasting epistemologies, and contrasting styles of representing the data.

Positivism can be described as the "received view" that "has dominated the formal discourse on the physical and social sciences for some 400 years" (Guba and Lincoln, 1998, p. 202). The positivist assumption regarding reality and the perception of reality holds that Truth exists "out there," of which it is the duty of scientists to discover through rigorous scientific methods and describe as objectively as possible.

Postpositivists, on the other hand, argue that such reality, while it may exist, can never be completely understood, only approximated (Denzin and Lincoln, 1998, p. 9; Guba, 1990, p. 22) and will use a number of research methods to try and grasp as much of this reality as possible. Both paradigms stress the discovery and verification of theories and the testing of a priori hypotheses. In addition, positivists, as well as postpositivists, will employ traditional evaluation criteria such as internal validity (how accurately the findings map the phenomenon) and external validity (the degree to which the findings

can be generalized), reliability (whether or not the findings can be reproduced by another researcher), and objectivity (the extent to which the findings are free from bias). They will often utilize analysis measures such as statistics, frequency counts and tabulations, mathematical models, and graphs.

However, a number of qualitative researchers (Vidich and Lyman, 1998; Richardson, 1998) have challenged the dominance of positivist and postpositivist methods and criteria, based on the assertion that they are simply one way out of many to describe society or the social world. Other qualitative researchers have rejected positivism and postpositivism outright, particularly those who adhere to critical theory, constructivist, and poststructuralist modes of thought, arguing that positivist and postpositivist methods replicates a science which silences the voices of Others. In addition, most qualitative researchers will argue that in its adherence to generalizability, positivist science removes context by overlooking local, case-based meanings. They also argue that positivists do not adequately address the theory- and value-laden nature of facts, the interactive nature of inquiry, and the notion that a particular set of facts can support multiple theories (Denzin and Lincoln, 1998).

While both quantitative and qualitative researchers concern themselves with the individual's point of view, the qualitative researcher, in contrast to the quantitative researcher, will attempt to get as close to their participants' or informants' point of view as they possibly can through the use of interviews and field observation (Denzin and Lincoln, 1998). In addition, the qualitative researcher will situate themselves and their study within everyday life, whereas a quantitative researcher will attempt to remove him- or herself from such scenarios. As a result, the quantitative researcher will gravitate

toward the study of large numbers of randomly selected cases; the qualitative researcher will often concentrate on the specific details of particular cases. Finally, qualitative researchers value the use of thick, rich description (Geertz, 1973) when engaging in representation, interpretation and textual evaluation. A quantitative researcher, on the other hand, would be less concerned with descriptive detail and would be considerably more inclined to write about their research in an impartial manner, in third person prose.

Although it is possible to contrast qualitative research with quantitative research in a relatively straightforward manner, this does not mean the qualitative research tradition can be construed as monolithic, free of contradictions, fissures and fierce internal debates among its practitioners. Quite the contrary. Unfortunately, space does not allow me to expound upon the numerous epistemological viewpoints espoused by critical theorists, cultural theorists, Marxists and neo-Marxists, feminists, constructivists, interpretivists, poststructuralists, ethnomethodologists, et cetera. As I had mentioned earlier, I have pursued my project within a constructivist framework. Therefore, the following section is an explication, albeit brief, of constructivism and constructivist research.

4.2 The Constructivist Paradigm

A paradigm can be defined as a set of basic beliefs or first principles regarding one's worldview; these beliefs are basic in that they can ultimately only be accepted on faith (Guba and Lincoln, 1998). An inquiry paradigm rests on three fundamental questions, the questions of ontology, epistemology, and methodology:

- What is the form and nature of reality, and what is there that can be known about it? (ontology)
- What is the nature of the relationship between the knower or the would-be knower and what can be known? (epistemology)
- How can the would-be knower go about finding out whatever he or she believes to be known? (methodology)

Guba and Lincoln (1998) define constructivist ontology as relativist, its epistemology as transactional and subjectivist, and its methodology as hermeneutical and dialectical (pp. 206-207). A constructivist ontology is one in which reality is perceived apprehendable “in the form of multiple, intangible constructions, socially and experientially based, local and specific in nature... and dependent for their form and content on the individual persons or groups holding the constructions” (Guba and Lincoln, 1998, p. 206). In other words, constructivists assume the existence of multiple, apprehendable, and occasionally conflicting realities created through human intellect. The constructivists’ subjectivism is based on the assumption that knowledge is created through the interaction/transactions between inquirer and respondents, and thus the most appropriate methods are ones which elicit and refine individual constructions through interaction between and among the inquirer and respondents (Guba and Lincoln, 1998).

When discussing constructivism, however, one must be careful to avoid lapsing into reducing it to the notion that knowing is active, as opposed to passive. After all, very few people would challenge the idea that human beings are active in their learning or knowledge construction (Schwandt, 1998; Strike, 1987), or that humans do not somehow stumble upon knowledge – they make it. Constructivism places itself in opposition to

empiricist methodology and the notions of objectivism, empirical realism, objective truth, and essentialism. Therefore, constructivists argue that what we consider to be self-evident truths and objective knowledge are products of perspective and complicated discursive practices, created by mind as opposed to discovered (Schwandt, 1998). They also argue that no unique “real world” preexists independently from human mental activity and human symbolic language; thus, constructivism privileges the instrumental and practical function of theory construction and knowing over a realist view of theories and knowledge (Schwandt, 1998). The properties of constructions have been explained by Guba and Lincoln (1989) as follows (see also Schwandt, 1998, pp. 243 – 244):

- Constructions are attempts to make sense of or to interpret experience, and most are self-sustaining and self-renewing.
- The nature of quality of a construction that can be held depends upon “the range or scope of information available to a constructor, and the constructor’s sophistication in dealing with that information” (p. 71)
- Constructions are extensively shared, and some of those shared are “disciplined constructions,” that is, collective and systematic attempts to come to common agreements about a state of affairs, for example, science (p. 71)
- Although all construction must be considered meaningful, some are rightly labeled “malconstruction” because they are “incomplete, simplistic, uninformed, internally inconsistent, or derived by an inadequate methodology” (p. 143).
- The judgment of whether a given construction is malformed can be made only with reference to the “paradigm out of which the constructor operates” (p. 143); in other words, criteria or standards are framework specific, “so for instance a

religious construction can only be judged adequate or inadequate utilizing the particular theological paradigm from which it is derived” (p. 143)

- One’s constructions are challenged when one becomes aware that new information conflicts with the held construction or when one senses a lack of intellectual sophistication needed to make sense of new information.

The question remains, however, if what is real is a construction in the minds of individuals, how does a constructivist determine what is true with regards to the outcomes of an inquiry? According to Guba and Lincoln (1989), determining which or whether a construction is true is a sociohistorically relative endeavor, in that truth is determined by the best-informed and most sophisticated construction based on the present consensus. Thus, the findings or outcomes of an inquiry are themselves a literal creation or construction of the inquiry process (Guba and Lincoln, 1989; Schwandt, 1998). The inquiry itself can be seen as collaboration between the inquirer and the participants, in which all issues and concerns are discussed and worked through over the course of the project. This “working through” can be described as a dialectic of “iteration, analysis, critique, reiteration and reanalysis” (Schwandt, 1998, p. 243), leading to jointly created outcomes or findings (i.e., constructions). These constructions (or findings) can be evaluated based on how well they “fit” with the data and information of which they are comprised, whether they provide a credible level of understanding, and the extent to which they are relevant and modifiable (Guba and Lincoln, 1989; Schwandt, 1998).

A discussion of the findings or the outcomes of postmodern qualitative research (which is not limited to just constructivist research) ultimately leads to the question of validity. If the postmodern researcher openly rejects the positivist claim to objectivity and

removal of bias, how can one determine, ultimately, whether or not the research is valid? From where does the research text gain its authority? This “authority of the text” is described by Lincoln and Denzin (1998) as “the claim any text makes to being accurate, true and complete” (p. 414). In other words, is the text true to the people and the context it represents? Can the text rightfully assert that it addresses both the researchers’ interests and the interests of those studied? After all, without validity there is no truth, and without truth there can be no trust in a text’s claim to validity (Lincoln and Denzin, 1998). Scheurich (1992) postulates that validity is “a boundary line that divides good research from bad, separates acceptable (to a particular research community) research from unacceptable research . . . it is the name for inclusion and exclusion” (p. 5).

It is my contention that the above statements, because of their gravity, make the case for a section in this chapter that delves into the issue of validity more deeply. In addition, I contend that a discussion on validity is necessary in order for me to fully justify the following chapter of this dissertation. Chapter 4 is meant to be a transparent, “warts-and-all” approach to telling the tale of my research project, in which I attempt to show my commitment to the level of comprehensiveness, context and voice-giving to the other participants of my study necessary in a postmodern, constructivist research project. The following section of this chapter is devoted to exploring validity, and placing this exploration in the context of my study.

4.3 Issues of Validity

Although claims to scientific neutrality are always problematic and the positivist definition of “objectivity” may no longer be workable, a postmodern stance does not

preclude the need to establish the trustworthiness of data as well as grounds for accepting a researcher's description and analysis. To be sure, there have been postmodern researchers who have recently discounted the uses of validity, such as Norman Denzin's declaration during a 1994 AERA panel discussion, "I don't need validity. These are the things postmodernism and poststructuralism teach me" (Lather, 1997, p. 2). However, other postmodern researchers such as Lather (1997, 1986b) continue to position validity as the crux of the issue within science's claims to authoritative knowledge. Because postmodern methodology has provided an alternative to following prescribed rules and boundaries in order to achieve "true" results, it is now necessary to mandate a "self-corrective element to prevent phenomena from being forced into preconceived interpretive schemes" (Lather, 1986b, p. 65). There is, of course, the danger of succumbing to an overweening subjectivity that can lead the researcher to find only what s/he is predisposed to look for. In order to protect against this, postmodern researchers must develop self-corrective techniques that will increase the credibility of their data and minimize the distorting effect of personal bias upon the logic of evidence.

When discussing the concept of validity, however, it is necessary to distinguish between the traditional, positivist notion of determining validity and the postmodern notion of determining validity. One of the main epistemological assumptions underlying traditional positivist science is that natural science methods are appropriate means of studying human beings; therefore, positivist approaches to establishing data trustworthiness privileges the measurable above all else. The primary criteria used by positivists for determining rigor in a research study include:

- internal validity, the isomorphism of findings with reality;
- external validity, or generalizability;
- reliability, the consistency with which a measuring instrument performs; and
- objectivity, the degree to which the researcher is able to eliminate bias.

Other commonly applied types of validity as defined by positivism include:

- face validity, which “relies basically on the subjective judgment of the researcher” (Leedy, 1997, p. 33), consists of the researcher asking him or herself if the instrument measuring what it is supposed to be measuring, and if the sample being measured is representative of the behavior or trait being measured;
- criterion validity, of which the essential component is a reliable and valid criterion, i.e., a standard against which to measure the results of the instrument doing the measuring;
- content validity (sometimes equated with face validity), the accuracy with which an instrument measures the factors or situations under study; and
- construct validity. Construct is defined as any concept, such as honesty, that cannot be directly observed or isolated. Construct validation is concerned with the degree to which the construct itself is actually measured (Leedy, 1997).

There are several criticisms of the positivist standards of validity, not the least of which is that validity still remains elusive (Lather, 1986b). For instance, basic construct validity continues to defy quantification; face validity, which is inherently impressionistic, is “defined [by positivists] as rapport and public relations and relegated

to a distinctly second-class concern” (Lather, 1986b, p. 66; Kidder, 1982). Efforts to separate subjective and tacit knowledge from “the context of verification” are seen as “naïve empiricism” (Lather, 1986b, p. 224; Heron, 1981, p. 32).

Postmodernism, on the other hand, recognizes inquiry as a process in which tacit and subjective knowledge is tightly interwoven with and reciprocally informed by objective knowledge (Heron, 1981, p. 32; Lather, 1986a; Polyani, 1967). With the increasing acceptance of postmodernism and poststructuralism and each of their subsequent search for new ways of determining valid social knowledge, comes the need for techniques that provide confidence in the trustworthiness of qualitative, “non-neutral” data. Because there is a general acceptance by qualitative researchers that claims of objectivity are no longer valid in the sense that researcher values do play a role in the human sciences, they must now be responsible for formulating self-correcting techniques that will check the credibility of collected data, minimize the distorting effect of personal bias upon the logic of evidence (Kamarovsky, 1981; Lather, 1986b) and prevent phenomena from being forced into preconceived interpretive schemes.

In one of her earlier articles, Patti Lather (1986b) states that “our best shot at present is to construct research designs that push us toward becoming vigorously self-aware” (p. 66). Other researchers have suggested a number of techniques for developing new means of establishing trustworthy data while avoiding the pitfalls of positivist standards of validity, such as “objectively subjective” inquiry (Reason, 1981, p. xiii), triangulation, reflexivity and member checks (Guba, 1981), and borrowing concepts of validity from traditional research but “refining and expanding them in ways appropriate to an ‘interactive, dialogic logic’” (Lather, 1986b, p. 66; Reason and Rowan, 1981, p.

240). Lather (1986b) provides four guidelines explicating her reconceptualization of validity as it relates to praxis-oriented research containing aims to criticize, challenge and change the status quo.

4.3.1 Triangulation. Lather (1986a; 1986b) expands upon what she calls “the psychometric definition of multiple measures” (p. 270; p. 67) by including such techniques as the inclusion of multiple data sources, methods, and theoretical schemes. She considers these techniques critical in establishing data trustworthiness; in addition, she considers it essential that the research design allows for the emergence of counterpatterns as well as convergences if the data are to be credible.

4.3.2 Construct validity. Unlike the definition of construct validity as put forth by positivism, Lather, citing Cronbach and Meehl (1955), argues that construct validity must be dealt with in a manner which recognizes its roots in theory construction. In her article Research as Praxis (1986a), she poses the following questions the researcher needs to ask her or himself when considering construct validity: where are the weak points of the theoretical tradition I am working within? Am I extending theory? Revising it? Testing it? Corroborating it? The purpose of this line of questioning is for the researcher to ensure that their constructs are actually occurring, as opposed to being an invention of the researcher’s perspective. The overall purpose of construct validity is to enable the researcher to insure their data is not subsumed by theory, which is a danger when conducting theoretically guided empirical work. In order to prevent such theoretical imposition, the constant confrontation with and respect for the experiences of people in their day-to-day lives is necessary. In addition, Lather suggests engaging in a “systemized reflexivity” (1986b, p. 67), which can demonstrate how a priori theory has been changed

by the logic of the data. She states that such reflexivity is essential for construct validity because it enables the growth of “illuminating and change-enhancing social theory” (1986b, p. 67; 1986a, p. 271).

4.3.3 Face validity. While face validity has traditionally not been allocated as much consideration as other forms of validity, Lather (1986a; 1986b) argues that it needs to be reconsidered in light of the fact that it is relatively complex and “inextricably tied to construct validity” (1986a, p. 271). Quoting Kidder (1982), research with face validity “provides a ‘click of recognition’ and a ‘yes, of course’ instead of a ‘yes, but’ experience” (p. 56). In other words, face validity is achieved through member checks, considered by Guba and Lincoln (1981) to be “the backbone of satisfying the truth-value criterion” (p. 110). Member checks can be defined as the “recycling” of data analysis by giving it to at least of subsample of research informants to see if it makes sense to them. Reason and Rowan (1981) also insist that member checks are absolutely essential and need to be a standard part of praxis-oriented research designs: “good research at the non-alienating end of the spectrum...goes back to the subject with the tentative results, and refines them in light of the subject’s reactions” (p .248).

4.3.4 Catalytic validity. Catalytic validity (Lather, 1986a; Lather, 1986b; Brown & Tandom, 1978; Reason & Rowan, 1981) is a somewhat lesser known notion of validity, but it is one that is directly linked to the emancipatory intent of praxis-oriented research. The reason for this linkage is that catalytic validity represents the degree to which the research process reorients, focuses, and energizes both the researcher and the research informants toward understanding reality in order to transform it. This process has been coined “conscientization” by Paulo Friere (1973). Lather (1986a) considers this

particular guideline the “most unorthodox” (p. 272), as it embodies an episteme situated in direct opposition to the positivist insistence on researcher neutrality. In other words, not only does catalytic validity speak to the way the research process alters and impacts the reality of its participants, it also speaks to the need to channel this impact in such a way that the informants “gain self-understanding and, ideally, self-determination through research participation” (p. 272).

In a considerably more recent article, Validity as an incitement to discourse: qualitative research and the crisis of legitimization, Lather (1997) makes the choice to use the term “validity,” although her reasoning for this is to “both circulate and break with the signs that code it” (p .1). Unlike some postmodern researchers (Scheurich, 1992), she refuses to do away with all current notions of validity, as it were: for her, the notion of validity is to be worked with, worked around and troubled as a site for exploring the availability of alternative discourse-practices within it. In other words, one of her goals is to use validity in order to push its boundaries, to interrogate the end of “scientificity” (Aronowitz, 1995, p. 12; Lather, 1997, p.4) and to delineate the weakening of the “one best way approach” (Lather, 1997, p. 5). She also aims toward de-centering validity away from “epistemological guarantees” (p. 6) and toward practices that are “situated, multiple, partial, endlessly deferred, a reflexive validity interested in how discourse does its work” (p .6).

Lather does, as she describes it, come full circle back to standards, i.e., a “policing validity.” It is a validity, however, that returns within a situated context. In other words, a

validity that is situated within cultural specificities and standards that arise from the communities being researched. She explicates this validity, which she refers to as constitutive validity, by contrasting it to regulatory practices of validity:

- **constitutive** practices of validity that construct a rationality, a sociality in which to assess the legitimacy of knowledge claims, versus
- a **regulatory** validity that polices the borders between “science” and “not science;”
- **transgressive** practices of validity that theorize, historicize, situate and interrogate inquiry as a cultural practice, versus
- a **correspondence** validity that seeks some essential and complete conviction through relation to some “real” world (p. 17 – 18).

The move here is from a discourse about quality to a discourse of contexts of interest. Lather (1997) is not interested in breaking absolutely with traditional positivist science and working from the outside, but rather working from “a fracture traced within” (p. 18). She concludes by reiterating her desire to examine what is possible when “all of educational inquiry, positivist and postpositivist alike, is positioned as a site of crisis,” and researchers begin to “move beyond the normalized apparatuses of our own training toward a social science more answerable to the complications of our knowing” (p. 22)

How have these notions of validity manifested themselves in my research? To begin, I have engaged in triangulation through my utilization of multiple data sources (transcribed interviews, debriefing notes, reflective journal entries, student worksheets, completed student projects and student questionnaires) and multiple methods (observation, interviews, reflection). I have also engaged in member checks by providing

the participating art educator (whom I have given a pseudonym in this and the following chapter) with a draft of my “story” describing my time at the high school where I conducted my research for her input, along with copies of the transcribed interviews. The appendices include the transcribed interviews, a copy of my unit plan, copies of the worksheets assigned to the students, a copy of the questionnaire I distributed to the students, and copies of all handouts. Finally, I have included a second methodology chapter, written up as a narrative account of the time I spent “out in the field.” According to Eisner (1991, pp. 53ff), a narrative account can be appraised or evaluated for its “rightness” based on its coherence, referential adequacy, and instrumental utility.

4.4 Research Design

As stated earlier in the chapter, my research design is a qualitative case study, a common type of study in the field of education.

4.4.1 Definition of Case Study. According to Merriam (1998), there has been some confusion with regards to how the case study has traditionally been defined. She attributes this confusion to a tendency on the part of some researchers to conflate the process of conducting a case study with the unit of study (i.e., the case) and the final product of this type of investigation. For example, Yin (1994) defines a case study as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (p. 13). This definition presents case study as a strategy, or method.

On the other hand, other researchers (Merriam, 1988; Stake, 1995; Wolcott, 1992) define case study in terms of its end product, or the unit of study. For instance, in her first edition of Case Study Research in Education, Merriam (1988) defines qualitative case study as “an intensive, holistic description and analysis of a single instance, phenomenon, or social unit” (p. 21). In her most recent edition, Merriam (1998) states, “I have concluded that the single most defining characteristic of case study research lies in delimiting the object of study, the case” (p. 27). Two researchers who have contributed to her more recent definition of a case study include Smith (1978), who defines case study as a bounded system, and Stake (1995), who describes case study as an integrated system. Therefore, a case can be described as a phenomenon that occurs within a bounded context, or a unit with defined boundaries. Some examples of a case might include a person such as a student, teacher or administrator; a school or school district; a program or policy; or a class of students. Adelman, Jenkins and Kemmis (1983) state, “the most straightforward examples of ‘bounded systems’ are those in which the boundaries have a common sense obviousness, e.g., an individual teacher, a single school, or perhaps an innovative programme” (p. 3). In short, a case is “functioning specific” (Stake, 1998, p. 87), rather than a generality.

In order to determine if a particular phenomenon is a case, Merriam (1998) suggests the researcher ask him- or herself how finite the data collection would be. If there is a definite, set number of informants or interviewees, or a finite amount of time for observation, then the phenomenon is very likely bounded enough to be considered a

case. However, if there is no actual or theoretical number of people that can be interviewed or observations that can take place, the phenomenon in question is not bounded enough to be considered a case.

According to the definitions of case study outlined above, my research project can be described as a case study, for the following reasons. First, my data collection was clearly finite. I studied one particular class consisting of twenty-nine students, which was taught by one particular art educator. These were the *only* participants of whom it would have made sense for me to include in my research project. Second, the amount of time I engaged in data collection was also finite: I was present at my research site from November 21st, 2001 to December 21st, 2001. These dates were not arbitrary. I was at this site for the purpose of teaching this class a particular unit of study; this unit lasted for a definite length of time that was predetermined by both the art educator and myself. There were very clear-cut boundaries with regards to whom I was studying, the length of time I was studying them, and the curriculum they were being taught.

4.4.2 Types of Case Studies. Stake (1998) identifies three types of case studies: the intrinsic case study, the instrumental case study, and the collective case study. The primary purpose of undertaking an intrinsic case study is to gain a greater understanding of a particular case, as opposed to understanding an abstract construct or a generic phenomenon, or building theory (although theory building will sometimes become part of the study). In other words, the case itself is of interest in that the researcher has an intrinsic interest in a particular student, curriculum, program or school district. The case itself is not meant to represent other cases, nor is it meant to illustrate a particular trait or problem.

An instrumental case study is a case study in which “a particular case is examined to provide insight into an issue or refinement of theory” (Stake, 1998, p. 88). The instrumental case study differs from the intrinsic case study in that the case itself is not as important as the issue or theory being examined. Put simply, the case in an instrumental case study has a supporting role, as opposed to the case in an intrinsic case study, in which the case has a starring role. A collective case study is one in which a researcher studies a number of cases simultaneously in order to examine a particular phenomenon, population or general condition (Stake, 1998). It is not a study of a collective, but rather an instrumental study expanded to several cases.

Merriam (1998) categorizes case studies in terms of their overall intent: descriptive case studies, interpretive case studies and evaluative case studies. A descriptive case study, according to Merriam (1998), is a study that presents a “detailed account of the phenomenon under study” (p. 38) and “[presents] basic information about areas of education where little research has been conducted” (p. 38). Descriptive case studies often focus on innovative or unique programs or practices that have not been subject to investigation or research. Like Stake’s (1998) intrinsic case study, the purpose of a descriptive case study is generally not to build theory.

An interpretive case study is similar to a descriptive case study in that it also contains thick, rich description. However, it differs from descriptive case studies in that the descriptive data are used to “develop conceptual categories or to illustrate, support or challenge theoretical assumptions held prior to the data gathering” (p. 38). Therefore, a researcher engaging in an interpretive case study will gather as much information as they can in order to theorize, analyze or interpret the phenomenon of interest. Interpretive case

studies also tend to be considerably more analytical and complex than descriptive case studies. A third type of case study is the evaluative case study (Merriam, 1998). Like descriptive case studies, it contains thick description; like interpretive case studies, it involves interpretation and explanation. What defines evaluative case study as such is that it “weighs information to produce judgment. Judging is the final and ultimate act of evaluation” (Guba and Lincoln, 1981, p. 375; Merriam, 1998, p. 39).

Based on Stark (1998) and Merriam’s (1998) definitions of case study, my study could be described as an intrinsic case study, or a descriptive case study. Both of these definitions are very similar, in that they both describe a particular type of case study that is rich in description, largely atheoretical, and focuses on a phenomenon or area of education where no or very little research has been conducted. My study focuses on a very particular and specific curricular innovation which, to the best of my knowledge, has never been researched. More to the point, the reason I chose my case was precisely because of the intrinsic interest I had in this specific curricular innovation. My case does not (indeed, can not) represent any other cases. As a result, there are no hypotheses or theories at this stage for me to test.

4.5 Framework of the Study

Simply describing my project as a case study would not be entirely accurate or complete, however, which is why I have described it as an *action research* case study. While I have presented my study in terms of its form (i.e., the research design) in the

previous section, this section is devoted to positioning my study in terms of its disciplinary framework (or genre (Marshall and Rossman, (1999)), and how this framework guided my investigative techniques, strategies and methods.

Methodologically speaking, my project is oriented within the framework of action research. Both action research and participatory action research can be described as a methodology for a system of knowledge production based on all of the participants' role in agenda setting, participating in data collection and analysis, and controlling the use of the outcomes (Reason, 1998; Tandon, 1989). Both approaches have their roots in humanistic psychology, and share a relativist ontology very much in line with constructivist thinking. Going further, action researchers and participatory action researchers would emphasize that the actor's constructions of reality do not only manifest themselves through the mind, they also manifest themselves through the reflective action of persons and communities (Reason, 1998).

The term "action research" has occasionally been used interchangeably with the term "participatory action research." Nevertheless, the terms are not synonymous. Therefore, I feel it is necessary to begin this section with a brief subsection describing the traditions of participatory research, and what distinguishes it from action research. Following this subsection are two subsections, one that describes action research and one which positions action research within educational practice. It is in this latter subsection where I explicate how the tenets of action research informed my study.

4.5.1 Participatory Action Research (PAR). According to McTaggart (1997), the term "participatory action research" can be seen as a description of the convergence of certain traditions in action research and participatory research. He feels that the term

“action research” has been used too broadly, as he states that the term action research has been “used to describe almost every research effort and method under the sun that attempts to inform action in some way” (p. 1). In other words, this broadly applied definition does not reflect the intentions of PAR’s originators, for whom participation (i.e., people doing research for themselves) was an essential element of action research.

McTaggart (1997) continues by questioning the need to always include the word “action” to describe certain types of participatory research, as he feels that participatory research has generally been defined and practiced as actions that people undertake in order to improve the conditions of their lives. He explains that including “action” would be an appropriate descriptor when the research inquiry explicitly involves and informs the participants’ own activities, as opposed to merely informing the external researcher’s future research directions.

McTaggart (1997) identifies four common themes across PAR projects: participation, reflection as collective critique, communitarian politics, and research. He refers to participation as research done by the people for themselves. Authentic participation in research, according to McTaggart, “means sharing in the way research is conceptualized, practiced, and brought to bear on the lifeworld” (p. 5). In other words, participation in this sense goes beyond involvement in that the participants are able to take ownership of the research: they have “responsible agency in the production of knowledge and the improvement of practice” (McTaggart, 1997, p. 5). He states PAR must be conceived as a collective activity for the following reasons: first, the interpretation of experience is more trustworthy if others are closely involved. Secondly, instigating change directly impacts the lives of others, and therefore the researcher needs

their help and consent. Finally, social life and change is political and messy in that neither can be compartmentalized or broken into little bits that can be changed one at a time. In other words, it is difficult to impact change when one is acting by themselves, as a lone individual.

McTaggart further asserts that PAR is explicitly political, in that it is about a specific kind of change: people working together in order to obtain rationality, justice, coherence and satisfactoriness in the workplace as well as other aspects of people's lives. In other words, communitarian politics are a part of PAR because the goal of PAR is to enable people to change themselves and their circumstances, and for them to be able to inform this change as it happens. He insists that PAR be not just for "practitioners." It requires broad participation amongst those directly involved, an "obligation undertaken by all people at all levels and in all kinds of institutions who seek to develop the quality of their work and the symmetry and reciprocity of their relationships with others" (p. 6). He is equally adamant in his insistence that PAR not be confused with "political activism" or "oppositional politics" among the less powerful or the disenfranchised.

In positing "research" as the fourth theme, McTaggart (1997) wishes to reinforce the point that PAR is genuine research, not a glorified form of oppositional politics or political activism. Although PAR occurs in contexts where oppositional politics or political activism may be present, what differentiates PAR from them is its conscientious objectification of concrete experience and change. He also points to the extensive methodological literature of PAR, and the convergence of old intellectual traditions and new forms of discourse that vindicate and inform it, such as Aristotelian ethics, dialectical materialism, phenomenology, ethnography, symbolic interactionism,

feminism, and post-colonialism, to name a few examples. In short, the literature of PAR as well as the concrete practices PAR informs show that it produces fresh insights and understandings that meet defensible standards for knowledge claims.

While my research project can be categorized as action research, as I will argue later, I feel it does not sufficiently adhere to the explicitly participatory nature outlined by McTaggart (1997) to qualify as participatory action research as such. For example, I did not choose to emphasize the political aspects of knowledge production (communitarian politics), nor did I solicit broad participation from the students or other teachers besides my participating art educator for the purpose of examining or confronting power structures. In addition, I did not utilize the types of PAR methodological literature referred to by McTaggart to contextualize my research. In my estimation, these three significant components of participatory research need to be present in an action research project in order for it to be justified as PAR.

4.5.2 Action Research. Action research is a form of inquiry into practice (i.e., practical inquiry) in that it focuses on the development of effective action that, ideally, contributes toward the transformation of organizations and communities toward greater effectiveness and justice (Reason, 1998; Torbert, 1991a). More simply, it can be described as a process in which practitioners study their problems in a systematic way for the purpose of guiding, correcting and evaluating their decisions and actions.

The practice of action research is cyclical: first, the researcher identifies an area of concern that s/he wishes to investigate. Next, s/he will try new methods and procedures, while simultaneously and systematically reflecting upon their effectiveness. As a result of these critical reflections, the researcher will make sequential modifications to their

practice in a way that seems appropriate. The researcher continues this cycle of reflection and modification within a specified length of time, records the findings, and reports the outcomes. Action research is often participatory in that the research informants are involved as partners, or active participants, in the research process. Instead of relying on detached induction, the action researcher interacts with problematic phenomena, and the subject matter derived from practical inquiry is situational insight, instead of generalized laws of behavior. The end result of this type of practical inquiry is decision and direct action, in contrast to knowledge for knowledge's sake.

4.5.3 A Brief History of Action Research in Education. There exists a precedent in progressive education literature that recognizes as research teacher inquiry, particularly inquiry that gives direction and direction to the lives teachers live with their students. The roots of action research and practical inquiry in education can be traced back to the work of educational theorist and philosopher John Dewey. In his Sources of a Science of Education (1929), Dewey posits the practical inquiry of teachers as the essence of educational research by stating, "if...teachers are mainly channels of reception and transmission, the conclusions of science will be badly deflected and distorted before they get into the minds of pupils...this state of affairs is a chief cause for the tendency...to convert scientific findings into recipes to be followed" (p. 47). In his Logic, the theory of inquiry (1938), Dewey argues that logic is inquiry rendered in theoretic form: logic is theory about the ways in which people solve problems. In this book, as well as in How we think (1910), he outlines five stages in the process of inquiry or problem solving:

- The experience of an indeterminate situation, that is, disrupted equilibrium between organism and environment;

- The conversion of the indeterminate situation from a mere dilemma to a problem capable of articulation;
- The establishment of hypotheses along with broadly anticipated consequences of action upon them;
- The elaboration and testing of the hypotheses; and
- The reestablishment of a determinate situation.

Dewey's vision is one in which the teacher continuously pursues self-education in the course of the act of teaching. One of the common threads in his major writings on education is his belief in the inseparable link between democratic action and the method of inquiry. Among his major writings, he draws connections between society, the individual, and knowledge as bases for the evolution of education and democracy; much of Dewey's writing dealt with what he saw as the connections between democracy, inquiry, and education. Dewey perceived education as individual inquiry both supported by and intertwined with the social milieu in which one is embedded. Such inquiry attends to the overt and covert consequences of one's decisions and actions on the context they influence. Because it is impossible for an individual to reflect upon every single consequence of their actions and decisions, Dewey invokes the importance of democratic interaction in order to show the mutual impact proposed action may have and actual action has.

This description of action research portrays the job of teachers as engaging with their students in a process of reconstructing meaning and direction, as opposed to the teacher establishing cut-and-dry objectives, controlling their implementation, and measuring the results. The purpose of action research is to ask, "what is most worthwhile

to do?” and engage the teacher and students in an ongoing process of refining aims and goals that inform living together and experiencing meaning. In the following passage, Dewey (1929) shows action research as a process of building philosophical assumptions or principles that guide one’s life, and pursuing them with others in a democratization of inquiry, reminding the reader that:

“education is autonomous and should be free to determine its own ends... education is itself a process of discovering what values are worthwhile and are to be pursued as objectives. To see what is going on and to observe the results of what goes on so as to see their further consequences in the process of growth...is the only way in which the value of what takes place can be judged...Each day of teaching ought to enable a teacher to revise and better in some respect the objectives aimed at in previous work...Education is a mode of life, of action. [It] renders those who engage in the act more intelligent, more thoughtful, more aware of what they are about” (pp. 74-76).

Other examples of early educational action research include the Eight-Year Study (Aikin, 1942), Stephen M. Corey’s (1953) book Action Research to Improve School Practices, as well as the work of researchers Kurt Lewin (1948) and L. Thomas Hopkins (1954). Action research saw a decline beginning in the mid- to late 1950’s, and did not resurface again until the advent of the teacher-as-researcher movement initiated in England by Laurence Stenhouse (1975), May (1982) and Skilbeck (1983). These practitioners acknowledged serious teacher reflection on their work as a viable form of research. Other examples of this resurgence include work patterned after artistic and literary criticism (Eisner, 1985; Willis, 1978), responsive evaluation (Guba and Lincoln, 1983), autobiographical research (Pinar, 1980; Grumet, 1980), emancipatory pedagogy (Friere, 1970), the search for forms of resistance to domination by teachers and students (Giroux, 1983; Apple, 1986; Apple and Weis (1983), and the encouragement of teachers and learners to develop ways to research themselves and their situations (Carr and

Kemmis, 1986; Kemmis and McTaggart (1988a, b). What all of these diverse sources have in common is that they all address the teacher who “becomes more reflective, wide-awake, and interested in questioning the taken-for-granted” (Schubert & Schubert-Lopez, 1997, p. 215).

4.5.4 Teacher-as-Researcher. As mentioned in the previous paragraph, action research has enjoyed a resurgence in recent years, and has become quite common in the field of education. Action research in education can be summarized as a situation in which a teacher engages in inquiry upon her or his own practice, and reflects seriously, carefully and systematically on this inquiry. Educator-researchers Schubert and Lopez-Schubert (1997) argue if a teacher is motivated by and reflects seriously upon the question “what kind of knowledge and experiences should children and youth have if they are to grow well and lead good lives?” then the teacher is engaging in a form of action research. Such a question reaches into the deepest recesses of philosophy, as the notions of what it means to grow well, lead a good life, and even what it means to be educated are longstanding fundamental philosophical questions. For Schubert and Lopez-Schubert (1997), the search for assigning meaning to these notions in the interactions with their students is one of the “most fundamental forms of inquiry [they] have ever experienced”(p. 204). If this is not action research, they argue, then “action research bypasses the essence of inquiry inspired by the act of teaching” (p. 204). In other words, they make the case that a teacher who engages in deep and systematic philosophical inquiry on their teaching practices is engaging in action research, regardless of whether they are taking part in a formal research project.

The basis of this notion is the sentiment that to teach seriously is to “continuously ask oneself fundamental questions about what one is doing and why one is doing it” (Schubert and Lopez-Schubert, 1997, p. 205), as well to ask fundamental questions regarding what knowledge is of most worth (Spencer, 1861). To inquire about knowledge (what it is, what is its essence, what is worth knowing, etc.) is to engage in philosophical inquiry regarding metaphysics, ontology, epistemology, axiology, ethics, politics, aesthetics and logic. Such inquiry permeates the professional and personal lives of teachers, as reflective teaching and reflective living are, in essence, inseparable. What this translates into is a conception of action research as “a continuous, conscious attempt [on the part of teachers] to seek increased meaning and direction in [their] lives with students, and their own personal lives” (Schubert and Schubert-Lopez, 1997, p. 206). It is true that this is an extremely broad notion of action research.

However, naming a specific theory that could adequately convey or contribute to the act of systematic teacher inquiry or the complexity of teaching would be extremely difficult, if not nearly impossible - teaching is too fluid and messy an endeavor to comfortably fit within the confines of a descriptive or prescriptive theory. Such a theory would be a “pale and brittle [imitation] of the organic images needed to guide action research” (Schubert and Schubert-Lopez, 1997, p. 207), and if there is to be a theory of action research “it resides within the personal constructs of each teacher” (p. 207). Therefore, if one wishes to inspire others to undertake action research, the practitioner ought to set a good example by successfully demonstrating the process of reflecting on sources of meaning and direction in their own lives while encouraging others to do the same.

Theoretically speaking, then, educational action research provides the teacher with a wide berth from which to investigate a variety of subject areas and types of learning situations. Although there may not be a specific theoretical foundation from which these projects can draw, they still maintain a crucial common thread. What is common amongst educational action research projects is they all must go beyond the development of technical solutions. It is contingent upon the teacher/practitioner to engage in fundamental reflection about what they and their students need, as well as take imaginative consideration of the possibilities and consequences of acting to overcome these needs. Going even further, such inquiry must provide the necessary empirical evidence needed compelling enough to colleagues in order to facilitate productive policy changes. In other words, their documented improvements are not meant to be mere private, personal reflection, because ideally, the final result should be altered public space and changed policy.

The literature on action research succinctly explicates my own attitudes toward teaching, what makes teaching worthwhile and valuable, and how teachers should continuously strive to improve their own practice. The literature also provided me with guidelines and methodological strategies that informed my approach to working with my participating art educator and the students, collecting data, and engaging in the necessary reflective practices while within and outside of the “field.” My attitude toward my participating art educator was one, I hope, of partnership. In other words, my goals for my project did not only concern me: my dissertation, my future teaching practices, my career. My intention was also to work with my participating art educator in such a way that she would also come away from the project with more knowledge, a wider repertoire

of teaching methods and an expanded skill set, all of which she could apply to her own future teaching practices. While I did the bulk of the teaching during my stint at the high school, my participating art educator was always present and ready to assist the students and myself. In addition, my participating art educator was my partner in reflection. After nearly every class session, we would eat lunch in the teacher's lounge and debrief each other on how we felt the class went, taking notes as our conversation progressed. As a result of these debriefing sessions, I would modify my teaching practices in such a way that would benefit the students. Some of the modifications I made included changing a worksheet, lengthening my demonstrations, contextualizing my lectures, enhancing my "teacher talk," and creating rubrics and questionnaires. This cycle of debriefing, reflection and modification structured my entire data collection process while I was teaching my unit on net.art.

4.6 Research Location

This four week long study was conducted at George Washington High School (GWHS), which is part of the Riverdale Public School system. This school system is located within a major metropolitan area of the Midwest. The system has, at this writing, a total student population of approximately 65,000. The school buildings are located in urban and inner-city settings. Pseudonyms have been given to the school and school system to preserve anonymity.

The research site is located in an inner-city neighborhood, serving an inner-city population, and as GWHS is a magnet school, the students are admitted through a lottery system. The enrollment at GWHS is approximately 600. GWHS is an arts-intensive,

high-performing college preparatory high school: ninety-six percent of its 2001 graduating seniors went on to attend 2-year or four year colleges and 100 percent of this class passed all parts of the state Ninth-Grade Proficiency Test. I was able to gain entry to the site after being granted a human subjects exemption from the Institutional Review Board of Midwestern University and receiving from the Midwestern University School of Education's Office of Professional Development a copy of the official letter of introduction written by the Executive Director of Riverdale Public Schools Department of Student Services.

The research primarily took place in the GWHS computer lab, where the class I taught was held. The lab contained twenty-nine IBM PC computers, one of which served as a teacher's station, one overhead projector, which was hooked up to the teacher's computer, a scanner, a black-and-white dot matrix printer, a black-and-white laser printer, a TV and a VCR. The lab was relatively spacious, with all of the computers lined up against all four of the walls. There was also a very large table in the center of the lab, which made moving around the room somewhat difficult. Data collection also took place in the GWHS teacher's lounge, the hallway and staircase adjacent to the computer lab, the school library, and in the participating art teacher's classroom. Data analysis and writing the report took place at my home.

4.7 Research Participants

For the purpose of this study, the GWHS art educator who elected to participate in this study has been given a pseudonym. Mrs. Jill Thaler was selected for a number of reasons. First, she took great interest in the study, and was planning to introduce a

computer art course at GWHS. She was also willing to learn as much as she could about net.art for the purpose of including it in her curriculum in the near future. Finally, she was also willing to have me come into her classroom and teach a unit on net.art, as she felt that she was not sufficiently knowledgeable at the time to teach it herself. She felt that she would learn much more about teaching net.art from observing me teach it in a classroom setting, rather than her trying to teach it to herself and applying what she had learned in a trial-and-error manner.

Twenty-nine students were enrolled in the computer graphics class Mrs. Thaler taught; twenty-eight students agreed to participate in the study. Of the students who opted to participate in the study, nineteen students were female and nine students were male. There were four freshmen, eight sophomores, three juniors, and twelve seniors. Fourteen of the students were African-American, and the other fourteen were non-Hispanic Caucasian. Because the course was an elective, most of the students were taking the class because they had an interest in art, computer graphics, or both. However, some of the students stated that they were taking the course because it fulfilled the number of technology credits they needed to graduate.

All of the students had experience using the Internet (browsing the web, Instant Messaging, using email). Two of the students knew HTML, one of who had created their own home page. Four students knew how to use FrontPage but did not have a home page of their own, and six students said they had built a “pre-made” web site through the web site blackplanet.com.

4.8 Timeline of study

The timeline for this study was determined by a number of factors, including the dates the computer graphics course was being offered by my participating art educator, the time it took me to obtain permission to access my research site, and the fact that I was doing my student teaching from January, 2002 to June, 2002 and would begin my employment in September, 2002. While I was at my site, my research schedule was determined by the schedule of the school. The research timeline for this project can be divided into three phases.

The first phase occurred from April, 2001 to November, 2001. During this phase, I made preparations to enter my research site. I contacted my participating art educator to discuss my ideas regarding my research project, as well as to discuss her willingness and ability to take part in my project. We also discussed our visions regarding how we felt a net.art unit should be taught, and in the event that I did receive permission to conduct my research in her classroom, how we would share the teaching and classroom management responsibilities. In September 2001, I submitted an Application for Exemption to the Midwestern University Institutional Research Board, and was granted an exemption three weeks later. In early October, 2001 I submitted a copy of my research proposal to Director for the Office of Professional Development in the College of Education at Midwestern University, who sent it to the Executive Director of the Department of Pupil Services within the Riverdale public school district for approval. I received from the Office of Professional Development a copy of the official letter of introduction on November 19th, 2001, and it was at this point I was able to pursue the second phase of my research project.

The second phase of my research project began on November 21st 2001, when I gained access to my research site, and ended on December 20th, 2001, when I exited the site. December 20th was also the last day of school at GWHS before the holiday break, so it made sense to exit the site on this date. Over the course of these four weeks, I taught a unit on net.art in the school computer lab as part of a computer art and graphics course taught by Mrs. Thaler. The class met on Mondays, Tuesdays, Thursdays and Fridays, and because GWHS is on a block schedule, each class period met for eighty minutes, from 8:56 am to 10:16 am. After each class session, I would remain at the site for an additional forty to forty-five minutes to eat lunch and engage in a debriefing and note-taking session with Mrs. Thaler. Most of my data collection took place during this phase. A week after I left the site I engaged Mrs. Thaler in a semi-structured exit interview at my home.

The third and final phase of my research project occurred between June, 2002 and August, 2003. It was during this phase that I undertook the process of structuring, bringing order to, and drawing meaning from the data. I transcribed my interviews and sifted through the notes, completed worksheets and journal entries that served as a testimony to the multiple layers of experience from which I derived my current understanding of the phenomenon in question: how to integrate the teaching of net.art into a high school computer art and graphics curriculum. As I sifted through and coded the data, I was able to generate categories, themes and patterns and search for alternative explanations while engaging in the process of analysis through the writing up of the report.

4.9 Methods of Data Collection

I utilized multiple methods of data collection over the course of my project, most of which can be qualified as personal experience methods (Clandinin & Connelly, 1998): I engaged in observation, and generated “field texts” (Clandinin & Connelly, 1998) from reflective notes generated from debriefing sessions with my participating art educator, journal entries, and interviews. Other field texts from this study include the worksheets and net.art projects completed by the students as well as the rubrics and handouts I created as part of the unit. My modes of collecting data were primarily open and event-driven, although I would argue that my interviews were somewhat more structured and researcher-driven. The sections that follow elaborate in further detail how I made use of each specific method listed.

4.9.1 Observation. I engaged in observation during the four weeks that I taught at my research site as a complete-member-researcher (Adler & Adler, 1998).

Researchers who take a complete membership role (as opposed to a peripheral membership role or an active membership role) are involved in the setting’s central activities and become converted to genuine membership during the course of their research (Adler & Adler, 1998). Although I was somewhat distanced from the setting in the beginning due the fact I was a new and unfamiliar presence, by the end of my time at the site I was acting as a member (i.e., the teacher) in contrast to a slightly more distanced role as a researcher.

The nature of my observations followed the stages of observation as described by Spradley (1997) and Jorgensen (1989). Spradley likens the stages of observation to a funnel, where the researcher’s initial observations are general and unfocused in scope,

and progressively focus on the elements of the setting that have emerged as theoretically and/or empirically essential. At the beginning of my time spent at my research site, I was more concerned with making general observations and recording my general impressions. I observed the layout of the computer lab, how many computers there were in the computer lab, the number of students in the class, as well as the racial and gender makeup, the students' work habits, the social atmosphere of the classroom, and my participating art educator's teaching style and classroom management techniques. I also met with each student individually for the purpose of introducing myself, getting a sense of the types of projects they were working on, and finding out the nature of their use of the Internet and the World Wide Web. As I moved from the role of a researcher into the role of a teacher, the nature of my observations shifted. I began observing the students much as a teacher would, checking to see if the students were staying focused and on task, and if they were able to comprehend the material I presented to them. Toward the end of my time at the site, my observations were tailored to the needs of individual students. I was also more attuned to their attitudes toward the material, if their attitudes were reflective of their comprehension levels, and if they were able to internalize the material in a meaningful way through the creation of their studio project and as reflected in their responses on the assigned worksheets.

4.9.2 Interviews. During the fourth week of my time at my research site, I engaged in both unstructured semi-structured interviews with the students, as well as unstructured interviews with Mrs. Thaler. I also conducted a semi-structured exit interview with Mrs. Thaler a week after I had left the research site, which allowed her to reflect upon the successes and difficulties of teaching the unit, how she would teach the

unit in the future, and what she had learned from participating in the research project. Seventeen students out of twenty-eight agreed to be interviewed. I interviewed students individually and in pairs during class time, after class, and during a mid-day assembly; the interviews took place on the stairwell right outside the computer lab, in my participating art teacher's classroom, and in the school library. Most of the interviews lasted between twenty and thirty minutes, and they were all recorded on audio tape. The exit interview with my participating art educator took place at my home and lasted for approximately forty minutes.

By the fourth week of my stay at the site, I had established (in my mind) a good rapport with most of the students. It must be noted that most of the students who did not agree to be interviewed were those with whom I was unable to establish a good rapport. Although some of the students I interviewed were somewhat shy and self-conscious, all of the interviews were informal, conversational and friendly. I genuinely liked the students I interviewed, so it was easy for me to be upbeat, humorous and encouraging with them during the interviews. I was very conscientious about reassuring the students at the beginning of the interview that their responses would not affect their grades or my opinions of them, and that I would not be offended or hurt in any way if they did not like the net.art pieces I showed them, or if they did not agree with the way I taught. I also told the students that it was very important that they be honest with their responses, as I was not looking for certain type of "right" or "wrong" answers.

All of the interviews with the students followed the same general format. The first part of the interview consisted of the student sharing their thoughts about and reactions to each of the four net.art pieces I showed them at the beginning of the unit, as well as their

reflections on how net.art challenged (or did not challenge) their notions on art and the World Wide Web. The second part of the interview dealt with their thoughts about the demonstrations on how to make a web page, and whether knowing how to make a web page influenced their ideas about net.art. The third and final part of the interview focused on the students' ideas for their final projects, and if the net.art pieces they looked at gave them any insights or ideas.

4.9.3 Personal experience methods. The personal experience methods I utilized included a reflection log and a research journal. I made entries in my reflection log, both reflective and descriptive, during the debriefing sessions I had with my participating art educator. I would make entries in my research journal at various times over the four week period I was teaching at my research site, primarily as a means of recording further reflections upon the notes I took during debriefing sessions, as well as recording the steps I took to correct deficiencies in my instructional methods.

What does it mean to study experience, as opposed to simply using experience as a contextual given? What is the purpose and value of including experience as a source of data? What kinds of experience should be studied? Is experience too holistic and comprehensive a term to be useful for analytic inquiry? Research-educators Clandinin and Connelly (1998) draw upon the work of John Dewey to justify the use of experience for theorizing and understanding practice. They do not refer to raw sensory experience, which they describe as practically meaningless, and they discount an extreme formalism that removes the particulars of experience, thus leading to their search for a middle ground. They state that for Dewey (1916, 1934, 1938), education, experience and life are inextricably intertwined: to study education is to study experience. The study of

experience is “the study of life...the study of epiphanies, rituals, routines, metaphors, and everyday actions. One learns about education from thinking about life, and one learns about life from thinking about education” (Clandinin & Connelly, 1998, p. 154). The middle ground they seek is in the telling of life and experience through stories, arguing that when people note something of their experience, they tell it in storied form as opposed to the recording of events over time. In short, experience is the stories people live (Clandinin & Connelly, 1998, p. 155).

What does a researcher do with experience, and the stories that make up experience? He or she engages in inquiry into narrative, narrative as defined by Clandinin & Connelly (1998) as both phenomenon and method:

“Narrative names the structured quality of experience to be studied, and it names the patterns of inquiry for its study. To preserve this distinction, we use the reasonably well-established device of calling the phenomenon story and the inquiry narrative. Thus we say that people by nature lead storied lives and tell stories of those lives, whereas narrative researchers describe such lives, collect and tell stories of them, and write narratives of experience” (p. 155).

Clandinin & Connelly (1998) summarize methods for the study of personal experience as focused in four directions: inward (the internal conditions of feelings, hopes, aesthetic reactions, moral dispositions), outward (existential conditions, i.e., reality), backwards and forwards (temporality, past, present and future). These four directions frame experience, and it is the task of the researcher to ask questions which point in these four directions. Therefore, there are three sets of methodological questions the researcher must confront throughout the course of their study. The first set has to do with the field of research experience, in which the researcher investigates their relationship with the field – are they a neutral observer, for instance, or a full participant? The second set regards

the texts told and written about the field experience - how is the researcher to represent, interpret and reconstruct their experience and the experience of their research participants? The third set of questions are concerned with the research account, dealing with issues of autobiographical presence and the impact this presence has on the text and the field.

4.10 Data Analysis

Miles & Huberman (1984, 1994, 1998) define the process of data analysis as a combination of three subprocesses. The first subprocess is data reduction, which occurs prior to the actual data collection. This subprocess involves the researcher choosing a conceptual framework, research questions, cases and instruments, and structuring initial, flexible analysis categories in the beginning, and progressing to creating data summaries, coding, finding themes, clustering and writing stories once the data is available. The second subprocess involves data display, which Miles & Huberman (1998) describe as an “inevitable” (p. 180) part of analysis, an “organized, compressed assembly of information that permits conclusion drawing and/or action taking” (p. 180). The third subprocess involves the researcher in interpretation, conclusion drawing and verification. It is during this phase the researcher engages in tactic such as comparison/contrast, discovering patterns and themes, use of metaphors, triangulation, looking for negative cases, following up surprises, and checking the results with respondents (Miles & Huberman, 1994, 1998).

Qualitative analysis is not a neat, linear process – it moves in a recursive fashion. However, despite its messiness, the researcher still needs to decipher a way to

systematically sift through and analyze the data. During the first phase of this study as outlined in section 4.8, I composed some flexible analysis categories based on my initial hunches and assumptions. These categories were arranged around the general topics of the perception of net.art as art (or not art), teaching methods and strategies, and the comparison of net.art to any “non-art” web site. As my research proceeded, the generated meaning that emerged from the data recast my focus somewhat, and therefore, I felt the need to create additional categories that supported this shift in focus. In addition to the three categories mentioned above, I added the categories of assumptions regarding student “savviness” with the Internet, classroom management, introducing students to difficult artwork, and art criticism and net.art.

My next task was to organize my multiple sources of data. I transcribed and read through my interviews, observation and reflective notes, journal entries, student questionnaires and completed worksheets multiple times to begin to find common occurrences and emerging patterns. Next, I began to examine my data more deeply through coding in order to generate specific categories, themes and patterns, as well as look for empirical assertions. In order to generate codes, I was guided by the following questions as suggested by Richardson (1997): What is going on here? What is this person saying? Are their actions and words congruent?

Once the categories and themes were identified, coded and catalogued, I organized my participants’ (both students and my participating art educator) quotations, descriptions and observations to both support and test my assertions. As I examined my assertions and looked to guidance from Janesick (1998, pp. 64 – 65), I searched my data for negative representations of the categorized patterns and evaluated my data to see if

there was sufficient description of the phenomenon, and whether the statements made by my participants were trustworthy, useful for understanding, and the degree to which they were significant to my study. At this point, I felt it was necessary to engage in the process of contesting my patterns and prior assumptions through searching for alternative explanations for the phenomenon. I described and compared these alternatives to my assumptions in order to determine the most plausible explanation for the appearance of the specific patterns, or to determine if a different direction was warranted. Finally, to help me gain additional insight into my data, I returned to other research conducted in fields related to my study. This enabled me to add interpretive commentary as it related to patterns in the data and formulate theoretical discussions connecting my data to the theories that guided my research study.

The final stage in my data analysis was writing up the report. Writing is more than simply “telling” the reader what happened, a “mopping-up activity” (Richardson, 1998, p. 354) that takes place at the end of a research project. It is also a way of knowing in that it is also a method of discovery and analysis; by writing in a variety of ways, the researcher rediscovers her or his topic and is able to reexamine her or his relationship to it (Richardson, 1998). I also place great stock in the writing process, because I agree with two fundamental points Richardson (1998, pp. 346 - 347) makes. First, she argues that qualitative research has to be read because its meaning is in the reading, and second, she argues that the traditional model of writing up research (i.e., not writing until you know what to say) ignores the role of writing as a dynamic, creative process in that it forces the writer to silence their own voice and view themselves as a “contaminant.” Finally, Richardson (1998) argues in favor of the researcher putting themselves in the text, as

opposed to adopting the “omniscient voice of science, the view from everywhere” (p. 347). It is not enough to be accurate; the researcher can (and should) also strive for coherence, verisimilitude and interest.

I find Richardson’s arguments particularly salient because of the nature of my research project. It was an action research project I was so immersed in, it does not make good sense to me to write it in such a way that removes my self, or to discontinue my cycle of reflection once I have left the field, or when my data collection is complete. It makes more sense to me to compose a personalized, revealing text that reflects a research project that, in my view, was highly personalized and highly revealing on a number of levels. It is my intent through the writing of this report that my research project is, ideally, brought to life, as opposed to merely reported.

4.10.1 Specific Analysis Structures. My reflective notes, journal entries, observation notes, and interviews were all examined for patterns and emergent themes. My reflective notes and research journal entries, which were based on my experiences and my observations, provided me with a set of validity criteria, assisted me in my reconstruction of events in storied form, and served as a guide in helping me decipher shifts in my reasoning, teaching methods and methodological choices. The research journal, being more reflective in nature, presented me with a means of tracing my thought processes and decisions made during the course of my research. The student interviews were quite valuable, as they provided me with insight into the students’ understanding and opinions of the material, as well as their understanding of the experience they were having with it. I transcribed all of my student interviews to establish a data record, and the relevant information was drawn into the data pool.

4.10.2 Specific Assessment Structures. Researchers in assessment in the arts recommend assessment tasks that focus on a range of holistic aspects of artistic creation, such as performance, knowledge, understanding, interpretation and judgment (Parrish, 2000). According to Wilson (1992, p. 39), “Holistic tasks assess students’ inquiry process relating to an integration of creative and performance activities, critical analyses of works of art and performances, and understanding of the history of the arts and aesthetic issues. These tasks may be directed toward the students’ own artistic process or toward the process of others.” I utilized two specific assessment structures in my project, a set of four art criticism worksheets on a specific work of net.art, which was part of the art criticism/art appreciation component of the unit, and a studio project in which the students created their own work of net.art.

The function of each worksheet was to provide students with a set of questions to prompt them into describing and interpreting a specific work of net.art. More specifically, the questions were formulated in such a way that the student would describe what they saw on the screen, how they navigated about the work, and what they thought the work was about. The questions were also formulated in such a way that the student would have to look at most, if not all of the web pages contained within the work in order to answer the question in a satisfactory manner. There were three main purposes for the worksheet. First, because I knew the students had not been formally introduced to net.art and the likelihood of any of them being exposed to it was very slim, I was interested in seeing how the students would react to the work, and if their previous knowledge regarding their regular use of the Internet would bolster their comfort and comprehension levels when viewing the work. Second, I was interested to see if students would make any

distinctions between net.art and more “typical” web pages, and if they would be able to articulate these distinctions. Third, I was interested in seeing if my teaching methods on introducing and explaining the net.art work were sufficient enough for the students to complete the worksheets satisfactorily, or if my methods were not sufficient and the students would struggle with the worksheet instead.

The rubric I utilized to evaluate each response on the worksheets is as follows:

Excellent (5 points):

- The student made a concerted effort to reflect on the work and took time to explore their impressions
- The answer is highly descriptive
- The answer demonstrates the student looked at the entire work
- The student thoughtfully considered many or all components of the work (text, images and navigation) and was able to make a meaningful connection between them
- The student made a concerted effort to interpret the work, and refers to specific components in the work to support their interpretation

Average (3 points):

- It is apparent the student made some effort to reflect on the work and think about their answer
- The answer is somewhat descriptive
- The answer demonstrates that the student looked at some to most of the work

- The student considered a few different components (text, images, navigation) of the work and was able to make some connection between them
- The student has attempted to interpret the work, and has made some effort to explain the interpretation

Poor (1 point):

- The student made little to no effort to reflect on the work
- The answer is superficial and contains little to no description
- It is not apparent that the student looked at most or all of the work
- The student was not able to make any connections between the different components (text, images, navigation) of the work
- The student has made little or no effort to interpret the work

The net.art studio project was the second assessment structure I utilized for my study. The purpose of this project was to give the students the opportunity to combine what they had learned about net.art with the specific web page building skills they had acquired as a result of my demonstrations of Netscape Composer. While I certainly did not expect the students to create anything as sophisticated (conceptually, technically and aesthetically) as the net.art I showed them, I assigned this project because I was very interested if the students would be able to create a web site that would be more reflective of a net.art “aesthetic,” as opposed to looking like what could be described as a “typical” web page. In other words, I was curious to see if the students would be able to create works that demonstrated an effort to experiment with or go beyond the some of the

conventions of the WWW, such as predictably linked text, common sense navigation, images meant to illustrate and clarify, and subject matter which is trite, informational and/or straightforward.

The rubric I used to evaluate the students' net.art project is as follows:

Followed directions:

- Excellent – followed all directions.
- Good – followed most of the directions.
- Fair – followed some of the directions.
- Poor – did not follow directions.

Idea or concept behind the work (i.e., what the work is about)

- Excellent – the idea is extremely interesting, conceptually rich and thought provoking.
- Good – the idea is sufficiently interesting and the concepts behind it are intriguing.
- Fair – the idea is somewhat interesting and the concepts behind it are common.
- Poor – the idea is trite and the concepts behind it are boring.

Visual appeal/visual interest/craftsmanship:

- Excellent – the work is visually rich and extremely aesthetically pleasing/intriguing

- Good – the work is visually appealing and aesthetically pleasing
- Fair – the work has some visual appeal, and is aesthetically passable
- Poor – the work has no visual appeal

Coherence of work:

- Excellent - there is a strong and meaningful connection between the text, images and navigation, as well as a very strong connection between these components and the idea behind the work.
- Good – there is a meaningful connection between the text, images and navigation, as well as an obvious connection between these components and the idea behind the work.
- Fair – there is some connection between the text, images and navigation, as well as some connection between these components and the idea behind the work.
- Poor – there is a tenuous connection between the text, images and navigation, if a connection exists at all, and there is little or no connection between these components and the idea behind the work.

4.11 Limitations of the Study

This project was limited by the small number of participants, as well as the small number of students who were able to complete their final project. In addition, the site is unique in that it is an inner-city college preparatory school that has been nationally recognized for its excellence. My analysis was limited to what the students and

participating art educator said in the interviews, debriefing sessions, and during class time, as well as what the students wrote for their assignments. I was not able to consider other influences on their perceptions.

CHAPTER 5

METHODOLOGY REDUX - TELLING THE TALE

The purpose of this chapter is to describe, from the beginning to the end, the “what” of my entire research process – in other words, “what happened.” My reason for including this chapter is that I believe that any description of my research methods, no matter how thorough, can only tell part of the tale that was my research project. In order to tell a fuller story, imbued with more meaning, I feel a chapter in which I narrate my teaching methods and my experiences as an educator and researcher out in the field is needed. In other words, I feel that telling my research as a narrative fills in the gaps left by a more “traditional” description. This approach is not without precedent; other qualitative case researchers have argued for letting the case “tell its own story” (Carter, 1993; Coles, 1989; Stark, 1995), or writing up research as a narrative account (Eisner, 1991). Finally, and just as importantly, “telling the tale” provides for the reader the opportunity to evaluate the trustworthiness of my study; it draws them into the triangulation equation. In short, I offer the reader this chapter in the spirit of providing them with the opportunity to judge for themselves the validity and quality of my project.

I was able to reconstruct the events that occurred within my research site between November 21st, 2001 and December 21st, 2001 based on the notes I took and

reflective entries I wrote during my initial observations and the lunchtime debriefing sessions I had with my participating art educator. I also relied on the reflective notes I took outside of the school setting over the course of the four weeks I was at my research site.

I begin this chapter by describing how I met my participating art educator, as well as the steps I took to gain entrance to my research site. I also describe my teaching philosophy and the subsequent rationale behind the unit plan I constructed for my research project. I conclude this chapter with an epilogue, describing how I exited the site and my final interactions with my participating art educator. The bulk of this chapter, however, is devoted to describing the four weeks I spent at George Washington High School as an educator, researcher, interviewer and observer. Pseudonyms have been given to the school, the school system, university I attended while conducting this study, the participating art educator and the students in order to preserve anonymity.

5.1 How I Met my Participating Art Educator

I met Mrs. Jill Thaler, an art educator at George Washington High School (GWHS) and the participating art educator in this research project, in the beginning of winter quarter 2001. She was a student in an introductory level computer art and graphics course I was currently teaching at Midwestern University. Although Jill had already received her advanced degree, she was still interested in taking courses for her own professional development. She and I quickly developed a good rapport, and as the quarter progressed, we would share information and anecdotes regarding our respective research

and teaching interests. Jill was extremely interested in computer art, and her primary purpose for taking my course was to acquire computer graphics skills in order to be able to integrate computer art into the courses she taught at GWHS. GWHS is an inner-city public high school located in close proximity to Midwestern University. It is a magnet school with an exceptionally strong focus on the arts, and an extremely high percentage of students attending college after graduation.

During one of our many conversations, I mentioned that in addition to teaching her students paint programs and programs similar to Adobe Photoshop, she might want to consider introducing her students to net.art. I explained to her that net.art is a newer form of computer art in which the artist uses the Internet as their medium, and because some net.art draws heavily on pop culture, her students might find it intriguing. After showing Jill a number of net.art sites after class one evening, she expressed a great deal of enthusiasm for the work as well as the prospect of introducing it to her students. I gave her the URL for the Rhizome web site (<http://rhizome.org>), as Rhizome is a non-profit organization dedicated to supporting new media art and new media artists, and their web site serves as an excellent repository and archive of net.art and new media art. Therefore, I felt that the Rhizome web site would be a good place to start for someone who wished to learn more about net.art and become more familiar with existing work.

We agreed to stay in touch after the course ended. In addition to developing a friendship, she wanted to be able to consult with me in the event she did create a lesson or unit on net.art, and I was very interested to know how such a lesson or unit would be

implemented. Right before the quarter was over, she did introduce some of her students to net.art in a brief art appreciation lesson, and she shared their completed worksheets with me for some initial feedback.

5.2 Research Direction

During winter and spring quarters of 2001, I was giving serious thought to changing the direction of my dissertation research. I had passed my generals in July 2000, and shortly thereafter I had a meeting with the department chair of Art Education at Midwestern University to discuss my career options. He informed me that given my experience and expertise in the area of computer graphics, I would be most suited for a faculty position in instructional technology. I explained that I was not interested in such a position because I felt it had little or nothing to do with art or artmaking, which is what I am most passionate about. I then asked him if I had a reasonable chance in obtaining a faculty position in an art department, or an art education department. He replied that I did not, as I had an M.A. instead of an M.F.A., and I did not have at least two to three years of K-12 teaching experience. He then explained that it would be more worthwhile for me to try to obtain a position in art education, as he felt that would be less difficult to obtain than a position in art, and he recommended that I work toward earning my teaching certificate while completing my doctorate. This would then enable me to teach in the elementary or secondary level for two to three years, then apply for positions in higher education.

After discussing his recommendation with my family and my advisor, I went ahead and enrolled in the art education certification program at Midwestern University.

My plan, then, was to enroll in the courses required for certification in autumn quarter of 2000, and winter, spring and autumn quarters of 2001, and do my student teaching during winter and spring quarters of 2002, whereupon I would receive a 4-year provisional teaching certificate in the summer of 2002.

As a result of this decision, I felt that my dissertation should be more reflective of my immersion in K-12 art education. Previously, my dissertation proposal and my written portion of my general exam were more geared toward the field of Cultural Studies (cyberculture and visual culture in particular), with an emphasis on art and activism with the intention of exploring how net.art is a continuation of the activist art tradition. But because I had taken the appropriate steps toward becoming an art educator in a K-12 setting, I began thinking in terms of how my research interests might be of more benefit to a K-12 classroom teacher, particularly an art teacher at the secondary level. I knew I did not want my research to be primarily theoretical. While I still wanted to retain the theoretical aspects of my previous work vis-a-vis net.art, cyberculture and visual culture, I preferred that my research ultimately have a considerable amount of concrete, real-life classroom applicability. Thus, I began to consider research questions regarding how net.art could be taught, and integrated into a larger computer art and graphics curriculum.

I came to the conclusion that in order for me to obtain my data for my dissertation project, the ideal situation would be one in which I would teach a unit on net.art in an art classroom at the high school level. Therefore, I would have to find an art educator who not only would be willing to participate in my study, but would also be willing to let me instruct or co-instruct her or his class. Jill seemed like an obvious choice, for the following reasons:

- She taught at a high school that was in close proximity;
- She was planning to teach an art course devoted solely to computer art and graphics;
- She was very open to learning more about net.art and how she might include it in her future curriculum;
- She was interested in learning instructional strategies and methods on teaching net.art;
- She was open to the idea of another person coming into her classroom to teach, and;
- She had served as a cooperating teacher in the past, and therefore would be able to guide me in my own teaching practices.

I contacted her via phone and email during spring quarter of 2001, explaining to her my ideas regarding my data collection for my dissertation research, and asking her if she would be willing to let me into her classroom as a co-instructor to teach a unit on net.art. Fortunately, she was quite enthusiastic and willing, especially since she was in the process of developing a new course on computer art that was to be offered at GWHS starting in the autumn 2001 semester. After her initial agreement, we made tentative plans for me to come to GWHS to begin teaching some time during autumn quarter 2001, preferably in October, shortly after the quarter started at Midwestern University. At that point in time, we did not know for how long I would need to be at GWHS, and we did not discuss how long the unit would be.

5.3 Gaining Entry

My next step was to obtain and submit an Application for Exemption from the Institutional Review Board at Midwestern University. I submitted my application during

the first week of September 2001, and I was granted an exemption on September 24th, 2001. Two days prior to my meeting with Ms. Thatcher, my research proposal's acceptance was confirmed by phone. This gave me the opportunity to discuss with Jill what I needed to do in order to prepare for my teaching at GWHS before I actually began. We decided that four weeks was sufficient time to complete a unit on net.art, particularly if I was to come in and teach four days a week. I would teach at GWHS on Mondays, Tuesdays, Thursdays and Fridays (Wednesdays are "Internship Days" at GWHS, and all of the sophomores, juniors and seniors are at their internship sites instead of the school), and I would teach in one of the computer labs at GWHS for the entire eighty minute class period. We also decided that because Jill's lunch period was right after the class I would be teaching, this period would serve as an opportune time for our debriefing sessions. In addition, I stated that it would be necessary for me to complete a comprehensive unit plan in advance. And finally, we also discussed my role (or rather, a dual role), as well as our relationship in the classroom.

On one hand, I would be coming in from a privileged position, an "expert": a researcher getting her doctorate who has a considerable amount of expertise in the areas of net.art history and criticism, web page design, and computer graphics. I also had, by that point, six years of experience teaching computer graphics at the university level. Yet on the other hand, I was also coming in as a novice teacher, and thus, not unlike a student teacher (at least in the beginning), I would be relying heavily on Jill for guidance with regards to selecting and evaluating appropriate teaching methods, as well as managing and guiding a high school classroom on a day-to-day basis. Although I had taught several computer-graphics workshops for middle school and high school students and had

worked with children and teenagers in a variety of community settings, I had no formal classroom experience at either the elementary or the secondary level. Therefore, I had the dual role as an “expert” and a “novice,” or more specifically, “researcher” and “new teacher.” We both anticipated that there might be some tension between those two roles I would have to straddle. Since we couldn’t anticipate how that tension would manifest itself, we thought the best thing to do in the beginning would be to try to be as aware of it as possible and remain sensitive to issues that could arise as a result. We also agreed that while I would do the bulk of the teaching, grading, and developing teaching materials, Jill would assist me with classroom management, helping the students, and serve as a consultant on my teaching methods and materials in addition to engaging in reflection and debriefing.

Jill and I decided that I would come in, introduce myself, and observe the class on the following Thursday and Friday. I would then begin teaching the unit on net.art on Monday, November 26th, which would give the students a bit of extra time to finish up their current projects, as well as a chance to get accustomed to having me in the room. On Thursday, 11/22/02 and Friday, 11/23/02 I made informal visits to Jill’s classroom and observed the students in the computer lab. She was very generous in her introduction of me and my research project to her students (“we should feel very honored to have Ms. Colman here! We’re going to be looking at art that is totally cutting edge. No one has taught this in a high school before – this is really cutting edge stuff, and it’s really exciting that Ms. Colman chose our class!”) I also gave Jill a copy of a letter that explained my research, as well as a “Consent for Participation in Research” form, which she signed. Over the course these two days Jill also took time to show me around the

school, acquaint me with some of the school's policies and procedures, and introduce me to a number of other teachers. Over the weekend I composed my unit plan, the first two net.art worksheets, and a handout based on a video on net.art I intended to show on my first "official" day at my site.

5.4 Teaching Philosophy

At this point, I feel it would be beneficial to describe my teaching philosophy, as it would provide some insight into the approach I took when constructing and teaching my unit on net.art. I personally feel that the purpose of a scholar and educator is to find ways to bridge theory and practice. In other words, I place a lot of emphasis on the importance of finding ways to make tangible and act upon one's acquired knowledge in a thoughtful and meaningful way. For me, the purpose of education is to go beyond learning for learning's sake. The best use of education is a means to conduct one's life as a humane, committed and thoughtful human being who is not afraid to question assumptions and challenge established practices if they perceive such practices as unjust. I am an idealist in the sense that I perceive education as a force for good and positive change, and that education in and of itself has a great deal of intrinsic worth, as opposed to something that someone "must do" in order to get ahead.

Students may ask of themselves as well as the teacher, "why do we have to go to school? What is the purpose of us being here?" These are questions not to be taken lightly, and I feel that a progressivist philosophy attempts to address these questions in a way that makes a great deal of sense. According to Sadker & Sadker (2000),

progressivism is based on “the belief that lessons must seem relevant to the students in order for them to learn” (p. 410). This, of course, does not mean that the teacher’s lessons must revolve around Britney Spears, N’ Sync or Diablo II in order to appear relevant. However, it is necessary for the educator to communicate to the students the importance of learning by connecting their lessons to the realities of living in our 21st century world. In my opinion, this is a good way for the educator help students understand the importance of education. Also, it is true that students are beings who live in the world and are constantly required to make sense of the information they are constantly being bombarded with. In addition, an educator who incorporates the experiences and realities of the students is essentially saying to them, “your experiences matter – your experiences are meaningful – opportunities for learning can be found anywhere – learning is something that can be undertaken throughout the course of one’s entire life”.

Regarding the teaching of art, I think it is necessary to strike some sort of balance between the teaching of art criticism, art history and studio work. I also believe that integrating art into other subjects and vice versa is a good practice. Contemporary U.S. society marginalizes and romanticizes art and artists, and I feel that as an artist and educator it is necessary for me to examine this marginalization and romanticization and figure out how I can deflate these myths. The mainstream vision of artists characterizes them as “geniuses” and applies to them descriptions such as “loner,” “emotional,” and “temperamental,” working outside the periphery of society. According to this vision, artists’ work should enter the periphery only in galleries and museums, or as public monuments in a park or other public spaces. Many people are of the opinion that if art is to be “good” art, it must “rise above” the mess of politics and daily life and provide the

viewer with a transcendental experience. With this vision in mind, it is not exactly surprising that art is seen as a luxury and a frill. I am willing to guess that most people in contemporary U.S. have not had the chance to ponder the meaning art has for them in their daily lives; either they take it for granted, or opportunities for such pondering are not often made available to them.

Therefore, I feel I have the responsibility to try and help students understand why and how art is relevant to their lives, such as trying to find out what is relevant in the students lives in general and then developing a curriculum around it, or working with “big ideas” that students can relate to and think deeply about. I also feel that it is necessary to incorporate in my lessons the work of artists who are not in the mainstream. In addition, a wide range of art forms should be taught, not just painting and sculpture. As an artist, I also feel strongly that studio work ought to be an integral and meaningful component of an art curriculum. I can attest to the immense pleasure of working with different media and the satisfaction of problem solving through art making, and therefore this is something worthwhile for students to experience. In addition, I believe studio activities will contextualize and make real the ideas and concepts they are expected to internalize. In other words, such activities can give the students further insights regarding what artists actually do.

5.5 Week One

On Monday, November 26th, I was given the opportunity to introduce myself to the class and explain the protocols of the study to the students. I handed out to each of them a letter which explained my research project, as well as a “Consent for Participation

in Research” form, which the students and their parents or guardian were to sign if the student was under the age of 18. After this initial introduction, I went around the room, introduced myself to each student individually, wrote down their names, and asked them to show me what they were currently working on. I also asked each of them how much, if any, experience they had in building web pages. Two of the students knew HTML, and one of these students had built a personal web page “from scratch.” Four students said they knew how to use FrontPage but had not created their own web pages with it, and six students said they had a “pre-made” web site through blackplanet.com. After my individual introductions, I began to take notes on the demographics of the class, as well as the set up of the computer lab (include picture or map of the room). The demographics of the students in the class were as follows:

- 29 students were enrolled in the course
- 28 students were willing to participate in the research project, 1 student refused immediately
- 19 female students, 10 male students (9 male students participating)
- 4 freshmen, 8 sophomores, 3 juniors, 13 seniors (12 seniors participating)
- 15 African-American (14 African Americans participating), 14 white

On Tuesday I began the unit by showing a video by UC Berkeley graduate student Jason Springarn-Koff titled Net.art: A Video. I also provided the students with a handout that listed the net.art pieces shown in the video, the artists, curators and historians interviewed in the video, and a few “quotable quotes” from the video. The purpose of

this was to ease the students into the unit, and give them an introduction to what net.art is, who is creating it, and the kinds of issues it raises in the minds of artists who work with it and the theorists and art critics who examine it.

After I showed the video, the students resumed their work, and I continued to observe the class. I also tried to pay more attention to Jill's teaching style and classroom management techniques. I also took notes on the appearance and the available equipment in the room, which included the following:

- 28 IBM PC (Dell) Computers, which were lined up against all four walls of the room
- One IBM PC (Dell) Computer, which served as the teacher's station
- One overhead projector, which was hooked up to the teacher's computer
- One scanner
- One black-and-white dot matrix printer
- One black-and-white laser printer
- One TV and VCR
- One fan
- One file cabinet
- Several examples of student work on the walls
- Worksheets from other classes tacked onto the walls

When the class period was over, I noticed that a large number of students had left their handouts at their computers, without bothering to keep them. During our debriefing session during lunch that same day, I mentioned this to Jill. She replied that the students often do leave their worksheets in the classroom, or throw them in the garbage if they don't see them as necessary. Another teacher in the lounge added that it is extremely

frustrating when you work hard on creating good handouts and worksheets, only to have the students neglect them. I wondered to myself what I could have done differently in order to have the students pay more attention to the video and not throw away their handouts.

I also showed Jill the first worksheet I planned to give to the students for her approval. She did not see any problems with the worksheet, and she felt the questions were sufficiently interesting and thought provoking. The questions on the worksheets were primarily descriptive or interpretive in nature, in that they were formulated to prompt the students into describing what they see, and drawing conclusions about what they think the work means, or what they think the artist is trying to communicate.

On Thursday, November 29th I began with the first of four art appreciation/art criticism lessons in which the students were to navigate around a net.art site and complete a worksheet. The criterion I used to select the net.art pieces for these four lessons are as follows:

- The piece could not contain any inappropriate language, violence, or sexual content
- The piece could not be overly conceptual and difficult to understand
- The piece had to have a certain amount of visual appeal
- They could not take significant time to download

- I did not want to choose pieces that utilized Shockwave or Flash, as the students are not permitted to download the plug-ins for these software packages
- I wanted to choose pieces with themes that the students could possibly understand and/or relate to

The net.art pieces I selected included:

- Incubus (URL not given for purposes of anonymity) – artist: myself
- The Multicultural Recycler (<http://recycler.plagiarist.org/>) – artist: Amy Alexander
- Maintenance Web (<http://www.thing.net/~m/>) – artists: Kevin and Jennifer McCoy
- My Boyfriend Came Back from the War (<http://www.teleportacia.org/war/war.html>) – artist: Olia Lialina

For the first lesson, I used the net.art piece Incubus, a piece I had created in 1997.

The reason I chose to show this piece first was that since I had created it, I would be able to explain to the students in significant amount of detail both how and why it was created. I had anticipated that in the beginning the students would have a lot of questions about the piece, as well as net.art in general, and therefore I felt it would be a good idea to begin with a piece I was extremely familiar with. Also, the piece itself is not highly conceptual, and because of its storytelling qualities, the user navigates through the piece linearly (instead of randomly). Therefore, I felt this piece would be somewhat easier to understand than the other three.

I began the class period by greeting the class and asking them all to turn off their monitors and turn towards me. After they were quiet, I explained that for their first lesson

they would be looking at and navigating through a work of net.art, and they would complete a worksheet with four open-ended questions regarding the work. I told them that I would be writing down the URL on the overhead, as well as reading it out loud, and they would be given approximately ten to fifteen minutes to look at the piece. After the ten to fifteen minutes were up, I would then give them a short presentation about the piece, and when the presentation was finished, they would be given a worksheet to complete. I told the students that they would have until the end of the class period to complete the worksheet, which was when it was due.

After my introduction was over, I told the students they were permitted to turn their monitors back on, and that they were to open up an Internet browser of their choice. I then went to the overhead, wrote down the URL for Incubus, and read it out loud. I circulated around the room, making sure the students had typed in the URL correctly, and that the first page of the work appeared. Once it appeared that the students were all set to go, I went to the front of the room to take care of some paperwork. Several minutes later, I looked up and I noticed that quite a few students were still on the introductory page, and a number of students had gone to other, unrelated sites. This puzzled me, as the design of the Incubus introductory page is very minimal and has only one link. At the time, it was puzzling to me because the link is embedded in the one image rollover in the center of the page. While it is not immediately obvious, this image is the link that would take the user to the next page, the text indicating the URL of the linked page appears in the lower left hand side of the browser when the user places their mouse over the image (or in the case of Incubus, a line of text replaces the URL).

I walked around the classroom and asked the students who were still looking at the first page why they were still on the first page, and if they were doing alright. The students' responses consisted of "I don't know what to do," "I don't understand this page," "this is confusing," "I don't know where to go to click on the link," "I put my icon over the image and it changes, but it doesn't take me anywhere," or "I don't understand this." The students who were looking at another web page instead of Incubus would reply that they didn't understand what to do, so they gave up. Both Jill and I spent about fifteen minutes helping the students who needed assistance, after which I gave a short presentation on Incubus. I explained to the students that I was the one who created the piece, and then I continued by describing the ideas I had in creating the work, as well as the process I went through in order to put the work together coherently. After my presentation, I handed out the worksheet to the students, reminding them that they were due by the end of the class period and that they should come to me or Jill if they had any questions. At the end of the class period, the students who completed their worksheets turned them in.

During the debriefing session after class, I asked Jill why the students might have found the web site as confusing as they did. She was also a bit surprised as well, as she perceived her students to be quite internet savvy, and she did not anticipate that they would not be able to figure out how to navigate around Incubus. Her feeling was that although the students were very familiar with the Internet, net.art was still something very new to them, and therefore it might not be safe to assume that they would

automatically know what to do. She then reassured me that she felt the day's lesson went well overall, and that in future lessons I should not hesitate to circulate around the room as much as possible in order to assist students who need help.

The following class session, I introduced the students to the net.art piece Multicultural Recycler, by new media artist Amy Alexander. I wrote the URL on the board, and described the website briefly to the students. I also asked the students if they knew what a webcam was, and if they had any notions about how a web cam worked. A few of the students nodded their heads; I asked one student who nodded to try to explain to the rest of the class what a web cam was, which he was able to do satisfactorily. After this brief, beginning-of-class discussion, I handed out the accompanying worksheet to the students and informed them these worksheets were due by the end of class.

During the class period both Jill and I circulated around the room to help students who needed assistance, and to keep students on track who were browsing the web and using Instant Messaging (IM) to chat with their friends and acquaintances. The majority of students did not know what "surveillance" meant, and I had to explain what it meant, as well as what it had to do with the piece. I also had to explain to a number of the students in greater detail what a web cam is, how it works, and how Alexander used various web cams in various locations in her piece. Most of the students needed help navigating around the piece, and needed help finding all of the pages in the work. One student who I spoke with during the class period mentioned that she liked Multicultural Recycler much better than Incubus, saying that the Multicultural Recycler was "really different, it's cool." Jill also spent a considerable amount of time with one particular student who was visibly frustrated, as she was having a lot of difficulty with the Recycler

piece. As Jill explained later, the student was frustrated because she couldn't understand the work – she was not able to get started with looking at the work, and was not able to navigate around the work in such a way that made sense to her. Jill was able to sit with the student, calm her down, and help her navigate around the site.

Another thing Jill and I made a point of doing during the class period was asking various students what they personally considered art to be, i.e., “what is art?” The students most often replied with an answer that referred to the materials, such as “art is something you make with paint (or clay, or charcoal, etc.)” Another common answer was that art was “something you made,” or “something you made with your hands.” When asked if art can be made with a computer, the reactions were mixed. Some students felt that it was art, without reservations. Other students were more ambivalent about the artistic potential of the computer, especially when compared to the use of more traditional art making materials. By the end of class, the majority of students had been able to complete both of the worksheets, although there were a handful of students who had not been able to finish either of them.

I spent the weekend grading the two sets of worksheets, and the results were relatively poor. It is evident that the students did not take much time to complete the worksheet, and that they did not put much thought into their responses. At the time, I thought it was a little strange, because although many of the students expressed having some difficulty navigating and understanding the works, they did not ask for help with regards to the worksheets and they did not indicate that they did not understand the questions. On the Incubus worksheet, the initial grades ranged from 7.5 (out of 20) to 15.5, with most students receiving between 10 and 13 points. 24 out of 28 students

turned in the worksheet. Despite the worksheet questions being what I believed to be thought provoking, nearly all of the students wrote one or two sentence responses to each question, and most all of the responses were superficial, with a few exceptions. The students did not do much better on the Multicultural Recycler worksheet. Out of 21 students who turned in a worksheet, the lowest grade was a 6 (out of 20) and the highest grade was 17.5, with most students receiving a grade between 12 and 15. Most students got a similar grade on their second worksheet as they did on their first worksheet, with a few exceptions.

At the time, because I was a novice teacher, it did not occur to me that I was not taking an adequate approach regarding introducing the material to the students and making my expectations clearer. It also did not occur to me at the time that my classroom management skills were insufficient. Instead, I interpreted the students' lackluster performance on their worksheets as a lack of interest, or as an unwillingness to put forth significant effort into the class.

5.6 Week Two

The next class day, Monday, December 3rd, I introduced the students to the third net.art piece, Maintenance Web. I followed a procedure similar to the ones I used with the other two pieces, where I gave a brief (5 minute or so) explanatory introduction to the piece on the teacher's computer and overhead projector setup, and handed out the accompanying worksheet. I told the students that as always, the worksheets were to be completed by the end of the class period. Once my demonstration and explanation was

completed, I handed out the worksheet and the students settled down to work. Again, many students had to be urged not to surf the web or use Instant Messaging, and to stay focused on the assignment.

About halfway through the class period, I began handing back the students' papers. Shortly after I finished, one student called out to me that he couldn't understand why he got such a low grade on his paper. I went over to the student, looked over his answers, and began explaining to him why he got such a low grade. The student protested, saying that he couldn't understand why he got such a low grade, as he "answered the questions." As the student's protestations became louder, other students in the vicinity began to take notice and began to protest their grades as well. Most of these students also could not understand why they received the grades they did, and their reasoning was similar, if not identical to the first student's: that they "answered the questions" and they "didn't think they needed" to answer the questions in any great detail. Several students became emboldened by the outburst on the part of the first student, and they became loud and disrespectful in their protestations.

By this point, the entire class had stopped their work and was instead focused on the outburst. A few students felt encouraged enough to act in an outright confrontational manner. They began raising their voices at me, protesting their grades, insisting that they did not deserve such low grades, that they did the work required of them, and that they were "trying to get into college." Other students who were not joining in the protestations began giving me hostile looks. One student who was able to remain calm approached me and explained that she, as well as most of the students in the class, had never taken a course where they engaged in art criticism. She went on to explain that

most of the students probably felt that they did the best they could, and that they didn't really know what I wanted, or how to approach the questions in the way that met my expectations. She said that while she understood my point of view, that many of the students had to make more of an effort, begin taking the assignments seriously, and ask for help when they needed it, she felt that she had done the best she could given the amount of instruction the class received and therefore did not deserve the grade she got. Needless to say, I appreciated her response much more than the other students'. One student actually got out of his chair to confront me face to face. Both he and I became so agitated Jill had to insist that we continue our conversation outside in the hallway. This particular student felt that because the class was "just an art class," the students shouldn't be expected "to do writing assignments," especially ones that were "graded so hard." Out of all of the students in the class, his reaction was particularly nasty.

I was completely shocked, overwhelmed and completely unprepared for this turn of events, despite the fact the students' reactions mirrored one of my biggest teaching fears: that I would be ganged up upon by an unruly and hostile group of students. For the remainder of the class I had to struggle to hold back my tears. After class, to my chagrin, I burst out crying. Jill was extremely sympathetic, and reassured me that the students acted completely unacceptably and that she would make sure that this kind of behavior would never be displayed again. She also asked me if I wanted her to call some parents in the evening, and I said yes. Finally, she said that she would begin class the following day instead of me, and that she would reprimand the class as a whole at that time.

During lunch, we both agreed that perhaps I needed to change my approach with regards to how I was presenting the material and assigning the worksheets. Jill felt that

although the worksheets looked fine to her at first glance, perhaps they were too hard for the students, and that I needed to explain them in more detail. She also said that it was true that most of the students did not know how to engage in art criticism, and that they needed more of an explanation with regards to how to approach answering the worksheet questions. I agreed with her, and that I felt that I should give the students some guidance on how to elaborate upon their initial responses in a meaningful way. I also felt that the students should be given the opportunity to redo their worksheets for a higher grade, and Jill agreed. We both decided that after Jill got the class started, I would take over, and explain with much greater detail my expectations for the worksheets. We thought that I should explain to the students what I mean when I want the students to “elaborate” on their answers. In addition, we also agreed that I needed to reassure the students that both Jill and I would work much more closely with all of the students to make sure that their responses on their worksheets were of high quality. Finally, Jill reminded me that she wanted xerox copies of the students’ worksheets so she could record their grades in her grade book.

Later that evening, while I was reflecting over the day’s class, I concluded that I had made too many assumptions with regards to what the students knew about art, the Internet, and art criticism. Although I wasn’t sure how the information would help me at this point, I decided to go on my current hunches regarding the students’ level of knowledge, and make a questionnaire for the class to fill out the following day. That night I created a questionnaire that asked the following questions:

- Have you ever taken any art criticism classes, or art classes where you learned how to criticize and/or analyze art? If so, how many courses did you take?

- What Internet sites do you use, when you use the Internet? (i.e., Instant Messaging, email, Web, chat rooms, Multi-User Dungeons, etc.)
- What sites do you usually visit when you use the Web? Which are your favorite sites?
- What do you use the Internet for? (i.e., entertainment, homework or other educational purposes, general information gathering (such as checking the weather, sports scores, news), shopping, socializing, playing games, etc.)

The next day, I felt extremely nervous and apprehensive. Jill began the class by calling them to attention and having them turn off their monitors. Although it was apparent she was somewhat uncomfortable with confronting the students, she announced that she was very disappointed by their behavior (“I am *embarrassed!* You know better than to act like that. This is GWHS!”) the previous day, that she never wanted to see them act that way again, and that she felt that several of the students owed me an apology. She also said that while she understood they were frustrated with their grades and that they did not realize that they needed to put more work into their worksheets, they were responsible for expressing their frustrations, questions and concerns in a calm and respectful manner. She also said that she and I had discussed the worksheet assignments at length, as well as how they were being presented, and that we would be making changes to both future worksheet assignments and future presentations regarding the worksheets. She then turned the class over to me.

I began my presentation by stating that while I agreed with everything that Jill stated, and I too was disappointed by their behavior, I felt that several of their concerns were valid. I informed the students that I would indeed take their concerns into consideration when creating the fourth worksheet, which I would be assigning on

Thursday. I also stressed to the students that if they had any questions regarding the worksheets, both Jill and I would be very happy to help them to the best of our abilities. I reassured the students that both Jill and I wanted everyone to get a good grade and succeed in the class, but their success depended on their willingness to cooperate and ask for help when they felt they needed it. I told the students that they would also have the opportunity to redo their previously assigned worksheets for a higher grade.

I told the students that one of the things I wanted them to do on their worksheets was to elaborate upon their answers as much as they possibly could. I gave the students some guidelines on how to elaborate upon their answers, such as describing the specific parts of the work they were referring to (and being much more specific with their answers in general), or asking themselves when they wrote down their answer, “what led me to this conclusion?” I also read a question aloud from the worksheet I had assigned the previous day, and described an answer that needed elaboration and how it could be elaborated upon, as well as the kind of answer that needed no elaboration.

I then concluded my beginning-of-class announcement by telling the students that they had the whole class period to work on the worksheet I had given them the previous day, and that it was due by the end of the class today. I also told the students that I had created a short questionnaire for them that I felt would help me better understand what they know and did not know regarding art criticism, as well as how they use the Internet. I informed the students that if they finished their worksheets before the end of the class period, they could complete the questionnaire.

Thankfully, the class period went smoothly. The students seemed subdued, the ones who were particularly vociferous were contrite, and one student whose parents Jill

had called the previous evening even presented me with a letter of apology. The students were also much more willing to ask questions about the questions on the worksheet, and I had thought of analogy that seemed to increase their understanding. I suggested to the students that they approach net.art as they would a book, or a novel. I explained to them that in order to really know what a book is about and be able to appreciate it, you have to read the whole thing, not just a page or a chapter. The same holds true for net.art in that in order to understand what the net.art work is about, it helps to look at all of the web pages it contains, not just a few that contains the information they think they need. By glancing at the students' papers toward the end of the class period, I noticed (and was gratified) that a number of the students' worksheet responses were considerably more lengthy than their answers in previous worksheets. By the end of the class period, fifteen of the students had handed in their questionnaires.

During lunch, I thanked Jill for the announcements she made at the beginning of the class, and that I was grateful for her support. She replied that it was no problem, and that the students should not have behaved in the manner that they did. She said that she called the parents of a few of the students who were particularly vociferous, and she was able to speak with two parents, one of whom was "absolutely livid" when hearing of his child's behavior. This was the parent of the student who gave me a letter of apology. After discussing this for a while, Jill mentioned that it can sometimes be difficult introducing students to challenging work, and she referred to abstract art as an example. She explained that many students don't like abstract art because they are unable to understand it, and when students don't understand something they will often "feel

stupid.” Obviously, students (as anyone else) don’t like feeling stupid, and therefore she has a hard time getting students to appreciate “something that makes them feel stupid.”

I then asked her what she did to help her students appreciate and understand abstract art. She replied that she will often teach a lesson on the principles of art and design as part of a larger unit on abstract art, which provides students with a knowledge base along with the vocabulary they need to be able to describe, interpret, analyze and judge abstract works. I told her I liked her approach, and I asked her if it has been successful in the past, and she said that it usually was. I then posed the question, “do you think introducing the principles of art and design to the students would be helpful in acquainting them to net.art? Would they help the students analyze net.art?” Neither of us thought they would, as there are a number of formal elements of net.art that other traditional forms of art do not share. We sat and brainstormed for a bit, thinking about the elements of net.art that a teacher would have to explore with students in order to enable them to understand, analyze and participate in the work more fully. We came up with the following elements:

- The element of time. In other words, it takes time for the viewer/user to go through all of the different web pages contained within the work. Are there a large number of pages, which takes the user a considerable amount of time to navigate through, or are there are small number of pages? What sort of pace is the viewer expected to use when navigating through the work? Does the piece slow the user down, or require her/him to go through the pages relatively quickly?
- The navigational element. Is the work linear? Is the work circular? Is it completely random? Is there a particular order or sequence in which the user is to navigate

through the pages? Is it relatively easy to figure out how to navigate through the work, or is it difficult? If it is difficult, did the artist intend it to be difficult? Does the user navigate the work through text, images, or both?

- The text element. What is the function of the text in the work? How does the text function in the work? Are the boundaries between text and images blurred (ASCII art, for example)?
- The images. What is the function of the images in the work? How do the images function in the work? How do the images appear to have been created?
- The combination of text and images. What is the relationship between the text and the images in the work? Is the work primarily text-based, image-based, or is there a relative balance between the two? How do the text and the images create meaning in the work? Does the text function in a manner similar to the images with regards to aesthetics? How does the background color and/or images and the color of the text contribute to the meaning of the work? Is the text explicitly aesthetic, or do the images serve as the primary aesthetic dimension? What is the relationship between the images? What is the relationship between the text elements?
- The impact the user/viewer has on the work. Is the work static and unchanging, aside from updates completed by the artist(s)? Or, does the user have an impact on the work in such a way that it adds or subtracts from the work as a whole? Or, does the work simply change over time? Can the user/viewer change or impact the work in such a way that subsequent users will experience the work somewhat differently?

- The interactivity of the work. Are users able to interact with each other in real time in the work? Are users given any opportunity to interact with each other in the work?
- Are the viewers' experiences with the work relatively constant, or does each viewer experience the work a bit differently based on the type of interaction they have with it? To what degree?

She then continued our conversation by mentioning that she showed the worksheets we had been using to one of the English teachers at GWHS, and that the English teacher felt that the questions I had been asking them were indeed much too broad. Jill explained that the English teacher stressed to her that when giving students essay questions on either tests or worksheets, the questions must be completely explicit and “spelled out.” Thus, if the students are given broad, open-ended questions without much (or any) explicit directions or guidance on how to answer them, the students will almost always give vague, shallow, and unsatisfactory answers. According to the English teacher, it is very likely that our students genuinely felt that they answered the questions to the best of their ability. The English teacher also recommended that for future worksheets, Jill and I make our expectations completely and totally clear. So, Jill and I decided that for the fourth (and final) net.art worksheet, I would have to take a different approach. She recommended that I create the fourth worksheet with two questions instead of four, and that I also create a much more detailed rubric that outlined my expectations regarding how I wanted the students to answer the questions.

That evening and the following day (which was Wednesday, so I didn't have to go to GWHS), I worked on the worksheet and rubric for the final net.art piece, Olia Lialina's My Boyfriend Came Back from the War. As Jill recommended, I created a new

worksheet that had two questions instead of four. I also created a rubric that described in detail how I wanted the students to answer the questions. The rubric was comprised of three pages: one page which gave an example of what I considered to be an “A” answer, one page which gave an example of what I considered to be a “C” answer, and one page which gave an example of what I considered to be an “F” answer. For each example I also included a bulleted list which explained why each answer would earn the grade I assigned to it.

I also created answers based on Lialina’s piece, figuring that they would give the students some ideas with regards to what to expect when looking at the work. I was a bit concerned that the students would give answers that were too similar to the “A” example I provided, so I made a mental note to myself to explain to the students that I did not want them to try to copy the answer I provided for them. I also reminded myself to tell them that Lialina’s piece is quite complex and open to a number of interpretations, and that they would see in the work a lot more things to write about than what I provided in my examples.

The following class day I informed the students that they would be looking at the fourth and final work of net.art this class period and that I had created a detailed rubric along with the worksheet, which they would receive. I also informed the students that I would be going over the rubric with them, to make sure they understood the requirements for the assignment, as well as providing them with the opportunity to ask questions if there was anything about the assignment or the rubric they didn’t understand.

As I began reading from the worksheet, one of the students blurted out, “we know how to read!” I replied that I knew that they knew how to read, but that the only way I

could make sure that everyone in the class understood the assignment and the rubric was if I read it aloud and the rest of the class follows along, asking questions when needed. As I went through the rubric and the worksheet, I would stop periodically to ask the students if they had any questions, or if there was anything they were unclear about. I reminded the students that they should not feel compelled to try to copy the answers on the rubric I provided, as I did not include all the various components of the piece in my answers. I also told the students that the piece was also relatively complex and that they may have a completely different perspective on the piece than I do. I reassured the students that I was not necessarily looking for “right” or “wrong” answers; I was looking to see if they could elaborate on their perceptions and support their opinions with examples from the work. I finished my lecture with a reminder that the worksheets were due by the end of the class period.

Once I finished my introduction and lecture, the students were given the rest of the time to work on their worksheets. As Jill and I circulated around the room and assisted the students, we noticed that they seemed to be more comfortable navigating around the work, and the questions they did have regarding the work were much more specific and much more oriented toward the actual content of the work. Jill and I engaged in a handful of separate discussions with several of the students regarding what they interpreted as the narrator’s unfaithfulness, and the nature of the relationship between the narrator and her boyfriend. Towards the end of the class period, Jill took me aside and asked me if it was okay if one of the students took the worksheet home and completed it for homework. I said it was okay, and I asked why the student needed the extra time. Jill replied that this particular student was strongly impacted by Lialina’s work, as she had a

boyfriend who was in the military, as well as family members who were either currently serving or had served in the military. She explained that the work had made the student “a little emotional” and that she wanted to be able to collect her thoughts and do as good of a job on the worksheet as she could. I told her that it was very gratifying to me to hear that a student was moved so strongly by one of the pieces, and that it was acceptable if she needed an extra day. The class period ended smoothly, with most of the students turning in their worksheets.

During lunch, both Jill and I both agreed that the day’s class had been very successful, and that the approach I took made the assignment much more understandable for the students. Jill noted that the rubric was particularly helpful for the students. She felt it gave the students a much clearer idea of my expectations, it gave them some idea beforehand what to expect when looking at the work, and it gave the students much more guidance on how to answer the questions on the worksheet. We also talked about how it was very apparent that the students were much more enthusiastic about Lialina’s work compared to their reactions to other three pieces, and that we were really excited by the amount and quality of the students’ discussions with us when talking about the work. We wondered if the students enjoyed the piece because they felt more prepared by the rubric, or that they had looked at net.art before and therefore had a better idea what to expect and a higher tolerance for “not getting it” right away. We also considered the possibility that the theme of the work (love and relationships) was simply more appealing to teenagers, and while the work itself could not be characterized as straightforward, the navigation was not difficult to figure out and the story was compelling.

While we were eating, we read over the completed worksheets, noting that on most of them the answers were more thoughtful and in-depth in comparison to the answers in the previous worksheets. All in all, we were very happy and encouraged by the students' performance that day, as well as feeling satisfied with how we had tackled the problems posed by the student's lack of understanding and the frustration that resulted. Toward the end of the lunch period, Jill and I decided that following day (Friday) would be a catch-up day for students who did not finish their worksheet, and the students who still had unfinished work from previous units. We also decided that I would introduce to the students the lesson on how to create a web page the following Monday, and I would begin giving demonstrations on how to use Netscape Composer, which the students would be expected to follow.

The following day I explained to the students that today was a catch-up day. They would be able to work on all of their unfinished worksheets, as well as work from previous assignments they had not yet completed for Jill. I then explained to the students that the art criticism component of the unit was coming to an end, and that I would be starting the next component of the unit the following Monday, where I would be showing them how to create web pages using Netscape Composer. I told the students that I was aware that there were a few of them who already knew how to use FrontPage, and the ones who knew it would be able to use it for their final project. Nevertheless, they would still be expected to follow along with the demonstration, and if it was too rudimentary for them, they would be expected to assist other students who were having difficulty. I also explained to the students that toward the end of next week, I would be assigning their studio project, where they would be creating their own net.art. I reassured the students

that I certainly did not expect them to create anything nearly as complex as the work they had been exposed to over the past two weeks, and that I would be teaching them enough to create something interesting to look at and navigate through. Finally, I informed the students that I would also begin interviewing towards the end of the following week.

I spent the weekend grading the students' worksheets and preparing for my Netscape Composer demonstration. I was extremely pleased with the overall quality of the students' work, as it was apparent that they had spent much more time on their worksheets. Their responses were, on the whole, much more thoughtful and insightful in comparison to the work they had done on their previous worksheets. While putting together my demonstration on Netscape Composer, I decided I would demonstrate the following techniques:

Day one

- How to place text on the page
- How to change the size of the text
- How to bold, underline, and italicize text
- How to align text left, center and right
- How to place an image on the page
- How to center-align and right-align an image
- How to wrap text around an image
- How to change the color of the background
- How to create linked text

- How to remove a link
- How to create a linked image
- How to remove the border around a linked image

Day two

- How to look at a page in a browser
- How to use an image as the background
- How to change the color of text
- How to change the color of linked text
- How to change the color of visited linked text
- How to create blinking text
- How to create tables
- How to change the colors of table cells
- How to insert an image in a table cell

5.7 Week Three

On Monday, December 10th, I began class by explaining to the students the procedure I planned to use for the demonstration. I told the students that I would be giving my demonstration at the teacher's station, which would be projected onto the screen at the far end of the wall. They would be given a choice, depending on their learning preferences: they could either work at their computer and follow along with the demonstration, or they could sit at their computers, watch the demonstration, and take

notes. I also reassured the students that I would be demonstrating very slowly, I would be describing out loud what I was doing on the computer step-by-step, and that I would be stopping frequently to make sure that everyone in the class was following along and not being left behind. I asked the students if they had any questions before we all began; after I answered a few of the students' questions, I told the students that we were ready to begin. I turned off the lights, told the students to turn on their monitors, and instructed them to look on the desktop and find the Netscape Navigator icon. I told them to go ahead and double-click on the icon, which would open the browser.

While the students were opening up the program, I went to the teacher's station, turned on the overhead projector, and opened up Netscape Navigator. Before I began, I announced that I was ready to begin, and if there was anyone who was not able to open Netscape to please let me know immediately. The next step was to have the students open up Netscape Composer, and I demonstrated for them how to do this, describing my steps out loud. After I showed the students how to open up Netscape Composer, I asked them if there was anyone who was not able to open Composer, and if there was, to let me know right away so I could come around to help. This time there were a number of students who said they needed help, because they couldn't find the menu item that would allow them to open Composer.

As I went around to help the students, I realized, to my dismay, that different computers had different versions of Netscape on them. Roughly half of the computers had version 4.7 on them, which was the same version I had on the teacher's station, about one-third of the computers had a more recent version (6.0) of Netscape, and the rest of

the computers had an earlier version (4.0) of Netscape. The students who were at computers with Netscape 4.0 were unable to access Netscape Composer, as it is not available in that version.

I had to think fast. I felt there would be too much confusion on the part of the students if I was trying to teach to two different versions of the same program. By this time, the students had lost their concentration and were chatting amongst themselves. I called for quiet, and when the students quieted down, I announced what was going on. I told the students that different people had different versions of Netscape on their computers, and that I felt it was important for everyone to have the same version of Netscape because it would make it easier for everyone to follow along. Therefore, I wanted everyone in the class to use version 6.0, as it was the most recent version available. I then told the students that those who already had version 6.0 on their computers would have to sit tight for a few minutes, while I demonstrated for the rest of the class how to download version 6.0 from the Netscape web site. While the students who already had version 6.0 on their computers sat and surfed the web, I gave a demonstration for the rest of the class on how to download and install Netscape 6.0 onto their computers. After I demonstrated, both Jill and I went around the classroom and consulted with each individual student to make sure their download and installation was successful.

The demonstration, which began halfway through the class session, went relatively smoothly. However, I was not able to demonstrate all of the techniques I had planned for the first day. There was also a wide disparity regarding the comfort levels of the students being able to understand the concepts and techniques I was demonstrating. A

few of the students seemed extremely comfortable with the demonstration; not only were they able to follow along easily, they did not need any extra assistance from me or Jill, and they were also comfortable enough to move ahead and begin experimenting with the program. These particular students also had a tendency to ask “how do I ...” questions regarding techniques I had not yet demonstrated. The majority of the students were able to follow the demonstration relatively well, as long as I circulated around the room regularly during my demonstration to answer questions and to make sure the students were able to follow along. There were also a few students for whom it was difficult to keep up with the demonstration, and Jill had to sit and work with them on an individual basis throughout my demonstration, while I also helped them when I could.

During lunch, I expressed my consternation to Jill regarding the situation that occurred regarding the different versions of Netscape on the different computers. She said yes, it is annoying, but when working with technology, sometimes the best you can do is be flexible and roll with the punches. I agreed with her, but only halfheartedly. I told her I know that things do happen when working with computer technology – computers crash, equipment breaks, students reconfigure the software, and so forth. On the other hand, I said that I was kicking myself a little bit for not anticipating this sort of scenario, and that I should have inspected the computer beforehand. I then told her that I was also a little concerned because I did not have the opportunity to demonstrate all of the techniques I had planned to that day, and therefore I wasn’t sure if the students would be ready by Thursday to begin their net.art assignment. I didn’t want to assign them the net.art project any later than Thursday, because I wanted to give them sufficient time to work on it.

Jill replied that I should not to worry too much about not being able to demonstrate everything, because the students will have many opportunities to become familiar with Composer while they are working on their project. She felt that they would know enough to at least get started on their projects, and if they had specific questions on how to do something, they would be able to ask either her or myself. Jill also suggested that if it was okay with me, she would be willing to extend the due date for the project so the students would be able to work on it after they came back from winter break. She reassured me that she felt comfortable enough with the software to be able to assist the students, and she would also give me their disks with their projects after the semester was over. I said that would be fine, as this would take a considerable amount of pressure off of everyone involved.

Our next topic of discussion during lunch was the net.art project. For the remainder of the lunch period, Jill and I talked about what we felt would be suitable requirements for their final project. We sketched out ideas for a rubric, such as the minimum number of pages their net.art piece should contain, guidelines on the content, what particular techniques should be evident, and guidelines for the images, if they chose to use them. Jill was very adamant that the students be required to create their own images from scratch, and that they should not be permitted to take any images off the internet. She continued by explaining that her students will take images off the internet at every given opportunity instead of creating their own images with a paint program, or scanning in something from a book, magazine, or an artwork they created in another medium. Therefore, she said, it was very important that the students be broken of the habit of downloading images off the Internet.

I agreed with her strongly, and I mentioned that as long as we were on the topic of the students' inappropriate use of the Internet, I was wondering if there would be a way to block the students' internet access, at least on a temporary basis. I told her that while it always bothered me that the students engaged in Instant Messaging and surfed the web during class instead of working on their assignments, I felt that at this point it was imperative that the students stay focused on their assignment without any distractions. Jill agreed that the students were spending too much time with their Instant Messaging and web surfing, and that there was a way to temporarily shut off Internet access in the computer lab. She mentioned there was a switch on the hookup system on the wall which can be turned on and off at the teacher's discretion. She was very cautious, however, because she felt that the students will "throw a fit" if they knew that we intentionally turned off their Internet access. Therefore, she suggested that if we do shut off the Internet, that we do it without the students' knowing, and when they try to get onto the web we should simply tell them that the network is down. I said that she was right, if we tell them we are shutting off their Internet access the students will get mad, but they wouldn't stay mad forever. Plus, I felt that the students needed to know that we did not find their lack of focus acceptable, and that they need to be aware that class time is work time, and there are consequences if they do not adhere to class rules. Jill replied that although she agreed with me in theory, she said that it simply was not worth the confrontation, and that she would prefer to shut off the Internet while the students were unaware. I replied that it was fine, I was willing to defer to her judgment, and that if she wanted to turn off their Internet access tomorrow before class started, that was alright.

The following day, Jill made sure to come to class before the students arrived, and she shut off the Internet access in the lab. I told the students that today would be another day of demonstration, and that I would do my best to show them how to do everything I had planned. I also informed the students that I would be giving them their net.art assignment on Thursday, and that I strongly recommended that they think about a topic or theme for their piece. Finally, I also informed the students that Jill had requested that they do not use images from the Internet for their project, and that I agreed with her. Therefore, I suggested that they begin thinking of alternative ways to include images in their piece, once they had thought of a theme.

One student raised their hand and asked, “where will we get our images, then?” I replied that they had several options. They could create their images from scratch using a paint program, they could scan photographs or pictures from magazines or books and manipulate them in a photo manipulation program, or they could create images using another medium, such as paint, and scan those in. I instructed the students to open up Netscape Navigator and Netscape Composer for the demonstration. As expected, when the students opened up Netscape Navigator and the GWHS home page did not appear, they began asking, “how come the website isn’t showing up? Is the network down?” Jill replied that yes, the network was down, and we weren’t sure when it was coming back up again. I told the students that they would still be able to participate in the day’s demonstration, because they did not need to be connected to the Internet in order to use Composer or look at their work on a browser. My demonstration went well, and it was apparent that most of the students were starting to catch on.

After class was over and Jill and I were gathering up our materials, she turned to me and said that she had something she needed to tell me, but she did not want to tell me before class because she didn't want to upset me. She had found out the day before, late in the afternoon that a Dell technician employed by the school district was coming to work on the computer lab tomorrow. She then said that although she was not entirely sure what the technician would be doing, she was afraid that he was instructed to remove software programs from the machines that were not originally on the machines when they were purchased, software that was not authorized for purchase, and software programs teachers and students had downloaded themselves.

I asked her if this included Netscape Navigator, and she replied, "yes, I think so." I then responded that if this was the case, then all the work the students had been doing for the past two days would have been wasted in the sense that I would have to teach them another software, such as FrontPage, which was somewhat more difficult to learn. As a result, I would have two fewer days to work with the students on their final projects. Jill said she understood, that she was very unhappy about it herself, but she didn't know what to do. After a few minutes of fretting, Jill suggested that we speak with Mr. Parker, the Technology Education teacher and lab manager, to see if he had any more information, as well as any suggestions.

We were able to track him down in his office, and he told us that he was not entirely sure what the Dell technician would be doing either, but he did not think that he would be removing everything from the computers. He said he would be getting in touch with the administration later on in the day, and he would find out then what exactly will

be done to the machines in the lab. He suggested that in the meanwhile, just to be safe, either Jill or I should make backup copies of our work and our students' work. We thanked him, and then went to lunch.

During lunch, I mentioned to Jill that it was not a problem for me to back up my files as well as the students' files, as I did not have to be anywhere that afternoon. She thanked me, and reassured me that everything was going to be fine. She reiterated again that when dealing with technology, things such as this happen. What bothered her the most about the situation was that it underscored how the teachers in the school district have very little control over their schools' computer labs with regards to what software they are permitted to use and how the lab is managed. In addition, it frustrates her that there is very little, if any meaningful communication between the school district and the teachers who use the school computer labs, as evidenced by the fact that she found out about the Dell technician coming in only two days in advance, and that she was not told precisely what he would be doing.

After lunch, Jill went to her study hall and I lingered a few minutes in the teacher's lounge chatting with another teacher. I then went to the computer lab, where Mr. Parker and a handful of students were working. I approached Mr. Parker and asked him if it would be acceptable for me to be present in the lab making backups, and he said it was fine. When I was done, I thanked him, and asked him what he was working on. He replied he was creating a snapshot on a machine for the technician coming in tomorrow. I asked him what that meant, and he said that he was preserving the settings and the software programs on one particular machine, so the technician would know what to keep

on the rest of the machines and what to delete. I then asked him if Netscape Navigator would remain on the machines, and he said yes. He said that the only difference would be any version of Netscape 6.0 would most likely be replaced with version 4.7.

On Thursday, December 13th, I had Jill turn off the Internet access again before class started. I told the students that they would be receiving their net.art project assignment that day, and I would be going over the assignment worksheet with them to make sure everyone was clear regarding what they were expected to do and how they were going to be evaluated. I gave the students a worksheet outlining the assignment, which also meant to serve as a suggested approach to creating net.art. I told the students that they were not expected to create anything remotely as conceptual or complex as the net.art pieces they looked at a couple of weeks ago, and I reassured them that they knew enough about creating web pages to make an interesting and provocative work of net.art. I then explained to them that like the works of net.art they looked at, their net.art was to be based on a theme or an idea that was sufficiently broad and meaningful. I also told the students that they could also base their net.art piece on a poem written by themselves or a poem they had read and liked in an English class. Another option they had was to base their net.art piece on song lyrics, provided that the lyrics were suited for a classroom setting.

I continued with my explanation by strongly suggesting to them that even before they began working on their individual web pages, they should complete the accompanying worksheet requiring them to describe the idea or concept they intended to base their net.art on. I also suggested that they also create their simple flowchart outlining the navigation of their intended piece before they began working on it. I also

told them if they did not have anything in mind right away, they were to spend their time creating a generic home page with their choice of content, in order to practice the web page creation techniques they had learned earlier in the week. A few of the students had questions regarding the nature of the assignment, and nearly all of the students wanted to know if the Internet was “still down.” Jill and I replied that yes, it was still down and we did not know when it would be up again. I told the students that there had been a technician in the room the day before, and therefore they may not be using the same version of Netscape that had been using earlier in the week. If this was the case, I told the students that both Jill and I would be coming around to everyone, and if someone was having trouble figuring out the software, we would help them learn it.

During the first part of the class period, Jill and I assisted students with their practice web pages, answering individual students’ questions regarding creating web pages. Halfway through the class period, I went around the classroom and conferred with each student regarding their ideas for their net.art piece. At this point in time, none of the students had any concrete ideas for their piece. Jill and I decided during lunch that the students should be required to have an idea for their net.art piece by Monday.

The following day, Jill was not able to turn off the Internet access in the computer lab before the students arrived. So, while they were filtering into the room before the bell rang, Jill nonchalantly walked over to the switchboard on the wall, and tried to turn the switch before any of the students noticed. Unfortunately, several of the students did notice, and they pressed her until she admitted that she had turned off the Internet access because she felt that they had been spending too much time using Instant Messenger and browsing the web instead of working on their assignments. Several of the students

became agitated, and insisted that the Internet access be turned on again. Both Jill and I stood our ground and said no, for the time being there would be no Internet access, but we would perhaps reconsider the following week if everyone in the class had made sufficient progress on their projects. A number of the students grumbled, but we were able to settle the students down when the bell rang.

I told the students that the class would be very much like the day before: they would be expected to practice making web pages, fill out their net.art project worksheets, and begin working on their net.art projects. I informed the students that they were expected to have an idea for their net.art pieces by Monday, and that both Jill and I would be coming around during class to provide assistance with their practice web pages, as well as help them generate ideas for their projects. Finally, I told that students that I would begin interviewing the following Monday, and any student who wished to be interviewed would have the opportunity at some point during the following the week. I also reiterated to them that no one was under any sort of obligation to be interviewed, and if anyone refused, there would be no repercussions of any sort.

At this point, most of the students still did not have a firm idea for their projects, although several of them were able to articulate a direction in which they were leaning. I was able to give those particular students suggestions on how to proceed with their projects, stressing to them there was no special “order” they had to adhere to when creating their web pages. In other words, I had to explain to the students that even if they did not have specific images or text at the time, they could still create blank pages in the meanwhile. I also found myself explaining to them that one of the things about creating

web pages was that unlike a painting or drawing, mistakes could be easily fixed and changes could be easily made. Therefore, they did not have to feel like they needed all their text and all their images before they could start.

5.8 Week Four

On Monday, December 17th, Jill and I had a somewhat more difficult time getting the students settled. Again, Jill was not able to turn off the Internet access before the students began coming to class. When she walked toward the switchboard, a few students noticed, and called out “Mrs. [...], are you gonna turn off the Internet again? Can’t you just leave it on today?” Jill replied that she still wanted to leave it off, since everyone was so productive last week. The students were not satisfied with her reply, and continued to heckle her for a minute or two. After Jill moved away from the switchboard and situated herself in another part of the room, one of the students walked over to the switchboard, stood on a chair, and gestured toward the switch for turning the Internet access on and off. While several students egged him on, both Jill and I had to insist that he get down off the chair and sit down in his seat. After a minute or two, Jill and I were able to get all of the students calm and settled.

During the first part of class, I went around to each student to discuss their ideas for their net.art projects. A number of them had more concrete ideas regarding what they wanted to do. Three students wanted to do their net.art project on clothes, shoes or shopping, one student wanted to do her project on Mark Twain, and one student wanted to do her project on monkeys. A few students opted to base their net.art project on their

favorite musicians or rock groups. One student wanted to do her project on deceased rap artist and poet Tupac Shakur, and another wanted to do his project on Kurt Cobain, the deceased lead singer and guitarist of the rock band Nirvana. A third student wanted to turn a song by the rock music group Good Charlotte into a net.art piece. Another student wanted to do his project on gang life and “wannabe gangsters,” and one student wanted to base his net.art piece on a computer game he was currently working on for another class. A few students had ideas that were slightly more specific. For instance, one student was thinking of creating a net.art project where the viewer would have to “choose between three lockers, which would open onto different scenes when they clicked on one of them,” and another student was toying with the idea of creating a project with some figures she had created on the site dolliez.com. Other students had ideas that were considerably more vague, such as one student who wanted to “take pieces of poems” and “make them connect to different images and stuff.”

After I had finished conferring with each student, I began interviewing. When I came back into the room after interviewing the first student, I noticed a few of the students browsing the Internet. I approached Jill, who was working with another student, and asked her if she decided it was permissible for the students to go ahead and use the Internet. She said that she thought it would be fine, and that several of the students were being very persistent in asking her to turn it back on. I said okay, and the student she was working with piped up with, “besides, we need the Internet so we can get pictures for our net.art and stuff.” Jill and I explained to the student that we had explicitly stated that they were not to use images from the Internet for their projects, and that they had to either create images from scratch using the paint programs available to them, or scan in and

manipulate images from magazines or books, or their own artwork. The student replied that this “didn’t make sense” because if they were “supposed to make art about the Internet, that you look at on the Internet,” then they “should be able to use pictures from the Internet.” We replied that it was not necessary for him to only rely on the Internet for pictures of Kurt Cobain, especially since there were a very large number of magazines that featured Kurt Cobain and had pictures of him. The student grumbled, but did not continue his protestations.

After the interview with the second student was over, I joined Jill in the teacher’s lounge. I mentioned to her that I was concerned that the students’ ideas for their net.art were too trite. I asked Jill why she thought the students’ ideas were so trite, and she replied, “it’s because *they’re* trite.” She explained that she felt that teenagers had a strong tendency to be self-centered (“it’s all about *them*,”) and therefore were going to gravitate toward topics that reflected their own personal interests, particularly interests that played a significant part in their lives, such as rock music, rock musicians, personal appearance and clothing. We both agreed that the role of the teacher in this sort of situation would be to try to encourage the students to create their pieces based on something they know and are interested in, without their ideas becoming too trite. We also thought about ways we could encourage students to expand upon ideas that were somewhat trite, and transform them into concepts that were more substantial.

The following day, I spent most of the class period helping students with their projects, and I interviewed one student. By this time, a few of the students’ projects were

beginning to take shape, and this was very exciting for me to see. One student in particular had a project that was coming along very well, and it was obvious that she had made a number of connections regarding the distinction between a “typical” web page and net.art.

On Wednesday, I interviewed three students. On Thursday, I alternated between helping students with their projects and interviewing. Friday was the last day of classes before the holiday break, and the computer lab was closed. So, Jill decided that the students would watch a movie in the library during class period. While the students were watching the movie, I pulled students out and interviewed them. When the movie was over, I announced to the students that I enjoyed working with them very much, and I thanked them for their time and their efforts. The students, in turn, thanked me for coming, and wished me good luck on my dissertation.

5.9 Epilogue

The following week, Jill came to my home, where I was able to interview her. In the interview, she shared her thoughts regarding the successes and failures of our unit on net.art, what she planned to do differently the next time she taught this unit, and what she planned to repeat. She also discussed what she felt the students had learned, as well as what she felt the students needed to learn but were not given enough opportunity. Finally, she also shared what she felt she learned as a result of participating in the project.

She agreed that the students needed to spend more time on the net.art project, since only two students had completed it by the last day of classes. She reassured me that

she would have the students continue working on their net.art when classes resumed in January. I told Jill that I would try to come out to GWHS during winter quarter to retrieve the rest of the students' disks after their semester was over.

During winter quarter, I was student teaching at a local elementary school. I was much busier than I had anticipated, and I was not able to go to GWHS during that time. I spoke with Jill by phone two or three times over the quarter, and it was not clear as to whether the rest of the students had completed their net.art projects. Jill told me that one of the students had completed the project and had done a good job. I did receive from Jill this student's work in the form of an email attachment.

Unfortunately, when I spoke with Jill again in early April 2001, she informed me that she was not able keep the students' net.art projects. She explained that several weeks into the new semester, she did not have enough unused disks for her new set of students, and that she had to start using her former students' disks. Therefore, the remaining projects had been deleted, and she did not have the opportunity to make a backup disk. This, of course, was very upsetting for me to hear. Not only was I eager to see what the students had managed to accomplish, I felt that the students' work would serve as a strong indicator of the success (or lack thereof) of my research project and my teaching methods. She apologized profusely, and even though I was quite unhappy, I refrained from expressing my disappointment, accepted her apology and thanked her for her efforts and her assistance. We promised to stay in touch, and I told Jill that I would send her copies of my interview transcripts when I completed them, as well as a write-up of my reflective log notes.

CHAPTER 6

FINDINGS

“Art offers not order but the opportunity to experience more disorder than any other human artifact, and...artistic experience, therefore, is characterized...by disorientation....The artist’s role is to create occasions for disorientation, and...the perceiver’s role to experience it. The distinguishing mark of the perceiver’s transaction with the work of art is discontinuity of experience, not continuity; disorder, not order; emotional disturbance, not emotional catharsis, even though some works have a cadential close” (Peckham, 1967, pp. 41, 254; see Landow, 1997, p. 117).

The key findings from this study are based on the data I collected through my classroom observations and interactions with the students while I served as an instructor for the unit on net.art, my debriefing sessions with the participating art educator, and the audio taped interviews I conducted with seventeen students. The students’ worksheets and final projects or final projects in progress also served as a source of data. Chapter five serves as a partial description of my findings in that it functions as a narrative that contextualizes my additional findings based on my student interviews and completed assignments. While chapter five is focused on describing in narrative form my research methods, it also presents my findings in the context as being embedded within my ongoing reflective processes regarding my teaching. Chapter six is meant to serve as a complement to chapter five in that I present my findings in the context of the students’

reflections on the unit, net.art, and what they feel they learned. Taken together, the data generated through both my and my students' reflections form the basis of my key findings. The key findings from this study include the following:

- The students' general reactions to and opinions of net.art evolved from a strong initial dislike to acceptance over the course of the unit as net.art was demystified through their sustained interaction with it, the worksheets, the instructors' willingness to assist them on an individual basis, and their learning how to make web pages. In other words, the instructors engaged in reflective practices that enabled them to devise pedagogical strategies over the course of the unit that facilitated a demystification process in which the students were able to overcome their initial disorientation and became increasingly able to appreciate and understand net.art.
- Despite the students' familiarity with the Internet and traditional art forms (as viewers and creators), they were not able to translate their knowledge gained from these experiences into an adequate vocabulary in which to describe and interpret net.art as an artistic form. Many of the students did strongly identify net.art as art (and if they did not, they still identified it as something different from a "normal" web page), and several of them articulated the opinion that net.art pushes the definition and boundaries of art. In addition, the students identified net.art as something distinctly different from both the web sites they were accustomed to, as well as the more traditional art forms they were

accustomed to looking at. However, their reasoning for qualifying net.art as art tended to be naïve and superficial; this could be due to the fact that very few of them had experience engaging in art criticism.

- All of the students interviewed were able to clearly articulate what constitutes a “typical” web site, e.g., a web site that they are most likely to see or visit on a regular basis. When asked to compare the type of web sites they are more accustomed to with net.art, these students defined a typical web site in terms of its functionality, how its form is dependent on its functionality, and its content. The student’s responses underscored the level of comfort they have reached with their use of the Internet; even those students with comparatively less experience with the Internet were still able to articulate these attributes of “typical” web pages. In direct contrast to a “typical” web site, most of the students described net.art’s form and function as something quite opposite. While some of the students had ideas on how to apply their knowledge with regards to their distinction between net.art and a “typical” web site to their final net.art project, other students did not.

6.1 Demystifying net.art

In an online dialog with new media curators Steve Dietz, Lawrence Rinder and Benjamin Weil, Glen Helfand asks them if, when curating new media exhibitions, they felt it necessary to try to convince their audience of the validity of new media art, and if

they felt that the public was familiar enough with computers to make adequate sense of the works in their exhibitions, especially works in which issues in technology are integral to their meaning. Dietz responds,

“Of course, it's important to set up the exhibition in a way that will make sense to the visitor and, I believe, give them multiple and varied "hooks" on which to hang their interest. At the same time, I think it's important not to fall into the trap of trying to convince people that such and such a piece is "as good as" something they already know. I think part of the point is to encourage people to explore beyond what they are comfortable with. And I'm also completely confident that many, many visitors will actively enjoy the engagement of interactive works, even though, like any stimulating work of art, it will take some effort to make one's peace with the work, so to speak” (2001, http://telematic.walkerart.org/overview/overview_conversation.html, para. 30).

As I see it, Dietz's quote is pertinent because my role as an art educator is similar to his in that we are both addressing similar questions regarding how to introduce the public (in my case, high school students) to unfamiliar new media art, net.art in particular. There are a number of issues we both need to consider: how much knowledge can we safely assume the audience or students have, and is this knowledge sufficient enough for them, at minimum, to not become alienated from the work? Where should the line be drawn between making the work accessible and encouraging the audience or students to stretch their own notions of what constitutes art? To what extent should comparisons to other art forms be made, before the notion of net.art (and other forms of new media art) as an art form in its own right is overshadowed?

Both my participating art educator and I approached the study with the assumption that because the students appeared comfortable with the Internet they would be comfortable looking at and interacting with net.art from the very beginning. Our assumptions were based on our classroom observations: all of the students demonstrated

an ability to use and search the web, check their email, and chat with their friends, family and acquaintances with Instant Messaging. Nearly all of the students were able to list their favorite and most visited web sites. Before the study began, my participating art educator expressed confidence that the students would enjoy and be excited about net.art because she perceived them to be so Internet-savvy. In other words, we assumed that the students would be able to transfer their current knowledge and skills regarding the Internet to their ability to at the very least be able to navigate around net.art pieces. We also assumed that because of their age and the fact that they were introduced to the Internet at a young age they would be accepting of net.art.

This assumption, therefore, directly influenced my pedagogical methods. Instead of walking the students through the first one or two net.art pieces with the teacher's computer station hooked up to the overhead and engaging in group discussions and asking questions along the way, as I now know I should have, I began each lesson by providing the students with only a URL and a brief explanation, assuming that the students would know how to progress through the pieces on their own.

Instead of being excited about net.art, the students' overall reactions were unfavorable, as I described in chapter five. The fact that the students were Internet savvy and avid consumers of pop culture did not translate into receptiveness to net.art, as my participating art educator and I had erroneously assumed. For the most part, the students were initially not able to transfer their knowledge regarding how to use the World Wide Web to an ability to navigate through and understand net.art. Most of the students' initial reactions ranged from confusion and frustration to consternation and

hostility to the works, especially if they were not able to receive sufficient assistance from the participating art educator, other students or myself when trying to navigate around the net.art pieces. Students were able to discuss their initial (and later) reactions to net.art in relative detail in their semi-structured interviews, as well as explain why they had the reactions they did.

With one or two exceptions, which I will discuss in further detail later, the students neither liked nor understood net.art in the beginning – they found it to be a very disorienting experience. Many of them used spatial or travel metaphors to describe their initial experiences, such as being confused due to not knowing what to do or where to go, and feeling unsure of the net.art work’s information space boundaries. They were particularly unreceptive to Incubus, the first net.art piece I showed them, and this lack of receptiveness and understanding was quite apparent in their worksheets to varying degrees. The Incubus worksheet posed the following four questions:

- If you had to describe Incubus to a friend in terms of what it looks like and how it should be used, how would you describe it?
- What do you think Incubus is about? Why do you think so, and what made you think so?
- Do you think Incubus is art? If so, why is it art, and what makes it art? If not, why is it not art?
- Do you like it? Why or why not?

With very few exceptions (such as one student with a parent receiving a PhD in Art History, and was more adept than the other students at describing and interpreting the

works) the students' responses to the questions consisted of one or two short sentences, and the quality of their responses were mostly superficial. The following is a sample of the students' worksheet responses:

- (question 1) I would describe it as a story but it was just a bunch of pictures that could of [sic] used more detail (student 1).
- (question 1) It is dark and strange. The links in the slides are in chaos and confuse me (student 3).
- (question 1) A kiddie movie, done Blair Witch [a popular horror movie the came out in the summer of 2001] style (student 4).
- (question 1) You click on words to see what's going on, and click on the picture to go to the next one (student 5).
- (question 1) I wouldn't describe it because I didn't get what it was for myself (student 8).
- (question 1) I would just tell them to go to the web site because it is hard to explain (student 10).
- (question 1) It was very dark and dreary and did nothing for me (student 13).
- (question 1) Shadows, blank, inevitable, odd, confusing, a story line based on Blair Witch (student 16).
- (question 1) He is a scaredy cat. It's scary because the background was black. Pics were black and white (student 17).
- (question 1) It's a story about a haunted house (student 21).

- (question 1) Its mainly all black and white and there are sentences at the top of the screen with certain words you can click on with a picture at the bottom that you can click on (student 23).
- (question 2) I think Incubus is about life's mysteries, because it talks about having a haunted house with ghosts (student 2).
- (question 2) Something about a ghost, and the main character being one. The story was EXTREMELY PREDICTABLE [sic] (student 4).
- (question 2) Some house and the person going to it and how it [sic] supposed to be haunted. It says he's going to a haunted house (student 5).
- (question 2) It is about a journey and someone running away from their problems at home (student 9).
- (question 2) I think it tries to give you a creepy feeling. It seems to be about discovering an unknown. Maybe trying to escape the inevitable (student 12).
- (question 2) I have no idea because nothing caught my attention (student 13).
- (question 2) It is about a ghost chasing a person out of a haunted house. The person then looks in a mirror and they are glowing, suspended in the air (student 19).
- (question 2) Probably about individualized, anti-mainstream expression. The color scheme, style of random linking, and story suggest this (student 20).
- (question 2) The list and him try to jump across the "threshold" makes me believe he's being judged and trying to jump into heaven (student 22).
- (question 2) I believe that it is about a man finding his house to be haunted, because it gives a very good description of this (student 25).

- (question 3) No I don't think its art. It could have been a story with pictures. I mean a story as in a novel. If I want to see art I could, if I wanted to read I could but both at the same time I don't like (student 1).
- (question 3) Yes, because the images are photos being taken and then maybe with effects. Anything can be art, so I guess Incubus is art (student 2).
- (question 3) Yes it is art, because it is an illustration of a story (student 3).
- (question 3) Yes, it was pretty much a mini-film (done in Blair Witch style). Anything you do that requires you to create is art (student 4).
- (question 3) The only thing that's art is the photos (student 5).
- (question 3) No because all it has was photos. They need more than photos for art (student 8).
- (question 3) Yes, because it is creative expression done with a certain level of skill (student 9).
- (question 3) I think the pictures are art. They are showing the journey through the house (student 10).
- (question 3) It could be art because it is a creative story, but if art is considered the hands-on type, than no. But its creative so I consider it art (student 11).
- (question 3) Creativity makes art. It was creative and took effort to create (student 12).
- (question 3) Anything can be art so I guess whoever made this intended this to be art, then it is. But if it were me I would prefer a different type of art (student 14).

- (question 3) Yes, because it was created by someone which was their own individual idea (student 16).
- (question 3) No, 'cause it isn't (student 17).
- (question 3) No, I don't think Incubus is art, because it seems too random with the pictures. They seem to have nothing to do with the story. I usually don't think of stories as art (student 19).
- (question 3) No, it goes more into the category of literary than visual, IMHO (student 20).
- (question 3) Yes, Incubus is art because it is graphic and very visual (student 22).
- (question 3) I don't really think Incubus is art because it is just like words, but I kinda think it is art because of the pictures and ideas put into it (student 23).
- (question 3) Not necessarily art but a form of art. It's a new technological piece of art that is off the normal traditional art that can be hung and displayed (student 24).
- (question 3) Yes, I think it is art because it is a form of expression (student 26).
- (question 3) I think it is art because just about anything in today's society is called art so there is no defining line of what art is (student 28).
- (question 4) No because it didn't make any sense to me. It was just a dream so how was that art?
- (question 4) No, I have a hard time understanding this site (student 3).

- (question 4) No, it's really not interesting and I really don't understand what it's supposed to be (student 5).
- (question 4) No, because I didn't get what it meant (student 8).
- (question 4) Yes, it is very creative (student 9).
- (question 4) It's ok, its like a regular horror story to me (student 10).
- (question 4) It was ok. I didn't see anything outstanding about it. I lost interest about halfway through. It needs a plot and a point (student 11).
- (question 4) I like it, but it is eerie, somewhat scary, and confusing (student 12).
- (question 4) Uh, no. Simply because it's not entertaining and I couldn't extract any meaning from it (student 14).
- (question 4) Yes but a bit confusing (student 16).
- (question 4) No, because I don't see a lot of creativity. I don't understand it (student 19).
- (question 4) It's intriguing, but there isn't much to set it apart from any multipage story, so "no" (student 20).
- (question 4) It's ok, a little confusing (student 21).
- (question 4) No really because it is not really my style it is "weird" in my opinion. Like an eerie scary story (student 23).
- (question 4) Not really, cause I don't see a point to it (student 24).

- (question 4) It is okay! The pictures were very small, but it was interesting (student 25).
- (question 4) I thought it was pretty entertaining so I liked it. It kept me enthralled for a short time (student 28).

During the interviews, many of the students stated that this dislike stemmed from a lack of understanding about the work, that it was confusing to them, or that they did not know what to do when they first looked at it – it was a completely unfamiliar and highly disorienting experience:

Well, my first reaction was, I didn't really like it, because ... to me it didn't make any sense. (Student 1)

It [net.art] really didn't make sense to me. When I tried adding up one plus one it didn't equal two, so. It was just like one plus one was thirty six. So, I didn't – I didn't follow it. (Student 13).

When I first looked at [Incubus] - I forget what it said it was – it was just like, omigod I've never done anything like that before, so at first it was hard to like it, it's not my way of thinking. (Student 15).

I didn't like [Incubus]. I was so lost – I didn't understand it at all. (Student 22)

Well, overall, all of them at first I thought were really strange, and I didn't really want to be looking at them. (Student 28)

Several of the students also did not understand or like net.art when they were first introduced to it because it did not look like other forms of art, or that it was not sufficiently artistic (one student stated that she didn't like net art because “it wasn't pretty.” Later on, as the unit progressed, this same student asked the participating teacher if they were “going to make art again.”) They felt they had no frame of reference, whether it be more traditional forms of art or mainstream web sites, from which to

evaluate or examine the work, which resulted in their initial lack of understanding. A few of the students also explained that they have a preference for more traditional forms of art, and that net.art was simply too “different” or too far removed from what they were accustomed to looking at.

It [net.art] was kind of confusing. I really didn't like it. It was my first time looking at net.art, because I'm just used to looking at regular pictures and stuff...I probably didn't get into it more like I should have, but I kinda just looked at it. And it was confusing about where I was at. What I'm used to is just art. Like pieces of art. (Student 8)

...the first three [net.art pieces] were interesting in their own way. But I prefer – I don't know how to say this – I prefer art that people have actually had to get their hands dirty for, do you know what I mean by that? So, it wasn't a matter of me not liking it, I'm kind of used to and kind of overall prefer other types of art. (Student 4)

I'm not used to Internet art. I'm more used to, like, paintings and more ancient stuff. I was kind of confused by it. It's just not traditional to me. (Student 19)

In addition, some students said that they began the unit with certain expectations of net.art, such as it would resemble traditional forms of art, that it would resemble an online gallery that displayed digital imagery, or, like a mainstream web site, they would be guided conceptually through the work, that it would follow a certain logic or have a “point.” When these expectations weren't met, some of these students became frustrated.

When I first started looking at it, it wasn't what I expected net.art to be. I just pictured it more as actual art... like what we see in traditional galleries, paintings, stuff like that. And I didn't expect it actually to be a web site that you go through like a story. (Student 24)

I expected it to be very interesting, something like that, and with those expectations, and it wasn't interesting to me at first, because I wasn't exposed to those types of art before. (Student 25)

It was kind of confusing because [the net.artists] wanted me to look deeper into [their work], and I didn't know what they wanted me to look at. So when I look at

it, I need a point: A, B, C... I have to know that I'm looking to something. That's there's an end...I didn't like that you could click anything and it didn't really have – I mean, I know it had a point, but it wasn't an established point. I want it like A plus B equals C, and [net.art] is like A could possibly plus B and maybe equals C. I like straightforward. (Student 22)

Despite the majority of students' dislike of net.art at the very beginning – most of them did not like Incubus, for example, which was the first piece they were shown - many of these students' opinions of net.art evolved over the course of the unit. Over the course of the four weeks, the students became more receptive to the net.art pieces, especially when I took the time to discuss the works a bit before they were to explore them and fill out the worksheets, reformulated the worksheets so they were easier to understand and complete, created a thorough rubric for the students to follow, and went over the worksheets and rubrics orally with the students. The students also provided me with reasons for their increasing receptiveness to net.art; one commonly stated reason was that their sustained exposure to net art made it more approachable. Several students also mentioned that talking to the participating art educator or me about the net.art pieces was beneficial, and that the worksheets were helpful. They felt that both of these approaches provided them with clues as to what the work was about and what they were expected to look for. In other words, as they looked at the net.art pieces and were provided with some guidance with regards to how to approach and think about it more, it became less intimidating and confusing. However, when asked, a few students mentioned that they would have preferred that I had spent more time going over the net.art pieces with them, especially at the beginning of the unit:

But after going through it [the net.art], it was like, okay, I kinda understood what was going on through the pieces, stuff like that. I liked some [net.art pieces] more than others, but I just liked the way you can link art to the Internet type thing. (Student 1)

I wasn't interested in [the net.art pieces], they weren't interesting to me. I can understand and follow along with them. I understood what was going on, I just didn't understand why we're actually doing this project, [and I didn't understand] how it goes along with what we were doing at the beginning [of the semester]...applying computer skills with what we do as a regular artist, and putting them into the computer. But after a while, I noticed that does apply because you're putting your own mind and images into, you know, an actual art piece. After I looked at all of them all together, thought about it, it made more sense. (Student 16)

The more I work with it, the more I can understand what the artist was trying to do, and prove... At first it was really confusing and I didn't even like it, but the more I read it, and looked at the text along with the pictures I really liked it. (Student 15)

Some students also attributed their increasing receptiveness to net.art to their acquisition of web page building skills. In other words, as they came to understand how web pages are made, at least on a basic level, net.art became less mysterious to them. These students explained that they were able to look at a work of net.art and feel as if they knew how the artist put it together, which made the work more approachable.

I'd never seen anything like it. It didn't make too much sense to me... so I really wasn't open to it. But now I'm starting to get the hang of it now that I'm creating my own. Yeah, now I feel like I understand a little – I mean, I won't go as far as the Recycler or Incubus, but, I mean – I guess I know how to do it now. (Student 13)

[Interviewer: Do you feel like you get net.art more now than you did then?] Yeah. I can understand – when I go to a web page at school, I can probably see [how] they could have done it, you know? Like when I [click] on something to go somewhere else, I understand how they did it now. (Student 24).

In a related vein, a few of students expressed receptiveness to a piece if there was an aspect of technology they recognized and knew how to use. Also, if they were introduced to a piece that they liked or thought was cool, they became more receptive. For example, one student liked the Multicultural Recycler (“it was cool...it was fun to look at them”) because he knew how to work with web cams, and he liked how the piece made use of them.

As mentioned, the student received four worksheets to complete over the course of the unit, one worksheet per net art piece. As I have shown earlier, the quality of the responses on the first worksheet was relatively low, and the majority of students expressed either dislike or ambivalence toward the net.art they saw. The quality of the second worksheet they were expected to complete on the Multicultural Recycler was similarly low. However, once the students realized that I was expecting them to do a better job on their worksheets (and with a resulting poor grade if they did not), and that I was willing to help them comprehend the net.art and help them with the worksheet questions, the quality of their answers improved, in some cases markedly so. The higher quality responses on the students’ third and fourth worksheets showed a greater willingness on their part to try and understand net.art, as well as demonstrated a higher comfort level and an enhanced appreciation for the works. Unlike the first three worksheets, which had four questions, the fourth worksheet had only two questions, which made it easier for the students to answer them in depth within the time period allotted to complete them. The fourth worksheet, which had students describe, analyze and interpret Olia Lialina’s net.art piece My Boyfriend Came Back from the War, posed the following questions:

- How would you describe the relationship between the woman narrator and her boyfriend? How do you know? Do you think they will live “happily ever after”? What led you to your conclusions?
- What do you think is the relationship between the text, the images, and the navigation in the piece? Explain your answer and support your conclusions with examples from the work.

Some of the students’ responses to these questions are as follows:

- (question 1) It’s kind of hard to understand what’s going on because it’s not in order. It does however seem like they’re arguing over something. It seems like she cheated with the neighbor because it says “with the neighbor” and something like “I can’t trust you.” The picture of them facing way from each other looking mad. Then they seemed like they do love each other because he asks her to marry her and she says yes. One of them suggests doing it tomorrow, and the other one says no wait till after the holidays. She may have cheated on him because she was lonely but I don’t think he asked her to marry him so she won’t cheat on him because if she’s going to cheat, she’s going to do it whether she’s married or not (student 5).
- (question 1) I believe that the woman and her boyfriend did love one another at some time. It seems that they haven’t seen each other for years. They hardly know each other any more. She speaks of last summer when she cheated on him. She says no one can love or understand her. I think he sees that she has become distant and wants to cling to what they had. She has changed with the world around her and he being cut off from his normal work has changed to fit

his world. I believe he saw sights in the war that he wants to forget. He says very little of what happened to him. He has had hope through the war that he would see her again and kept her photo. He speaks of only them together, while she speaks of what happened without him. He wants to move on but I think she has experienced too much without him and changed so much that she can't. I think it will end up that they don't even get married. I believe she postpones the wedding because she doesn't know if she wants to marry him. If they do marry, I don't think they will live happily together (student 12).

- (question 1) I would say they had a very rocky and unstable relationship because a lot of the sentences are cut off and abrupt like their relationship. Her first relationship with her husband was cut off by the war and her second affair was abrupt. I don't think they will live happily ever after because although a lot of the sentence fragments pointed to reconciliation, such as "forgive me" it seems they are going in circles and aren't making any progress in the repeat of their relationship (student 14).
- (question 1) The pictures are in black and white, which makes it seem like something is being hidden. The first picture shows the boyfriend and girlfriend facing away from each other and their conversation adds to the feeling that something is wrong. When it is discovered that she had an affair with the neighbor, one can see that their trust is diminished. However, he asks her to marry him, and then keeps pushing back the date. It seems like he's not

sure if she will take it seriously even though she says yes. Or maybe he is afraid that his very recent memories of war may disrupt the marriage and provoke her to cheat again (student 19).

- (question 1) “Tense” would be a good word. The relationship seems to be manic/depressive, as do the participants to a smaller extent. The multiple frame cells make the phrases seem fractured, disconnected, and somewhat unrelated. The lack of ALT text [text that appears as a substitute for images if the user’s browser cannot read images, or if the user has turned the browser’s image reading capability off] for the images leaves a lot to the imagination. I notice that the site’s many frame SRCs [frame sources, i.e., pointers to web pages that fill the spaces within the frames] are from both Germany and Russia, but then what war is it? I’d guess WWII if anything, and I think that piece of historical plausibility is a nice touch (student 20).
- (question 1) I felt they were constantly fighting, but deep down inside they loved each other. I felt this because the style of the images were like an old black and white movie, and in those old movies the people fight but they really love each other. The reason they were fighting was because they hadn’t seen each other in a long time, which was symbolized by the clock. The window represents their relationship. They are trapped inside a room with a window and as they look out they see their hopeful future. This is why I think they will live happily ever after (student 28).
- (question 2) The pictures describe the mood in a specific instance while the text lays down the mood for the whole night. The mood it portrays is

happiness and sadness at the same time. In the beginning it was sadness because of the news of the girls infidelity and the sadness of the war. It was happy toward the end because they were going to try and make their lives better in a new relationship. It does not matter what order you go in because you are just supposed to know the events and the mood of the night (student 9).

- (question 2) The text and images show the pain of the war and neglect and sorrow from the first few. They help navigate the story by giving us an idea of what they can see from the characters' eyes. I have know [sic] what a war can cause between people from past experience through family and friends. The picture of the war towards the side and the woman facing the front show the separation of mind and body. The photo of the helicopter w/the soldiers show the depth that was just an expression of war – unhappiness – pain – loss – devastation – control. The window I believe represents the unknown and the untold of the story itself (student 16).
- (question 2) I think the way the artist positions the words and letters tell the story, not just with words but when a word is bold, maybe he's yelling, or demanding something. Like the words "TOGETHER FOREVER" they're all in bold so maybe he's asking it more as a question than a statement because he doesn't know exactly where their relationship is leading to. Because the pictures are black and white, and sorta fuzzy, it could represent the fuzziness

or awkwardness of the two being together. Because some of the statements really aren't in sentences, maybe it represents when their voices become louder and softer, and we can only hear the louder (student 21).

- (question 2) I think that the site's black and white pictures make the piece look simple, so you can concentrate on the words and the conversation. Because you don't have to click in a real order it makes it seem more like a conversation because it is unpredictable. The part w/the "will you marry me" would have been missed if the pictures were bright and loud because it's on the side and hidden (student 22).

As I mentioned earlier in the chapter, there were two exceptions to the students who were not initially receptive to the net.art. These two students (student 3 and student 20), although they found the works somewhat confusing in the very beginning, soon expressed enthusiasm for the work and appeared comfortable navigating through the pieces. What is notable about these two students is that they were clearly the most Internet savvy in comparison to the rest of their classmates. Both of these students had their own web page, knew HTML and FrontPage, and were teaching themselves how to use Javascript. They also had a much more developed vocabulary than the other students with regards to Internet terminology and functions, which was made evident throughout the unit, during their interviews, and their responses on their worksheets (one student correctly identified the imagery in Incubus as animated GIFs and described the work as a hypertext story). While their computer skills and technical know-how enabled them to

appreciate and describe the works at a higher level in comparison to their classmates, these skills did not consistently translate into a greater ability to meaningfully interpret or judge the works.

6.2 But is it art?

Like photography and video preceding it, discussions surrounding net.art and its status as art can be considered as the most recent incarnation of the debate spurred by Walter Benjamin's Art in the Age of Mechanical Reproduction: is it art or is it mechanical? Can this network activity considered to be art, or is it simply just another interesting use of technology? Despite the difficulty defining what net.art exactly is, like video artists and photographers before them, net.artists and other new media artists who make use of computer networks such as the Internet are claiming what is increasingly considered a commercial medium as their turf. As a result, it is not always easy for them or their supporters to convince others that the strange home page they built, for instance, is an artwork in its own right. In his seminal essay "Is There Love in the Telematic Embrace?" Roy Ascott (1990), asking if there is content besides technology – a message beyond the medium - describes how new media technologies are transforming the very basis on which we think about art:

"In the telematization of the creative process, the roles of artist and viewer, designer and consumer, become diffused; the polarities of maker and user become destabilized. This will lead ultimately, no doubt, to changes in status, description, and use of cultural institutions: a redescription (and revitalization, perhaps) of the academy, museum, gallery, archive, workshop, and studio. A fusion of art, science, technology, education, and entertainment into a telematic fabric of learning and creativity can be foreseen."

Net.art, along with other forms of new media art, pushes the boundaries and functions of art in a number of significant ways; its identity as art is ambiguous because while it is critically and conceptually grounded in art, is woven throughout disparate contexts and information spaces. First, there is no material object – it exists within the computer networks as an activity as opposed to a product, or an object. Secondly, net.art’s proponents have argued that it allows the artists to circumvent museums and galleries for showing their work; in other words, net.artists can use the Internet to bring the work directly to the viewer, doing away with the need for an institutional “seal of approval.” Finally, the audience/viewer/user can play a direct role in shaping the work – the work depends on input from a user or multiple users, i.e., the direct, one-to-many relationships that any artist can have with anyone with an Internet connection. Computer networks have enabled artists to create artworks consisting of an online environment that is rule bound, yet generates unpredictable results based on specific user interactions.

In each of the interviews I conducted with the students, I asked them if they thought net.art was art, and if they did, why, and if not, why not? Given the plethora of issues net.art raises about traditional notions of art, I feel the question is worth asking. In retrospect, on another level, what I was really asking the students was whether they felt their notions of art were being challenged by net.art, and if so, how? While it may or may not be realistic to expect the students to be able to articulate the ways in which net.art is challenging and expanding what is normally considered to be art, especially in the ways I have identified, I feel that their responses can provide an art educator clues as to how s/he can approach ways to get students to think about how their own conceptions of art have been challenged when exposed to net.art. Therefore, I need to ask myself several

questions, all of which point to one essential, underlying question: Why is it important to me that they be able to thoughtfully examine net.art within the context of artistic practice, as opposed to the context of technological innovation, for example? For instance, if the majority of students simply do not recognize it as art, what does that mean? If they do not recognize it as art because of reasons such as it was made by a computer instead of a human being, or that it isn't art because it doesn't involve working with your hands, what does that mean? Conversely, if the majority of them accept net.art as art, but their acceptance is based on superficial reasoning (it's art because the person who made it says it's art; it's art because it is creative; anything can be art), what does that mean, other than they have not been trained to engage in thoughtful art criticism and aesthetics? And if they have not received this training, what would such training consist of, if it were to include thinking about net.art and other forms of new media art?

The students' responses to the question, "do you think net.art is art?" were varied; some of them felt it was art, some of them felt it wasn't. Some students felt that some of the net.art pieces I showed them were art, and some of them were not. However, most of the students who did not consider net.art to be art still considered it to be something "different," not comparable to either "normal" web sites or other forms of art they were accustomed to looking at. Their reasons for their perceptions were also highly varied, although there were some common themes woven throughout.

Out of the students who felt that net.art was art, several of them felt this way because they perceived net.art as a result of some type of creative activity undertaken by someone who considered themselves an artist. In other words, their perception of art was based on whether or not it involved creativity, and their notions of what constitutes

creativity were, overall, very general. In addition, these students had very subjective, vague and broad definitions of art, in that they expressed the opinion that “anything” can be art, regardless of the form it takes, and therefore considering net.art as art was not particularly problematic for them, regardless of whether or not they liked it. Or, they considered net.art to be art because it was simply original, or that they didn’t know how else to describe it:

I think that art is like – most people don’t – most people think art is just like a painting, or a sculpture or something. I think that art is anything that someone does, using their mind, like that they create, a book, anything to me is art. If you can create it and think of the idea on your own, gather it into a form, music, whatever. That’s art (student 15).

The sites were art cuz they were original, cuz they made [sic] their point across (student 8).

I felt like I was looking at something very artistic – well, more artistic than I’m used to... I knew it was art, I mean, it couldn’t be anything else, really, because if it makes sense to its creator, then, if they feel that it’s art, then it’s art. [Me: Okay. And you felt it was art?] Yeah. Well, I couldn’t think of anything else it could be, so (student 13).

I did not ask these students specifically if they felt their exposure to net.art changed their notions of what constitutes art, nor did I ask them at the very beginning of the unit prior to their exposure to net.art about their own personal definitions of art. Therefore, I cannot say whether the students’ ideas regarding art were already very broad, or if their notions about art were broadened by their exposure to net.art, thus leading them to conclude that “anything” can be art, or that the presence of creativity is sufficient reason to qualify something as art.

In a similar vein, another student explained that something is art if the artist or the creator deems it to be art, and therefore, if someone who makes a web page or web site

decides it is art, then that is art. Interestingly, this student made a distinction between a “typical web page” and a work of net.art. This is interesting because if, using her logic, any web page can be art if its creator deems it so, then there wouldn’t be any meaningful distinction between a “typical” web site and a work of net.art. When asked if net.art is art, this student replied,

I figure it depends on the person who is doing it. I mean, for somebody it could be art and for somebody else it could be a web page. But if the person who says it is art, then - I mean, I think it’s art. Because one of my blackplanet pages or something like that I can classify that as art. What somebody still wants it to mean, or is saying, or something like that, that can be art (student 1).

Other students had responses that were somewhat more thoughtful, although not all of them were able to articulate well what was particularly artistic about net.art. One particular student whose views on net.art as a form of art evolved after she “looked at things,” and after she “looked at all of them all together [and] thought about it,” it made more sense to her as art. When asked to describe what made net.art art to her, she replied that there is something “more” to it, although she struggled a bit with her definition of what this “more” actually was:

But it’s not just that... there is more to it – there’s more – [Interviewer: What is this more?] You know, coming up with an idea that actually has something to do with what... you’re putting into it. And it’s from yourself, it’s not from anything else, it’s not – [pause, laughs] it’s a lot to understand. (student 16)

After some additional probing as to what made something art, and by extension what made net.art art, she replied,

[It’s] just the fact that it’s from somebody who’s putting their own work into something. I mean, it’s just like if you took a regular photo. It’s your work. You know, you’re the one who did it. It’s just like that, you have either words, or something to go along with the words and vice versa. And you know, going back

to the humanities. So everything is art if it's from yourself or if it's from somebody else. It doesn't matter if it's computer or paper, photo or anything like that. It came from yourself, so anything could be art. (student 16)

This student recognized that the medium used by the maker does not necessarily determine if something is art or not; according to her, it is the creative process that makes something art. Like several of the other students interviewed, she expressed the notion that if she can see something in the work that resembles something she recognizes as a creative process, that was accomplished by someone, it is art.

For other students, net.art was art (and by extension, different from a typical web page), because it made them think. One student described this attribute as an “extra dimension” in that you have to “think about” and “get into” the work in order to understand and appreciate it:

I mean, they make you start thinking, you have to use your brains instead of just your eyes looking at it, so that was an extra dimension for me... [in net.art you see] just like a flat screen, you just see a picture in front of you, but when you go to more pages, and you have to navigate your way around them, as you're navigating you have to think about each one. (student 28)

Another student also liked net.art pieces that not only he considered art, but also made him think, and he cited My Boyfriend Came Back from the War as a good example. He liked that he did not have to navigate around the piece in any particular order, and that he enjoyed that challenge of having to piece the work together in order to make sense of it:

[Interviewer: What made it [Boyfriend] your favorite?] Because you didn't – you didn't have to go in a certain order. You just click around wherever you want. They had a picture, and then it's a link, you can click on that. And then it'll tell you something else. It wasn't necessarily going in order, really. {Interviewer: so you're saying My Boyfriend Came Back from the War, you liked it even though it had no order, after you looked through it, pieces fell into place.} Yeah. You had to think about it. (student 8)

A third student who also felt that net.art was art was unequivocal about declaring it so because not only did it contain pictures without an explanation, it contained an open-endedness that made her think, although she did not particularly like the works she saw. More specifically, although she acknowledged that art is sometimes “meant to be confusing” she was ambivalent the open-ended qualities of the net.art pieces she saw. Unlike the web pages she was accustomed to looking at or using (such as search engines, in which she states “I put in what I want, and it gives me what I want”), she did not like that she wasn’t sure what she was looking at or looking for:

For me [art] has to be a picture, and no words describing the picture. That seems like art. I mean, if it’s art – [net.art] was art - it was confusing, but it was art. And sometimes art is meant to be confusing. [Interviewer: Do you think these pieces were meant to be confusing?] Not deliberately confusing for me, but [they] made you think. Maybe they weren’t confusing, maybe they were more, like you said, more open ended... You can’t really expect anything from art, because art is all different. They’re all different types of art, all different types of media, or whatever, for art. And it [net.art] was different. (student 22)

One of the students who was the most comfortable explaining why he felt net.art was art was also one of the two most Internet and computer savvy students in the class. For him, it was the technological components of net.art, aside from its meaning or content, that fascinated him the most. He described net.art as something apart from an Internet gallery, that it has a “form and composition of its own,” as well as its own distinctive structure. In explaining what distinguishes net.art from other forms of more traditional forms of art, as well as what he considers net.art’s form to be, he identified a number of technological features of web pages, particularly those which facilitate interactivity and generate multimedia effects:

The Internet, it works similar, but in a different way towards the goal of displaying art. You don’t use the same techniques. Because with art, it really is

the actual piece, and with the Internet its how you display that piece, and what you use. It's just – there's more – I mean, you have a lot of different access, you have sounds, and links, the ability to go through pages, have text, and do other interesting effects. More real time, than just stills in there. (student 3)

This student was also enthusiastic about net.art pieces that had technical aspects that intrigued him, such as the Multicultural Recycler. For him, the site itself was not art; rather, it was only the web cam image combinations generated by the user's interactions with the piece that he considered art. Nevertheless, he expressed a strong appreciation for the programming ability that was required of the artist to create the work, and he was also able to make a connection between these technical aspects to the work's aesthetics:

That [Multicultural Recycler] was cool. I like that, because it's not predetermined. It's constantly creating new art, and it never is always exactly the same. And I like it because it uses a wide variety of interesting - I can think of the programming language it must have taken to write that thing, and the image creation systems. [pause] It may not have been created directly by the artist, but the programming itself is in a sense the art because the programming creates the images. And it's a self-sustained art. You know, it creates itself. (student 3)

The way in which this student made a connection between his perception of a web site qualifying as art and the technical aspects of the site was further reiterated when he was describing his ideas for his final project. When asked what he was going to do to make the web site he was working on "art," he described in terms of the range of technological effects he planned to include on the site, such as animating backgrounds, javascript functions such as mouse rollovers, sound, the opening of windows:

Well, I did this really neat multimedia effect, it has a bunch of images and sounds, with them moving around, people talking and stuff, has this full animation clip there. And then, there's this kinda hierarchy of it, it's complex, you know that there's a bunch of different ways to get to the information. But beyond that, the web site isn't all that interactive, so I was thinking about sprucing it up with some neat effects, and you know, maybe making a constantly animating background. And making the information jump out at you, it lists a bunch of statistics of different things. And I might make them so that when you move your mouse over

the – it’s just pictures, and when you move your mouse over the individual pictures, it opens a window, which has other information in it, laid out,, that has also sounds. Like when it loads, the unit actually – the person speaks to you - it says...a little sound – and then you have a little bio, and then you have a bunch of pictures of them. (student 3)

A few of the students, on the other hand, did not feel net.art was art, or that some of the net.art pieces were not art. For example, one of the students felt Incubus was more artistic, while the other pieces, although interesting, were not particularly special enough to warrant the description of art. When asked to describe what made Incubus artistic to her in comparison to the other works she saw, she explained that it was the presence of an identifiable idea or goal behind the work that gave it meaning, as opposed to something that struck her as too random, or without purpose:

Well, [Incubus] was different, obviously, from most web pages. But – yeah, pretty much the other two to me were, just, other web pages. [Interviewer: So they didn’t seem like art to you?] No, not really...I mean, they have some interesting aspects, but nothing that screamed at me, “oh, artistic”. [Interviewer: Can you talk a little bit about what was artistic in the first one and not the other two?] It was just that there was a definite idea, there was a definite purpose, or goal that was trying to be reached. Whereas in the other two it was kind of random stuff. Which is great and fine, but it’s just – usually even when you’re just doing random stuff there still seems to be a reason for it. It’s not so much I didn’t like it, I mean, I understood what they were trying to get at, just I don’t think that they did. Like, [Maintenance Web], it just seemed like another web page to me that just happened to be interesting. It didn’t strike me as anything out of the ordinary, anything really special, or anything like that. (student 4)

Two other students who had difficulty perceiving net.art as art felt that some of the net.art they saw, as well as the net.art they were expected to make, would be more “art” if it included (or had more of) something in it that they already had no problem identifying as “art,” such as pictures. Otherwise, it was simply a web page:

I feel like I’m making a web page... That’s basically what it is, making a web page. It would be a little bit more like art if I could make my own picture and put

it on there. [Interviewer: It would? Yeah? Okay, so, just not text.] Yeah.
[Interviewer: Because text alone, to you, is just not, not really making art?] Yeah.
(student 21).

[It would be art] if we made our own pictures and put them on the site, instead of using pictures from the Internet. [Interviewer: Well, you can make your own pictures! We're trying to get you to use your own pictures –] That would make it seem like art to me (student 17).

This may imply that they wanted to include something they felt was original in the web page, as originality is traditionally associated with art. In addition, for some of the students, the presence of text in net.art negated its role as art, and instead made it seem more like a literary art form, such as a story. In other words, for these students text and images constitute mutually exclusive art forms – it can be art, or a story, but oftentimes not both. If the narrative in the net.art piece read like a story, for them it was more of a story. On the other hand, if it had original images, and images that they could create themselves, that made it more of a work of art. However, the students were not particularly adamant about this. Instead, they seemed to feel like the presence of text in a work of art was something they had to negotiate:

To me, that one [My Boyfriend Came Back from the War] was more like a story. Like a book, or something. I guess that's what other people call art. I mean - it could be art to one person but not art to another (student 17).

Incubus, it was necessarily about telling a story, and it had words, and links, and put pictures on it, and so it would be telling a story. And the Recycler, you could, it wasn't exactly telling a story, but it would show – it had art pieces and you could do stuff with it. Like you could take two images and mix them together and do whatever (student 8).

Art is a broad subject, so, I mean, yeah. It did depict art in some way, but in other ways, you could also see it as - it was also like a story, or something like that. I mean, there's art and stories, yes, but yes, it depends on how you depict it or whatever. [Incubus] was more of a story that was art (student 25).

Most of them I didn't [think were art]...because they were mostly – they seemed to be mostly text, and I'm not used to seeing that much – that much text in art. [Interviewer: Oh, okay. So, for you, the text made it something else.] Yeah. [Interviewer: So what would you call it instead? Instead of net.art?] Web site. [Interviewer: They were just web sites to you?] Yeah (student 19).

Not all students perceived the works in this manner, however. One student in particular felt that three of the four works he saw – Incubus, Maintenance Web and My Boyfriend Came Back from the War – were art because of the quality of the interaction within the works; the fact that the works contained text was not an issue for him, and it did not come up in the interview. The Multicultural Recycler, on the other hand, was not art because it was too “straightforward” to him, and reminded him of a “service” type of web page, such as Yahoo! mail. This straightforward nature of Multicultural Recycler gave it a functional similarity to web sites with a particular and well-recognized function, such as checking email. The outcome had no element of surprise, no “confusion,” no randomness:

With some I did [feel like I was looking at art]. With Multicultural Recycler it didn't – it didn't feel “art”. It felt more like a service, like Yahoo mail or stuff like that, it just felt like a service. The other ones did seem like art, though. [Interviewer: Can you explain why they seemed like art to you?] Not really. I don't know, just, there was more lack of direction in Incubus, Maintenance Web, and Boyfriend Came Back from the War. Even though I think Incubus was linear, it's not pure linear, there were offshoots and stuff like that. With Multicultural Recycler it was it's just hit buttons, see what happens, and that's it. [Interviewer: Okay, so that really wasn't like art to you.] Yes, really, no interaction (student 20).

6.2.1. Comparisons between net.art and other art forms. With a few exceptions, most of the students did not feel that net.art was comparable to other forms of art, traditional or otherwise. When they did make a comparison between net.art and another art form, the comparisons reflected the students' willingness to consider the similarities

in the creation process, such as both forms are art and require creativity or skill to make. On the other hand, their reasons for declaring net.art incomparable to other art forms were also based on the students' perceptions of the creative process and the work involved in making net.art, such as it is on the computer and does not require the artist to use their hands:

I think its [net.art] something completely different, just because...for net.art you don't have to be able to paint or anything. You don't have to draw, there's no typical art things. You can't learn how to do net.art at school. You can, but it's different than a regular art classroom. [Interviewer: Like how is it different?] Well, in your typical art classes you paint, you use different type of mediums with your hands, you use your hands, stuff like that. But, with the net.art it's like where you're actually using the computer more and learning about the computer and the different effects that the computer can do (student 24).

Some of the students made a comparison between net.art and popular screen-based media; one student compared net.art to film because they both take place on a screen and contain moving images, and another student felt that one of the net.art pieces she saw reminded her of the "reality TV" television show "Cops." On some level, however, most of them felt that net.art was something completely unique, and that it comprised a category of creative activity all its own. For instance, one student felt that net.art is something totally original, something that most people would not conceive of:

[Interviewer: Would you compare net.art to other forms of art?] Not really, net.art has its own standard necessarily. It's not necessarily drawing and stuff, it's just something original. But I don't think a lot of people know about net.art. That's why it's good. Because it's original, no one would ever think it up (student 8).

Shortly thereafter, however, this student made a comparison between creating net.art and creating a painting. He based his comparison on the level of skill needed to create a work of art using the required materials:

Net.art is like – it’s something – it’s art. You can use it as just like a painting. You can have it just like – you can compare it to a painting. [Interviewer: How would you compare it with a painting?] Painting, you probably – painting is just like – you can basically use your hands, but net.art you gotta learn how to use your computer well. Just for paint – for example, you gotta know how to paint well, and for net.art, you gotta know how to use the computer well (student 8).

Another student had a similar reaction to student 8, in that her initial reaction to the question “is it comparable to other art forms?” was an unequivocal and forceful no, exhorting it as “its own system of art.” Upon further reflection, her stance softened somewhat as she considered some of the ways net.art could possibly be similar to other types of art, despite the fact that it is “on the computer:”

Well, maybe, it depends because net.art seems to me like a bunch of pictures that were edited and everything like that. I mean, I don’t know, it could be compared to any other piece of art, but it’s just on the computer. It’s just the way the artists put it all together, made a collage out of it, and everything like that. I mean, it doesn’t feel like it’s just different pictures, that hasn’t been faked, that hasn’t been edited, that’s pictures been put together to make something (student 25).

As mentioned previously, some of the students did not feel net.art could be compared to other traditional art forms such as painting or sculpture, but if it could be compared to another visual medium, they found it more comparable to screen-based communications media such as film, television, or multimedia software programs. One student, for example, compared Incubus to “reality TV,” as it made her feel like she was watching a television show similar to “Cops”. Another student felt that net.art could be compared to film, as they are both viewed on a screen and contain moving images. A third student felt that the closest thing he could compare net.art to was the Internet and certain multimedia software titles produced by the software developer Macromedia.

I mean, [The Multicultural Recycler] was art in a sense, but it was kinda confusing. They could have just put more into it, I don’t know. The first one I liked. It was – it was weird. But I liked weird stuff, so. I felt it was more like a

story. Something you'd see on tv. [Interviewer: Like a quote unquote tv?] Student 16: Yeah. Just like – just kinda like a show like “Cops” you know, one goes around and that's what it made me feel like, kinda went around and told, you know – something like that, I guess (student 16).

[Interviewer: So what we saw, did it strike you as something other than art, or not art, or...?] Well, I mean, I like films. And I think people can do that and have an idea and express it in a film, that's just amazing. But it's never been anything I was interested in doing, pursuing for my self. I kinda looked at net.art in that kind of way. [Interviewer: Oh, okay! So you feel it's something you can appreciate but not something you would do –] Yeah, try to achieve for myself. [Interviewer: Okay, so, in your own mind you made a connection between film and net.art?] Yes! [Interviewer: Oh, okay! Can you talk a little bit about why you made that connection? If you can. Why, or how?] Well, first, it's really simplistic, but it was on a screen. And for the first one, which I think it was your piece, it's moving. So, moving pictures, aka film, so... and for the other two pretty much as well. There are components of the piece that move (student 4).

I guess the closest thing [comparison] is, I guess the newer technology, the new mediums that are beginning to develop.... like the 3d stuff that's being developed, and the Internet's – because of the Internet's success – Macromedia – the well known company that developed the system called Shockwave and Flash. But those other – and there – there are really a departure from the normal – I mean they used the basic ideas, but they – it's an interesting multimedia effect that they create. [Interviewer: And how about other traditional forms of art? Like painting, sculpture, film -] No – [Interviewer: - would you compare net.art to any of those in any way? Or no, or –]Not really, I mean, they have some aspects which are similar, mostly how people perceive it. Color, and texture of the web site. But beyond that, I wouldn't compare those much (student 3).

6.3 The form and function of web sites and net.art

In addition to having the students compare net.art to other forms of art, I also had the students think about how net.art could be compared or were similar to the web sites they were more accustomed to looking at, if they felt they were comparable at all. I also asked the students if they felt that net.art was different from what they would consider a typical or “normal” web site. I was curious to know if they would be able to make any distinctions, and if they did, what sort of distinctions they would be. I was also curious to

know if they would be able to articulate, in their own words, what constituted a “typical” or “normal” web site. In my mind, when asking the students the two interrelated questions “is it art?” along with “how is looking at net.art different from or the same as looking at a “typical” or “normal” web page?” I was asking them to think about how they would situate net.art amongst other, more familiar forms of visual culture. I also felt that if the students were given the chance to articulate what made net.art similar to and different from “normal” web pages, it would provide me with some insights as to how to explain and present net.art to future students. With one or two exceptions, most of the students were able to articulate clear distinctions between net.art and a “typical” web site; when they did not make such a distinction (for instance, stating that net.art isn’t art, it’s a web site), they still felt that net.art was still something very different from “normal” web sites.

Interestingly, nearly all of the students were able to articulate quite clearly what constitutes a “typical” or “normal” web site, and their overall responses, in this regard, were homogenous. In other words, all of the students defined a typical web site in terms of its functionality (you go to get information, you go to find something, you do research for school), how its form is dependent on its functionality (you know what you are looking for, the site has a clear purpose, you know which links to click on and what kind of information you are going to get when you click on those links, the pictures support, clarify and/or enhance the text) and its content (information, research, services). The student’s responses underscored the level of comfort they have reached with their use of the Internet; even those students with comparatively less experience with the Internet were still able to articulate these attributes of “typical” web pages.

Many of the students described net.art's form and function in direct opposition to a typical web site: you don't know what to expect, you don't know what will happen when you click on certain links, you have to follow all of the pages like a story and piece together the site's meaning, the images are "weird," the site is "confusing" and difficult to understand, it makes you think, it is not straightforward, it is random, you go to net.art to be entertained or to look at something interesting. Most of them perceived looking at net.art as a more holistic experience in comparison to looking at a "regular" web site in that with net.art, the user must look at all of the web pages within the site, as opposed to picking and choosing which ones to look at based on his or her needs or interests. Beyond that, they noted that the user must then place the pages within a particular context framed by the artist's intent, i.e., figure out what the artist (or artists) were trying to communicate.

When the students were asked what they considered to be a typical web page, a number of them said that typical web pages consisted primarily of facts and straightforward information that is easy to navigate, and does not contain surprises – you know what to expect when going to the web page, and you have an idea of what you will find when you get there. Therefore, for a number of the students, typical web pages have a particular purpose: the user goes to a web page to find information, whether it be for a research project for school, or to find out information about a friend, an acquaintance, or someone else they may or may not know. Or, the user creates a web page in order to provide information for others:

A typical web page is probably - most of the time it's informative, kind of information, has maybe images that tell about it, and so forth (student 8).

Regular web pages are just about a bunch of – like google.com, it's just of information that's being put down for you to read, it's right there. You just link, and link, you know (student 16).

Well, a normal web page, everything goes together on a normal web page. You click on a link, it's gonna go to something related (student 13).

A typical web site would be one that is explaining something, or is funny, or something like that (student 19).

A typical web site isn't trying to – they have information that they wish to just put there, just sitting there, you look at it, you scroll up and down, you read the text. Because like, other sites, some of them are – an online newsletter, or an online encyclopedia, there's nothing really there that's interesting other than the material itself. Page by page by page, or just information, they just present it to you – [Interviewer: And you just go through the pages to find what you need?] Yeah, just what you need. [Interviewer: And you don't have to put them all into a kind of context.] No, it's just laid out there, and sitting there and doing nothing (student 3).

Most web pages you do go through like that, you click on different things to find what you're looking for and stuff. But it is different because you don't go to net.art to find, like, stuff for your project and stuff like that. And that's what a lot of web pages are, so. A typical web page is something where you would find research, it's all factual, stuff like that (student 24).

Most web pages, they're trying to educate you on a topic, or like, tell you about an experience that they had. And most web pages, they make it as direct as they can, just get you the information – you don't have to look all over for it. I mean, it tells you exactly what you're going to, and they try to make it as easy as possible for you to get through it and everything. when you go to the other ones [“regular” websites], they have a description of which is gonna pop up next. I mean, you click on one link and it'll pop up exactly what it says it is, most of the time (student 28).

Several of them were somewhat more specific in that they described a typical web page as a home page that they, their friends, or another teenager might create. Such a home page would be informational in that it would describe their interests, for example, and have features common to home pages, such as a guestbook:

[A typical webpage] is about you – [Interviewer: About you?] Yeah, and you talk about your friends. You can do that on a net.art, but I mean, with a typical web

page it gives you like different backgrounds and everything you can choose from, and you can have a little personal message, a guestbook and everything like that (student 17).

Well, basically like Blackplanet and the other web pages, they're just basically talking about what people look like, what school they go to, and some pictures, and it's basically just saying like, what they're like and what they're into. But, I mean, more – the biggest difference is - the teenager's web pages are more of words, and the net.art is more pictures (student 1).

A few of the students also described a typical web page by comparing it to net.art, and when they did so, they often alluded to net.art's narrative components. In other words, these students explained that net.art told a story, or had a storytelling or narrative function, while a typical web page did not:

Well, a typical web page it doesn't have like a story or anything like the boyfriend going to the war, or that ghost story (student 21).

Like a web page, I'm used to looking at, like, images, like, links and so forth, like, links that wouldn't necessarily have a story line in it. Links – they – links that would go to another page, maybe to a certain – maybe to a page that was related to the same, but not exactly. [Interviewer: Okay. So, you're used to pages that link to one another that don't necessarily tell a story, or you don't think a link that –] It's just information wise. Like is this [net.art] for entertainment, to tell a story... (student 8)

As mentioned, the students described net.art as something quite different from typical web pages. Some of these differences related to net.art's content have already been discussed, such as net.art has a narrative element generally absent from typical web pages, and that commonly used web pages have a pragmatic, informational function that net.art typically does not have. Many students were able to go beyond this level of comparison, however, in that they made a connection between the purpose or function of a typical web page (you visit it to obtain information you want or need) and the page's form, e.g., how the page is structured in order to obtain this information (the links and the

navigation are commonsensical and straightforward, thus facilitating the ease in which this information can be obtained). The students then took this connection and contrasted it with the way they interacted with net.art pieces by explaining how they had to navigate through all of the different pages of a net.art piece in order to know what it was about – and even then, they acknowledged that this comprehension took some effort. A couple of students felt that net.art was almost like a puzzle, in that each page is akin to a piece of a puzzle, and each piece is meaningfully connected to the other pieces. Thus, the visitor needs to figure out how to put each of the pieces together in order to understand the work as a coherent whole:

It's [net.art] more confusing in a way because they'll have words, or a phrase, or a paragraph, whatever, and then it'll go to a totally different thing. And you click on whatever image, word or words, and it'll go to something else which kinda goes along with what you read before, but at the same time it doesn't. So it's kinda weird, it doesn't make a whole lot – you know – it doesn't make a whole lot of sense at first until you start thinking about it and applying it (student 16).

With the net.art we've been looking at, you click on – you click on one of the links and it takes you to something – I mean, it goes together, but you have to piece it together. You just have to know what the person was feeling when they made that, I guess (student 13).

Net.art tries to display that information with the full range of effects and abilities that the Internet has available. . . . But, when the website, not just the context, they have their own type of art, their own form – [Interviewer: You mean the net.art sites have their own form?] Yeah, because it's not just the content, it's not what you're looking at, it's the entire website – [Interviewer: The entire website? Mmmm – meaning...?] Like, I mean, not that you just have the pages there, its interaction in between the pages, and all the effects, and so forth (student 3).

It's [net.art] something you have to decide, like oh, I'll go look at this. It's more like artistically put together, I think, too. It's just more arts, more artsy stuff in it. . . . I can put art in it, like art pieces or pictures, and signs and stuff like that. The text, I think, it kinda - it makes you think. . . . And the way you have to go through it, I think it makes you think even more because like the ones we've looked at you

don't just read the story, you have to – you gotta decide how you read the story by the different stuff that you choose. So it makes you think that way too (student 24).

I understood them [net.art] a little bit because – because, mm, once you got through them they sort of explained themselves (student 19).

Well these [net.art pieces] are also telling you about an experience that they had, but in a completely different way. Like, they're doing it in a way that you have to figure out what they're trying to get across to you and stuff. And [with net.art] you really didn't know where you were going, or whatever, so you didn't really know what was going to pop up next (student 28).

6.4 The final project – applying their knowledge

For the final project, the students were required to apply what they had learned about net.art and web page construction and create a work of net.art of their own. I was curious if the students would create something that resembled an experimental work, rather than something that resembled the personal home pages and email service pages they were accustomed to looking at. By the end of the four week unit, only two students had completed this assignment, and a number of students had works in progress. In this section, I will discuss their work, as well as include both their perceptions of their net.art piece as they expressed them in their interviews. In addition, I will present and discuss the viewpoints of other students who talked about their final project in their interviews.

In my estimation, the two completed assignments were successful in that they reflected the students' willingness to experiment with the notion of creating a web site that circumvented more common approaches to web page building, in terms of content, “look-and-feel,” and function. The first student created a web site (which can be seen in its entirety at <http://www.accad.ohio-state.edu/~arcolman/oupres/andyz/Back%20uP%20NOW.htm>) that begins with a web page containing a black background and a digital

photograph of three school lockers, each with a white number (1, 2 or 3) superimposed on them; directly below the photograph is the sentence “Do you know the way?” The photograph is an image map which divides the photograph into three sections, each section represented by an individual locker with a number. When the user clicks on a locker, s/he is directed to another web page. Locker one takes the user to a page that contains the same black background, and a digital photograph of the three lockers, the first one of which is open. Underneath the image are the words, “Have You Found It?” The photograph is a link to another page, which contains a digital photograph of another student making a menacing face and pointing at the viewer, along with the words “I Pity The Fool Who Comes This Way!” Underneath this statement is another sentence, “Try to find the way again,” which is a link to the first page in the site. Locker two takes the user to a page with a digital photograph of the same three lockers, with the second locker open; underneath is the sentence “Do You Know Where Your [sic] Going?” The image is a link to another page, which contains a centered image at the top containing the word “Heaven” written in fanciful, Gothic-style script, a short Quicktime movie clip beneath it of a person breakdancing in front of an audience, and the sentence “I Have Seen The Light!!!!” Below all of this is the sentence “Try to find the way again,” which again links to the first page in the site. Finally, locker three takes the user to a page with a digital photograph of the three lockers, with the third locker open and the sentence “You May Have Found It....But Have You?” Like the others, the image is a link to another page. This page has a digital photograph that has been manipulated to appear highly

overexposed of a student squeezed inside a locker, with his hand over his face.

Underneath the image is the sentence, “Turn Away... You’ve Been Crammed!” along with the linked sentence underneath, “Try To Find The Way Again.”

This particular student was already somewhat familiar with web page building prior to this unit. He had a working knowledge of the web page construction software package FrontPage, and created his final project with relative ease. During the interview, the student talked about his final project and explained where he got his idea:

I couldn’t – I couldn’t think of anything to do, and so I was thinking about my middle school years, and how I had interesting experiences with lockers (laughs). In middle school I had – let’s just say I had an interesting time. And (laughs) yeah, I got put in a locker a couple of times. I thought I was going to do something with lockers, and I couldn’t figure out what I was going to do, so I just started taking pictures of ‘em, then I got the idea that I could have different – different ones opening up, have different things behind each locker, whatever. And, I just kinda went with that. I didn’t know, like, what to put behind it, so it’s just kinda random. It doesn’t have much meaning to it, or anything, but. I just had fun with it (student 28).

I asked him if he felt he was influenced by any of the net.art pieces he saw over the course of the unit. He felt that it had, as he had never seen net.art before, and therefore it would have not occurred to him to create anything like what he did for his assignment.

When I pressed him a bit further, asking him whether there was anything specific about any of the works that influenced him, he replied that it was the random navigation, especially in the work Maintenance Web:

Just navigation wise, like, having kinda like a tree, you start with one main thing and then you go off into the different other sections. I don’t know. Uhm – that was more apparent in the – the (pause) – Maintenance Web. So, I mean, that one kinda influenced me a little bit on there (student 28).

I then told him that I found it very interesting that he created a piece based on the premise of guessing, because over the course of the interview, he had stressed that one of the most

significant differences between net.art and “normal” web pages is the amount of “guesswork” involved in navigating a net.art piece in comparison to a straightforward, informational web page.

The second student’s net.art piece (<http://www.accad.ohio-state.edu/~arcolman/oupres/katies/gc.html>) was both visually and conceptually different from the first student’s work in that the navigation was much more linear and she took more visual risks. The text of her work consists of the lyrics from a song titled “Change” by the alternative rock band Good Charlotte, and linked word or words on each screen take the viewer to the next page. However, she took a somewhat more visually experimental approach with her work in that in each page the words of the lyrics are arranged according to a particular pattern, such as positioned in a vertical line and separated by varying amounts of space, scattered around the browser screen haphazardly, or staggered line by line in a horizontal movement across the screen. The background of all of her pages are black, and the text is white (with the exception of the red text fragment “this is real” in the song’s chorus) and of varying sizes. The links appear in blue, of which there is only one per page. A few of the pages also contain small grayscale or black-and-white images that complement the text and are also placed on the screen in a random fashion. Like the first student, the appearance of her work was relatively simple. In my opinion, her work somewhat resembles [My Boyfriend Came Back from the War](#), although the student mentioned to me that this was not intentional. However, she did feel that looking at all of the net.art pieces gave her some good ideas on how to approach the assignment, and that she hadn’t thought of words or text being artistic prior to this unit.

This student was somewhat shy and had a bit of difficulty articulating her reasons for creating her piece the way she did. I asked her how she decided how to break up and arrange the text, and how she went about determining which words should be linked. She responded that she did what she did because it made sense to her, and certain words simply stood out:

I put the lyrics on there because, I don't know, I liked the song. And, like, I just put them in that kind of order because it just kinda makes sense. [Interviewer: What kind of order?] Well, I broke it down. [Interviewer: Broke it down? How did you decide what words to put on each page, and how did you decide how to arrange them, and how did you decide which words to make a link? Do you remember?] Well, I made the words that, like, stood out to me, like a word like maybe eyes or something, I put it in bold. And like some others, I put in a link because, I don't know, I just felt like it.... On one page, I put them [the text] kinda spaced out because in the lyrics, well, in one of them there was confusion so I put confusion like, the words mixed up (student 21).

Although these were the only two students who completed the assignment, a few other students had reasonably well developed ideas for their final project, which they described during the interviews, as well as during class time. For example, one student decided to do her project about Tupac Shakur, a deceased rap artist, in which she integrated a transparent image of his face with one of his autobiographical poems. She explained that this main page would link to another page containing a fragmented picture of Shakur over a background consisting of a picture of Van Gogh's Starry Night, because he was an admirer of Van Gogh's work. Each fragment would link to another page with another fragmented version of his face along with a fragment from his poem "Starry Night," which he wrote in homage to the artist, and all of the fragments would add up to the complete poem. When asked if her project was different from a web page she may have created about Shakur had she not been exposed to net.art, she responded

affirmatively, that she would have done something more simple. She also described how her decision to create a fragmented version of his face served as a metaphor for his life:

I think that if I didn't have the class or anything, I wouldn't really – I wouldn't use the pictures or anything, I probably would have a single page with just a bunch of poetry on it. [Interviewer: And do you think what you're doing now is more interesting, or more provocative?] Yeah, I think that the pictures – because, I think the reason I'm using the cut up pictures is because his life was so cut up, I mean, it was horrible, and, I think that kinda shows him too. And without that - I think that's just a main part of it (student 24).

When students were far enough along with their final projects to be able to describe them, I asked them if they felt they were influenced by the net.art they saw, and if so, how. I also asked them how they were going to make their final projects “art,” instead of making it look like a “typical” web page. One student had already created one small net.art piece as practice titled “Dedication,” which she created for friends who had lost someone important to them, and was in the process of creating a more complex piece about children for her final project. She was strongly influenced by My Boyfriend Came Back from the War, the work's seemingly haphazard layout and appearance as a visual collage in particular:

My Boyfriend Came Back from the War, that one is like the one that inspired me the most. I don't know, I guess it's just because of the way the pictures were set up, they weren't all sitting there, they weren't all to the left, or to the right, they were... however (gestures with hands). And the words were also, so. Yeah, I think my pieces were inspired by that one. Because they're not all the same. The alignment isn't the same, and things like that (student 25).

Other students stated that they were influenced by what they perceived to be the navigational “randomness” or lack of lexical hierarchy of net.art, and that they were going to try to create something that was less linear, more “confusing,” and more like a story:

I'm thinking about – my net.art might necessarily be a story. It probably will be a story.... I intend to have it – it's going to have – you can take like more than one path, instead of just going straight. Like through all of it. You go to a page, and then you have a choice between two things, like words, and you click on one thing, and that one has two choices. And each one will have a different ending. [Interviewer: So do you feel like any of those four net.art pieces kinda inspired you, or gave you ideas?] Yeah! Incubus, it tells – it's like a story, that one probably helps me out for my net.art. I don't think I'll be using the Multicultural Recycler, but it's just something original, something good to look at. And the work from the war, that one really, because - that one doesn't have an order. You don't have to pick one path (student 8).

Yeah, actually, one idea from net.art that I've been watching for at least a month, maybe two, since August, really, is online comics. I've decided to scrap what I've done before and do that for my net.art. It's an idea that I've had for at least a month. Actually, I'm doing a sprite comic, which is kind of an offshoot of that where you use sprites ripped from video games or re-palettred and stuff like that. I was going to do something using cascading style sheets and music and stuff to confuse the user out of his mind! [Interviewer: Oh, okay! And do you think that is a quality of net.art, like to be confusing, or maybe confuse the viewer, or - or is that just for you?] Well, for me. I don't know about other people, but I like confusion. I like, not a to b to c, I like a to b, c, d, e or f (student 20).

However, some of the students who had begun working on their final projects did not seem to be able to make the leap from creating something resembling a “typical” web page to creating something more experimental. One student was creating a net.art piece about Mark Twain, in which each page would contain an amusing quote from one of his written works, along with an image illustrating the quote. Her plans for her net.art piece, based on her description, seemed a bit more literal than what I was hoping for:

I have a book of quotes of – from Mark Twain, and since he was really funny, I just put quotes – and then drew a picture for them. Interviewer: Okay! And what is the overall point of your net.art piece?] Just to be funny. I'm drawing from what I see in the quote. Like, uhm, one says, one of the quotes is, is, it is better to keep your mouth shut and appear stupid, then to open it and remove all doubt. So I have two mouths, one is shut and it has the word “stupid” kinda faded, and the other one has its mouth open, and is bright yellow. [Interviewer: Oh, okay! (laughs) That's cute! I had you all look at net.art, so, did you get any ideas from the net.art that I showed you?] Probably Incubus, because it had text, and then the pictures kinda related to the text, so that's what I used (student 19).

Another student stated that she was going to do her net.art piece about music; when I asked her what she was going to do to make her piece more artistic as opposed to a piece that looked more like a typical web page, she was up front about stating that she did not have much of an idea on how to create net.art:

At this stage, it looks like just another web page Right now I'm gathering a list of my favorite songs, songs that fit under a certain subtitle. Like, in my opinion this is the best love song. And then I'm going to take a picture from either the band or the music videos. Just a snapshot, just a picture, and I'm going to compile them all together. And that's the final product. [Interviewer: Okay. Okay, that's cool. So what's the main idea?] Mm, really, it's just, I like music and you were saying all this stuff we could do, and I was like, doo-da-doo, yeah, okay, I understand, gotcha, idea time, blank. And someone else was playing music, and I like music, so. [Interviewer: Okay. And you feel like you've gotten ideas on how to put together your net.art piece, by the net.art we looked at in class, or -?] No (laughs). Honestly, no. [Interviewer: So how do you know – so are you striving to make your net.art piece look like something that someone would look at and be like, that's art, instead of oh, that's just a web site.] No, not really. Just something – if I like it, then I'm happy. If I get – if I see that there's a meaning behind it, if I see something that, like, maybe happened to come up in my subconscious and I like it, then I'm happy (student 4).

It must be noted that neither of these students warmed up to net.art over the course of the unit, and both of these students were among the few who did not, overall, come to consider net.art as a form of art. Rather, they considered most or all of the net.art pieces they saw to be “just web pages.” In addition, they expressed either ambivalence or dislike for the net.art pieces they saw.

CHAPTER 7

CONCLUSIONS AND IMPLICATIONS

In this final chapter, I will discuss my conclusions within the context of the research questions I posed in chapter one, as well as discuss the implications this study has for future research directions. The primary research question that guided my study is, how can net.art be integrated into a high-school level computer art and graphics curriculum? Five subordinate research questions also guided me in my research; each one of these questions will be addressed in a separate section of this chapter. The five subordinate questions are:

- What knowledge base should an art educator develop in order to teach students about net.art in a meaningful way? In other words, what should an art educator know about net.art?
- How can an art educator construct a curriculum including net.art in such a way that circumvents technological deterministic visions of information technology?
- What does the art educator need to know regarding art criticism, aesthetics and art history as they relate to net.art if she or he is to develop a curriculum that goes beyond studio production (i.e., the creation of a web site)?

- What skill set with regards to computer hardware and software should an art educator acquire in order to teach students to create net.art?
- What should an art educator know with regards to her or his students' internet use and attitudes toward the Internet in order to develop a curriculum that, while relevant to the students' lives and interests, also challenges their assumptions and conceptions about their use of networked technologies?

This study suggests that it is possible to teach high school students about net.art, and that it is also possible to teach students how to create experimental web sites. However, teaching net.art is extremely challenging, as it requires the educator to have a knowledge base that is very broad as well as very deep, as well as an extensive repertoire of behavior management strategies tailored for teaching in a computer lab. In order to successfully teach a unit on net.art, as well as plan for a unit on net.art, obtaining certain computer skills, while integral, is not enough. In addition, developing a deep and broad knowledge base about net.art is also integral; but again, by itself (or even in conjunction with the aforementioned skill set) it is not enough. Neither of these components by themselves are sufficient, because this study also suggests that knowing how to effectively and meaningfully engage students in critical inquiry, analysis and interpretation of net.art is the key to helping students make the transition from conceiving the World Wide Web as a repository of information to conceiving it as an expressive medium. In other words, this study suggests that if the art educator does not have the students spend sufficient time interacting with and investigating a number of net.art works, the students will not become aware of how net.art challenges many of the web design and content conventions already in place, to say nothing about the cultural and political issues net.art raises. Net.art

“makes strange” the web environment they are highly accustomed to, but the students will not know what to do with this strangeness unless they are guided by the art educator. If they do not receive this guidance, the students will most likely create web pages that resemble the web pages they are already accustomed to looking at.

7.1 The art educator’s knowledge base

As I mentioned previously, the art educator needs a knowledge base that is both broad and deep. When I formulated my subordinate questions, I felt it was most important for the educator to obtain a knowledge base as it pertained to net.art. While I still feel that a strong knowledge of net.art serves as the basis for teaching it, I now realize that the educator’s knowledge base needs to extend beyond this, particularly in the area of art criticism and aesthetics. This section will be devoted primarily to the art educator’s knowledge base with regards to net.art, while section 7.3 will be devoted to discussing the educator’s knowledge base regarding discussing and analyzing net.art.

First and foremost, the art educator needs to know where to look for net.art. As of this writing, there are a few portals or repositories for net.art on the web (such as the Walker’s Gallery 9, Rhizome and adaweb) but they are not particularly easy to find, and the educator needs to be a relatively savvy user of the Internet if s/he wanted to explore the realm of net.art. The art educator also has to learn about the history of net.art, as well as particular net.art pieces and artists who work with the Internet; again, because most of the writing that has been done on net.art exists online as opposed to traditional print media, the art educator needs to know where to look for this sometimes elusive information. The implication for this is that art educators need more professional

development opportunities that will introduce them to and familiarize them with net.art. Once s/he knows where to find net.art and has a list of works, s/he also needs to have a set of guidelines to follow when deciding which net.art works would be most appropriate, as there are a variety of factors the educator needs to take into consideration when making such a decision. Some of these factors include: the technical requirements for viewing the piece, whether or not the work contains nudity or foul language, if the concept behind work is too difficult for younger viewers to understand, if the political content of the work is too sensitive, and if the work has visual appeal. Other factors may depend on the goals of the art educator; perhaps s/he is particularly interested in net.art works that focus on narrative and storytelling, show a particularly innovative use of ASCII or software packages such as Flash, or deal with concepts relating specifically to identity development in online environments.

The educator also has to be comfortable looking at and navigating around works of net.art, because they cannot assume that their students, regardless of their familiarity with the Internet, will be able to comfortably navigate around the pieces themselves. The art educator must navigate around the entire piece and try to anticipate the questions the students may have about it, whether they pertain to technical difficulties, confusion on how to proceed through the work, or lack of understanding about the content of the work. The art educator may also may want to develop a set of metaphors they could utilize to help students become more comfortable navigating around a work of net.art, such as comparing it to a book (in order to understand the work, you must read all the pages) or a puzzle (each page is like a piece of a puzzle, which you must put together in order to understand). Thus, the art educator needs a well-developed vocabulary that includes the

basic components of a web browser (Uniform Resource Locator (URL), page source, HyperText Transfer Protocol (http), splash screen, navigation bar, frames and so on), and the names of the different types of files contained within net.art works (GIF, jpeg, avi, quicktime, html, javascript, and DHTML, to name a few).

Finally, the art educator needs to be familiar with the numerous issues the net.art raises, from questions of authorship and its value as an art form, to the ways it challenges traditional art institutions and our relationship with information technologies. I cannot guarantee that these issues will serendipitously come up during class sessions; they may or may not. If the art educator wants these issues to be addressed, they would most likely need to make a concerted effort to do so. In addition, the students may not be ready to tackle these issues, especially if there is not sufficient time to spend on the unit. Over the course of study, most of the deeper philosophical issues surrounding net.art did not arise in any meaningful way, at least not in the context of my classroom teaching. I suspect they did not come up because most of the unit was focused on laying a groundwork for the students, such as getting them comfortable enough with net.art to want to explore it, and providing them with enough conceptual tools to enhance their ability to engage in the describing and interpreting of net.art. In addition, both my participating art educator and I needed to develop classroom management strategies that would help the students remain focused on the task at hand. Many of the students spent the class periods chatting on IM and browsing the web, which wasted a considerable amount of time. If less time had been wasted, it might have been possible to devote time to class discussion about these issues.

7.2 Constructing the curriculum

My second subordinate research question addresses the possibility of circumventing technological determinism when developing a curriculum that includes net.art. It is possible, but difficult; the difficulties I had points to a tension between the highly sophisticated technological nature of the works, and the significant amount of time required to get the students comfortable with the “making strange” of net.art’s treatment of this technology. Again, I feel this possibility rests on the inclusion of meaningful critical inquiry into net.art, as well as the inclusion of the discussion of issues that net.art raises. Without the inclusion of these components, the unit will remain at the level of learning about the technological components of net.art. As was the case with this study, my original intention was to include significant amounts of such inquiry and discussion; however, the focus soon shifted out of necessity to familiarizing the students with net.art, helping them learn how to navigate around it, and deconstructing it according to its technological components. Because so much time was spent on this particular focus, I feel there was more emphasis put on net.art as a demonstration of technological prowess than I would have liked. When first looking at net.art, the students immediately engaged in uninformed judgment, as most people who haven’t been trained to analyze art tend to do. Therefore, I had to devote a good portion of the unit helping students develop a vocabulary that would make it possible for them to simply describe the works in a meaningful way. Engaging in description of net.art necessarily includes describing its technical components and the type of navigation and interaction made possible by these

components. If this is the extent to which the investigation of net.art is taken, however, there is the implication that net.art is, overall, a showcase for innovative uses of Internet technology and nothing more.

At this point, I must stress that many net.artists do make innovative use of Internet technology, and this aspect should not be ignored. However, it is important not to lose sight of the fact that such innovation is often very purposeful, and that their exploration and uses of particular technologies are closely entwined with the work's meaning. In other words, net.artists' choices regarding their treatment of network technology and web browsers, for example, are usually not based solely on using a particular technology for its own sake. Very often they use a particular technology as a means to interrogate it, such as The Multicultural Recycler (e.g., the use of web cameras to raise issues concerning surveillance and voyeurism).

I do not wish to argue that avoiding technological determinism is close to impossible, especially if the art educator is working with time constraints. The challenge for art educators is to devise ways to include in their curriculum the discussion of issues raised by net.art and engaging in critical inquiry while remaining at basic levels of instruction as the students are becoming acclimated to this new art form. I feel it is certainly possible for the art educator to use net.art pieces that are enjoyable and compelling as well as approachable (such as My Boyfriend Came Back from the War) as a vehicle for demonstrating to students how to analyze and appreciate new media art forms. In short, I argue that a computer art and graphics curriculum that incorporates net.art cannot separate artistic production from the generating of meaning. Requiring the students to engage in interpretive and critical thinking about their perceptions about and

interactions with the Internet and the World Wide Web is the means toward the end of artistic production, i.e., the students' creation of their own net.art. My argument is similar to one made by Freedman (2003), in which she also makes the case for a curriculum in which student artistic production is intertwined with cultural critique.

7.3 Art criticism, aesthetics and art history

First, if approaches to art criticism, aesthetics and art history are not normally part of the art educator's curriculum, I believe it would be extremely difficult for them to introduce it into a unit of net.art if they have not engaged students in these approaches previously. Very few of the students in this study had any prior experience with art criticism; a number of them attributed their difficulty in completing their worksheets to this fact. On one level, I would suggest that the art educator incorporate the looking at and talking about art in all of the classes they teach. I would also suggest that the art educator introduce mass culture imagery, such as advertising or comics, into their curriculum as well. This would lay the groundwork for conceptualizing more unfamiliar art forms such as net.art, and there might be a greater likelihood that their students may have more confidence in their ability to critically reflect on net.art and generate more sophisticated responses. However, this begs the question: what approach to critical inquiry would be the most conducive to deepening the students' understanding of net.art? Can this approach be found in more traditional methods of analyzing art, such as a reliance on the elements and principles of art and design, or would the more recent discussions about teaching visual culture in art education provide a more relevant context?

The short answer to the above question would be, it is possible to draw upon both approaches, with modifications, or some caveats. As I discussed in chapter five, my participating art educator mentioned that she uses the elements and principles of art as a framework for her students when she wants them to talk about work that is difficult for them to appreciate and understand, such as abstract art. She felt that this approach was helpful, because it gave students a vocabulary from which to draw in order to describe and interpret the works. It also staved off hostile reactions; she also mentioned that students tended to strongly dislike abstract art because they didn't understand it, and because they didn't understand it, it made them feel "stupid," which in turn facilitated a negative judgement. We concluded that while it would be extremely useful for the students to be able to describe the formal elements of net.art, the framework she used for analyzing traditional art forms such as drawing, painting and sculpture was not sufficient because net.art is so different in so many ways. Together, we came up with a list and description of formal elements we felt were unique to net.art (in comparison to traditional art forms, not necessarily new media art forms) that would serve as building blocks for students to help them interact with the works more comfortably, as well as describe and interpret the works in a more sophisticated manner. The list we constructed is as follows:

- The element of time, regarding the time it takes for the viewer/user to go through all of the different web pages contained within the work. The work may contain a large number of pages or a small number of pages; the artist may have constructed the work in such a way that the viewer must navigate through all the pages, or, the viewer may not need to view all the pages in order to experience it fully. The element of time

also refers to the pace of the user as s/he is navigating through the work. The piece may be constructed in such a way that slows the user down, or s/he may be able to go through the pages relatively quickly.

- The navigational element, i.e, the order or sequence in which the user navigates through the work. For instance, the sequence may be more linear, in that there is a predetermined order the artist wishes the user to follow. Or, the sequence in which the user navigates about the work may be more circular, or random – the user may be the one who determines their navigation. The artist may have made it easy to figure out how to navigate through the work, or they may have made it difficult, intentionally or not. Finally, the user may rely on text, images, or both text and images as links to guide them through the work.
- The element of text and the way it functions in the work. For instance, the text may serve a more conventional function in that it provides information, or tells a story. On the other hand, the text may play an equally (or more) aesthetic or decorative role in the work, such as ASCII art, or through innovative typography. The work may consist entirely of text, and the text may be both functional and aesthetic.
- The way the images function in the work, if the work contains images, as well as the formal elements of the images themselves. The work may consist almost entirely of images, whether they be scanned artwork or photography, entirely computer-generated, taken from another web site and manipulated, or animated or still. The images may change when the visitor places their cursor over it, or their appearance might be entirely dependent on user input.

- The relationship between the text and images in the work, as well as the relationship between text elements and the relationship between imagery, and how they are combined or interact to create meaning in the work. The work may be primarily text-based, image-based, or there may be a relative balance between the two. The text might function in a manner similar to the images with regards to aesthetics, or its impact might be incidental and/or secondary. The background color and/or images and the color of the text may or may not contribute to the meaning of the work.
- The element of interactivity as it pertains to the impact the user/viewer has on the work. The work may be static and unchanging, aside from updates completed by the artist(s), and therefore does not require any meaningful input from the user. On the other hand, the work may require user input in order for the work to be complete. Furthermore, the work may simply change over time as the result of a script written by the artist, without any further input by the artist or the user. Another component to consider is whether the viewer's input impacts the work in such a way that subsequent users will see an altered version of the work and thus experience it differently.
- The element of interactivity as it pertains to the ability of users to interact with each other. In some works of net.art, the users are able to interact with each other, either in real time or in asynchronous time – oftentimes this interaction is necessary in order for the work to be successful.

This list is a preliminary one; as I continue to pursue research in this area, I am certain this list will continue to grow and/or become more refined.

However, learning how to analyze a work of net.art should not rest on its formal elements alone, especially (as I mentioned above) because very often there is a connection between the formal elements/technology, the meaning the visitor derives from the work, and the larger context the work resides within. In recent years, art education scholars have been arguing that art education should be broadened to include visual culture, which consists of images generated by the commercial mass media (television, advertising, movies, music videos, the Internet, newspapers, and magazines) and other generators of pop culture (Duncum, 2002; Krug, 2003; Tavin, 2003; Taylor & Ballengee-Morris, 2003; Villeneuve, 2003). At risk of oversimplifying their arguments, one of the basic premises of teaching visual culture is to provide students with a means to think critically about the highly visual world in which they live. Another argument that visual culture art education proponents share is due to visual representation as being socially constructed, they advocate situating visual/symbolic/material culture within larger contextual conditions, defined by Krug (2003) as “social, historical, economic, political, technological homogenous and heterogeneous forces of power at play in societies” (p. 19). I agree with these basic premises; while I have some misgivings about lumping net.art into the extremely broad (and in my personal view, homogenizing) category of visual culture, what I find valuable about the discourse surrounding visual culture in art education circles is the way it validates meaning-making through its grounding in (messy) everyday life.

As I have tried to demonstrate throughout this text, net.art politicizes our relationship with networked technologies. I will go even one step further by stating that net.art politicizes our relationship with information, and, in my mind, it wouldn't make

any sense to ignore this when teaching students about net.art. Therefore, the teaching of net.art lends itself quite well to critical pedagogy and the expanding field of art education. Of course, this presents another challenge: the difficulty of keeping up with rapidly changing technology while coming to terms with their social and cultural implications, to say nothing of the difficulties in formulating pedagogical strategies confronting students with these implications. This dilemma alone represents the tip of the iceberg regarding the political nature of information technologies such as the Internet.

7.4 Acquiring a skill set

When discussing the skill set the art educator ought to have in regards to computer hardware and software, I fully recognize that different school districts have varying levels of commitment and financial means when it comes to computer technology. Therefore, I understand that not all art educators will have the same level of access to and knowledge of computers. With that in mind, I will present a range of suggestions, from what I consider to be the very basic or bare minimum, to what is possible if the art educator has adequate time and means. Fortunately, web authoring does not require the fastest or newest machines, as does desktop publishing, digital video or 3D rendering. It is possible to get by with much less than the top-of-the-line when it comes to computer equipment and software packages.

The art educator should be comfortable enough with web browsing and knowledgeable enough about web browsers such as Netscape Navigator and Microsoft Internet Explorer to be able to do simple troubleshooting. Students will often misspell the URL, for instance, and they get frustrated when a 404 error message appears. Students

also often want to know how to download images off of other web pages or include sound in their projects. It is extremely beneficial if the art educator knows some HTML; the benefit of knowing and understanding HTML is that the web author is in better control of knowing what is possible and what is not. Knowing HTML means understanding what the various tags do and mean. If the educator knows HTML, the only software s/he needs to create a web page is a simple text editor, such as SimpleText, NotePad or WordPad, in addition to the photo manipulation and/or the image creation software of their choice. One highly popular photo manipulation software is Adobe Photoshop – it has long been an industry standard. Unfortunately, it is also very expensive and even the educational version is out of the financial reach of many school districts. However, there are many image manipulation software packages in existence that are both inexpensive and of reasonably high quality. One such package that has been developed recently is GIMP, which stands for GNU Image Manipulation Program (the Macintosh version is called MacGIMP), an open source image manipulation/creation program similar to Adobe Photoshop. It is available for downloading at <http://www.gimp.org>.

Some art educators may not have the time or the inclination to learn HTML can still learn how to make web pages using a WYSIWYG (**What You See Is What You Get** – pronounced “wizzywig”) HTML editor, such as FrontPage. WYSIWYG editors don’t require the user to know HTML – the user composes their web page much like they would on a regular word processing program (such as Microsoft Word), and the editor creates an HTML version of the page that is readable by a browser. The benefits of using a WYSIWYG editor is that the learning curve is less steep than that of learning

HTML, and it makes it much easier for the novice to create web pages quickly. In my estimation, it is much easier to teach students how to use a WYSIWYG editor than it is to teach them HTML. WYSIWYG editors have their limitations, however. HTML tags change on a regular basis and new file formats, plug-ins and browser features are constantly being created, but WYSIWYG editors are usually not upgraded at the same pace. In addition, if the user relies exclusively on the editor to compose pages, s/he will not acquire the necessary skills to understand how to extend its capabilities. It has been my experience that when teaching students how to create web pages using an editor, it is often easier to troubleshoot using HTML when they have a problem, especially if the editor inserts its own HTML tags that certain browsers don't recognize.

When discussing the art educator's skill set regarding the teaching of net.art, before proceeding on to the next section, I feel it is necessary for me address what I perceive to be an enormous gap between the technical and theoretical knowledge most net.artists possess and the resources (such as equipment, training and time) many of them apparently have access to, and the knowledge and resources available to most art educators. By extension, I need to address how this gap can be made a bit smaller – at this point in time, expectations on actually closing this gap are unrealistic. I realize that what I have outlined in this section regarding what the art educator ought to know is extremely basic in comparison to the knowledge base many net.artists draw from. In other words, what the art educator ought to know merely scratches the surface of what constitutes net.art. However, it is important for me to note that my recommendations are based on and reflect the reality the art educators face with regards to their access to resources, their lack of training in computer art, computer graphics and IT, as well as the

overall lack of training in new media and cyberculture studies available to them. I can not in good conscience disregard the realities of art educators' professional lives; thus, my recommendations consider these realities out of necessity.

In terms of technical knowledge and resources, some art educators are fortunate enough to work in a school district that can afford to upgrade the schools' computers and computer software and purchase relatively powerful equipment. Unfortunately, many educators are not so fortunate. Even if the equipment was available to all art educators, very few art educators receive more than a quarter- or semester-long course dealing with computer art and instructional technology, and I am not aware of any art education program that requires students to take courses in computer science. Perhaps this should be remedied – perhaps the art teacher licensure curriculum should be modified to include more coursework in new media art and technology. Many art educators are still somewhat intimidated by computers, despite the fact that they are eager to learn. Those art educators who are interested in learning more about computer technology often must rely on professional development courses, other educators, or their students to teach them. If this instruction is not available, the art educator must teach himself or herself. However, this is not to say that the course instructors, educators or students themselves would possess technical knowledge as sophisticated (and in some cases, such as jodi, Maciej Wisniewski, or Mark Napier for instance, as esoteric) as that of many net.artists. It is highly unlikely that they would, unless the art educator participated in a college-level course specifically geared toward advanced web authoring topics.

On one hand, it is not particularly difficult for a novice to learn HTML, as it is a comparatively simple scripting language; with a certain amount of determination, one can

peruse a web page's source code of web pages in order to learn it. There are also a large number of good web sites dedicated to learning HTML, and they are not difficult to find. Javascript and CSS are somewhat more difficult to learn; like HTML, however, both of these scripting languages are also possible to learn on one's own, and there are also many web sites devoted to those who wish to learn these languages, although admittedly it would be difficult for a complete novice. On the other hand, it would be extremely difficult for a novice (as well as someone experienced with HTML, Javascript and CSS but did not have a background in IT) to teach themselves more sophisticated languages such as Perl, XML (eXtensible markup language) and DHTML (Dynamic HTML), for example. There are also a considerable number of web sites that serve as repositories of information regarding these languages, but they are generally not understandable to those who do not have any background in programming or scripting. An art educator without a background in IT would most likely need to take at least one or more college courses devoted to Web programming if s/he wanted to become proficient in these areas.

I want to stress that the implication of this discussion is not that an art educator with these skills would necessarily be "better qualified" to teach net.art, however. Again, the issue of how much technical skills the art educator should have implies that these skills trump theoretical knowledge and critical thinking, and this is not the case. The issue is, how extensive should the art educator's skill set and knowledge base be in order to teach net.art meaningfully and well? Would a strong theoretical knowledge base "make up" for a lack of technical skills, or is this questions moot, as more emphasis ought to be placed on theory and art criticism anyway, since a) theory and art criticism is essential to understanding net.art, and b) gaining an extensive technical skill set is so difficult?

Yet, all of this raises another question: assuming that the art educator was able to acquire both an extensive skill set and a strong theoretical base, would they have the time and resources to teach these more sophisticated aspects of net.art and web authoring? Would one semester be long enough? At this point, my answer to this question would be no, especially if the students are to gain an understanding of the material that went beyond the superficial. In my opinion, it would be veritably impossible to teach students in one semester how to become proficient with a computer art software package such as Photoshop and peripherals such as a scanner, how to appreciate and criticize net.art (along with the assignments and activities that go along with it), how to create web pages using HTML and/or Frontpage, and how to use more advanced scripting languages such as Javascript and CSS. If one course is not sufficient, and the art educator had the luxury of offering two complimentary courses on net.art, how would each class be structured? Perhaps the first class could consist of a more basic approach to net.art, such as becoming comfortable with navigating around net.art and learning how to describe it (and in doing so the art educator could use works that are more approachable and make more use of narrative), becoming proficient with a photo manipulation software such as Photoshop or GIMP, and learning HTML. The second class could then focus on interpreting and judging net.art, discussing net.art aesthetics more in depth along with engaging the students in critical inquiry regarding issues raised by net.artists, and learning more advanced scripting languages such as Javascript, CSS and Perl.

7.5 The influence of student use of and attitude towards the Internet

Recent research has indicated that the Internet plays an increasingly significant role in the lives of teenagers, and that the vast majority of them regularly engage in online activities such as sending and receiving email, sending instant messages, researching products online, doing homework and research on the web, downloading and listening to music online, and visiting chat rooms; a smaller percentage create web pages (Lenhart, Rainie and Lewis, 2001). Of the teenagers who do create web pages, for many of them their home pages are a way to construct their social identities through thoughtful self-evaluation and self-presentation (Chandler & Roberts-Young, 1998; Stern, 1999). Based on my observations, the students' completed questionnaires and their responses during their interviews, their Internet use closely matches the use described by other researchers. The students in my study, as I have discussed earlier in chapter six, with a few exceptions chose topics for their net.art pieces that strongly reflected personal interests commonly shared by teenagers, such as music, their favorite rock or rap musician, comics, shopping and clothing. I suspect these are topics they would be very likely to include in a personal web page anyway, had they not been required to pick a topic for a class assignment.

My participating art educator and I were both willing to have the students choose their own topics for their final net.art piece, as we felt that this would make them more excited about the project than if we had provided them with a list of appropriate themes or topics to choose from. We also felt that having the students work with topics on the level of topics explored in the net.art pieces they saw would be too difficult for them to tackle, especially after we realized that the students' ability to understand net.art was

more rudimentary than we anticipated. What we were hoping for was the students exploring their topics more deeply than they would have normally in a conventional home page. In other words, not only did we want the students to take risks regarding the visual appearance of their web pages, we also wanted for the students to push themselves regarding their ideas behind their projects. Ideally, we were hoping that the students would be able to connect taking visual risks with the developing of their ideas.

In my estimation, it seemed that the students had an easier time experimenting with the formal, visual and navigational aspects of creating net.art than they did about thinking critically about their ideas and interests. In other words, it seemed that students were more able to play with how their net.art would look, as opposed to delving deeply into what their net.art would be about. With the exception of one student who planned to create his net.art piece about “gansta wannabes,” none of the students intended to create a work that expressed a strong opinion or point of view, for example. For instance, I can recall urging two students who wanted to create their net.art about shopping to think about what they wanted to convey about shopping, beyond simply presenting it as an activity they enjoyed doing. At one point, I asked my participating teacher why the students’ ideas for their net.art were so trite; she replied, “it’s because *they’re* trite – it’s all about *them*.” This could be a developmental issue, as most teenagers are struggling with, and therefore preoccupied with their emerging identities. Therefore, it would make sense that their focus would gravitate toward self-centeredness more than toward other directions. After engaging in this study, I would still allow students to choose their own topics, and I would encourage other educators to allow their students to do the same – the topics they chose, in my estimation, is not the issue. The issue, in my view, is their

relatively superficial treatment of their topics. I do not believe teenaged students are incapable of critical contemplation about their world, their immediate surroundings, or their interests. The question remains: how can the art educator encourage the students to engage in such contemplation? To what degree is it possible to get them to engage in critical contemplation, given that the students will most likely be at the stage of working to master the basic building blocks of web authoring?

7.6 Future attempts

In this section, I will discuss how I would teach this unit differently if I were to teach it again. By extension, this section serves as an offering of my suggestions to an art educator who wished to develop a unit (or several interwoven units) on net.art. One could also read this section as my revelations as a developing teacher. In other words, it can be read as an explanation of what I know now, as opposed to what I knew then, as a result of my experiences in both elementary and high school art classrooms since the data collection portion of my study.

Overall, I would introduce the students to net.art much more slowly, having them consider questions about the net.art I show them that are much more basic than the ones I had them answer in the first two or three worksheets, with two questions on the worksheets instead of four. I would also spend more time going through each of the net.art pieces during a presentation prior to having the students complete the worksheets. The students also felt that the detailed rubric I provided them for the My Boyfriend Came Back from the War worksheet was extremely helpful (and the quality of their worksheets support this), so I would provide a similar rubric for all of the worksheets, instead of only

one. I would also consider alternating the days between net.art criticism and learning how to make web pages, instead of segregating all of the net.art criticism within one portion of the unit and having the web page authoring portion take place afterwards. My reason for this is that a number of the students told me that learning how to make web pages made net.art more understandable for them, and that they felt that learning web authoring sooner would have made net.art less approachable.

Instead of diving right in and showing them works of net.art right off the bat, I would begin this unit by having the students discuss as a group the ways they use the Internet: what they use it for (such as information gathering, schoolwork, communications with friends and family, and so forth), and how the Internet fulfills these purposes. I would then narrow down the focus of the discussion from the Internet in general to the World Wide Web in particular, and shift the discussion to how they generally expect web sites to look like and function. I would then have a student provide me with an example web site they often frequent. While projecting the web site on the wall, I would lead the group in a discussion in which I would guide them through a deconstruction of the site based on its appearance, content, navigation and usability. We would then explore how their expectations of the site were being met (or not met) based on these considerations. If time allowed, or if I felt it was necessary, I would have the students think about and discuss what they were bringing to bear on their perceptions and expectations of the web in terms of their lived experiences, their experiences with new media and popular media forms in particular.

After these discussions, I would then explain to the students that not only is net.art very different from other forms of art they are accustomed to looking at (such as painting,

sculpture, and so on), it is also quite different from the web sites they are accustomed to looking at. Therefore, I would recommend that when they look at net.art, they need to suspend some of their expectations regarding both the web and art because they are not likely to use, navigate or understand net.art in the same way or for the same purpose they do the web sites they usually peruse. In addition, net.art also challenges the way they look at traditional art, as it turns upside-down to many artistic conventions regarding aesthetics, the relationship between artist and viewer, and expressive content. I would then continue by explaining how net.art is different from traditional web sites: first, the meaning of the net.art piece is often not immediately apparent, nor is the means of acquiring this meaning immediately obvious. In other words, net.art is sometimes confusing in that the user does not always know where to go or what s/he is looking for – the navigation is sometimes unclear, and the purpose or meaning of the work generally unfolds as the user wends through the pages in the site, as opposed to being made immediately obvious. Therefore, they will have to navigate through the whole site in order to know what it is about. Second, the intention of the artist tends to be more expressive as opposed to straightforwardly informational. There are exceptions, of course, but even net.art sites that are meant to be informational are also based on a deeper conceptual premise.

Only after these preliminary discussion activities would I have the students begin looking at net.art. I would most likely still use Incubus as the first piece because it is a piece I obviously know and can explain very well, but instead of having them look at it on their own, I would project the work on the wall while the students looked at the work on their computers. I would then guide the students collectively through the work by

asking them questions that would require them to orally describe what they saw on the screen, as well as reflect upon their immediate reactions to the work. Some of the questions I would ask them (or requests I would make), beginning with the first page, include the following:

- Describe what you see on the screen. Are there images? Describe the images. Can you guess how the artist created the images? Do they look like the artist manipulated photographs or scanned in images, or do they look like the artist created them directly with a software program?
- Is there text on the screen? What do you think is the relationship between the text and the images? Is the text there to tell a story or provide information? Is the text arranged on the screen in such a way that is visually compelling, and functions as an image would?
- What happens when you move the mouse around the screen? Does anything change? Do you see anything in the lower navigational bar? Does it tell you anything?
- What are your first impressions of the work? Do they give you any ideas regarding the meaning of the work? Does the title give you any clues as to what the piece might be about?
- Are there any navigational cues? How do you know to progress through the piece? What can you tell me about the GIF animations? What do you think is the purpose of the GIF animations in the work?

- What is the relationship between the animations and the text? The animations and the links? How do the animations create meaning in the work – what do they communicate to you?
- What do you think about the order in which you are going through the pages? Do you think the viewer needs to progress through the animations in any particular order? Why or why not?
- Do you think the artist has given the viewer a lot of freedom regarding how the work should be experienced, or not very much? Why do you think so?
- Does the work remind you of any other art forms, or things you have seen in the popular media? Does it remind you of anything else you have seen?
- How is this piece different from the web sites you are used to looking at? How is it the same? How is this piece different from the art you are used to looking at? How is it the same? Do you think it is art? Why or why not?

Another aspect of the unit I feel needs changing is how I went about assigning the final net.art project, particularly in regards to having the students pick a theme or a topic for their net.art. As I have already mentioned, I was very troubled by the lack of depth in the students' ideas for their final net.art projects, and I wondered to myself if there was any way to encourage students to generate more meaningful concepts. I think there were three main reasons why the students were not able to generate substantial ideas. The first reason is that the students, by their own admission, did not have much experience or know-how when it came to generating meaningful ideas for their own art work. It was not clear to me whether the students had engaged in activities in any of the art classes they

may have taken prior to the net.art unit in which they were expected to generate topics or themes of substance, or to probe deeply the topics, themes or ideas they were interested in. The second reason is that I did not engage the students in any coordinated group activity in conjunction with assigning them their final project that would have introduced them to the notion and importance of “Big Ideas” and given them the opportunity to generate big ideas of their own. This, I feel, is something I should have done. Again, I am not suggesting that the students should not be permitted to choose a topic they are genuinely interested in, such as music or clothing. Instead, I am suggesting that in the future, I should devise teaching strategies that would facilitate a deeper, more meaningful treatment of these topics on the part of the students.

The third reason is, with the exception of My Boyfriend Came Back from the War, the students did not have a good grasp of what the other three net.art pieces were about. The students were not able to interpret or generate meaning from the first three works of net.art, nor were they able to articulate what they each meant. As a result, I am speculating that because they were not fully cognizant that net.art works do contain meaning and explore specific concepts of ideas, they didn’t have this recognition or knowledge base that they would be able to transfer to their own art making. In other words, if they didn’t come to the realization that net.art is usually “about something,” they would have no basis from which to create their own net.art which is “about something.” I believe part of the problem was the pieces I chose for the art criticism lessons (the Multicultural Recycler and Maintenance Web in particular), in terms of the concepts they were exploring as well as the relative strength of the pieces.

While the Multicultural Recycler may have had an interesting function (combining web camera images chosen by the user), the premise of the work is to explore notions of surveillance. First, I don't think the students were particularly interested in the notion of surveillance, and therefore it would be contingent upon the art educator to explain why the exploration of surveillance is relevant and why they students should take an interest in it. However, I would also argue that the work is not particularly successful in its exploration of surveillance; because of this inherent weakness, it is not really clear what the piece is about (the artist provides an explanation for the work, which is why I was able to determine its meaning), and thus the piece may simply come across as a "cool" use of a particular technology. The students were somewhat more receptive to Maintenance Web – they tended to like the brightly colored graphics and distorted photographs – yet they were also not able to decipher the deeper meaning behind the work, a critique of popular perceptions of science and technology. I feel that Maintenance Web is, overall, a stronger work than Multicultural Recycler. Again, the educator would have to explain the significance of the meaning behind this work, as this is something the students may not immediately recognize as relevant to their lives.

As a result, I feel I need to expand upon the criteria I used to select the pieces for the net.art criticism activities. Not only do I need to take into account the technical requirements needed to view the work and its appropriateness regarding nudity, unacceptable language, and so forth, I also need to think more carefully about the approachability and meaning behind the work and if the work is successful. In other

words, I need to consider the Big Idea underlying the work (such as Relationships, as in My Boyfriend Came Back from the War), if the work successfully explores this idea, and if the idea is one which is important for the students to explore as well.

7.7 Directions for future research

This study presented me with two research directions that I am eager to pursue. I am most interested in further developing my ideas regarding art criticism/critical inquiry of net.art and other forms of computer networked and new media art, and how this mode of inquiry can be integrated into art education pedagogy. Very little empirical research has been done in this area, although I feel that some of the recent literature on digital visual culture (see Darley, 2000), visual culture art education, and hypertext studies (see Landow, 1997) may provide me with material for my developing framework. The second research direction I wish to pursue is developing pedagogical strategies for teaching pre-service and in-service art educators about net.art: how understand, appreciate, analyze and create it, with the goal of providing them with the conceptual and technological tools they need, in turn, to teach their current and future students.

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APPENDIX

Name: _____

Art work: Incubus

URL <http://www.arts.ohio-state.edu/ArtEducation/classes/352/incubus/incubus.htm>

1) If you had to describe Incubus to a friend in terms of what it looks like and how it should be used, how would you describe it?

2) What do you think Incubus is about? Why do you think so, and what made you think so?

3) Do you think Incubus is art? If so, why is it art, and what makes it art? If not, why is it not art?

4) Do you like it? Why or why not?

Name: _____

Art work: The Multicultural Recycler

URL <http://recycler.plagiarist.org>

Artist: Amy Alexander

1) What is being “recycled” in this website?

2) Why do you think the artist used the word “recycle” to describe what happens in the website? Do you think the word recycle is being used as a metaphor for something else?

3) Do you think this person is making a statement about surveillance (definition: close observation of a person or group, especially one under suspicion; the act of observing or the condition of being observed)? Why or why not??

4) Do you think the whole website is the art, or are the “recycled” images the art? Or, are they both art, or are neither of them art? Why or why not?

Name: _____

Art work: Maintenance Web

URL <http://www.thing.net/~m>
Artists: Jennifer and Kevin McCoy

1) What are three adjectives you would use to describe this site? Why do you think these three adjectives most accurately convey your impressions?

2) What do you think is being maintained (according to this site), and what led you to your conclusion?

3) Go to <http://www.thing.net/~m/crew.html>, where the three main characters of Maintenance Web are introduced and described. Pick one of those characters, and pretend that the character you have picked has to write a short description about Maintenance Web for a promotional pamphlet about net.art.

4) What do you think the artists are trying to say about science and technology in Maintenance Web? Do you think they are portraying science and technology in a positive, or negative light? What led you to your conclusion?

Name: _____

My Boyfriend Came Back from the War

URL <http://www.teleportacia.org/war/war.html>

Artist: Olia Lialina (Russia)

Year created: 1996

1) How would you describe the relationship between the woman narrator and her boyfriend? How do you know? Do you think they will live “happily ever after?” What led you to your conclusions?

2) What do you think is the relationship between the text, the images, and the navigation in the piece? Explain your answer and support your conclusions with examples from the work.

My Boyfriend Came My Boyfriend Came Back From the War

sample responses (question 1):

How would you describe the relationship between the woman narrator and her boyfriend? How do you know? Do you think they will live “happily ever after?” What led you to your conclusions?

An “A” answer:

I think that there is a lot of tension between the woman and her boyfriend and they are trying to work things out. There is a grainy, black and white image in the beginning with the man and the woman not facing each other, and the man has his back to the woman. Maybe this picture shows that he is upset about something and he can't bring himself to tell her why he is upset, or he is withdrawing from her. I think that a lot must have happened to him while he was away at war, and he is still thinking about it. The image of the people looking at the helicopter and the words “LOOK!!” “Salute” “In honor of you” makes me think that he is trying to cope with his memories of war. The bigger image of the woman's face might be the narrator, and maybe it was thoughts of her that kept the boyfriend going. I think it was hard on the girlfriend to have him gone, she was lonely, and she had an affair with her neighbor. He feels betrayed, and she is begging him to forgive her. I think they might want to live happily ever after, because he asks her to marry him and she says yes, but I wonder why he wants to get married so soon (one frame says “TOMORROW” after he asks her to marry him). Maybe he is afraid she will cheat on him again, or he is in a hurry to have a normal life because he had some very bad experiences in war and he wants to forget them.

Why is this an “A” answer?

- It is apparent the respondent made a concerted effort to reflect on the work and took time to explore their impressions. Their answer is also descriptive**
- The answer shows that the respondent looked at the whole piece from the beginning to end, pondered most or all of the different**

components of the work. The respondent also made connections between several of the images and the pieces of text.

- The respondent has made an concerted effort to interpret the meaning of the work, and refers to specific pieces in the work that support the interpretation

Back From the War sample responses (question 2):

What do you think is the relationship between the text, the images, and the navigation in the piece? Explain your answer and support your conclusions with examples from the work.

An “A” answer:

Right away I got the impression this piece would be stark and troubled, because of the beginning hyperlink on the first screen. It is small and white, in the very upper right corner on a black background, with nothing else on the screen. The next two black and white images that came up on the screen when I clicked the text gave the same impression, because they are also very stark and give a sense of unhappiness. When I clicked on the picture of the two people, the screen breaks into two frames and a third picture of a woman’s face appears, along with an animation of the window. When the text appeared, I couldn’t tell who was talking, but I thought it might be the narrator because it was her picture that was next to it. I think the picture of the people and the helicopter was a picture of the boyfriend’s memory of war because of the words I got in some of the squares at the same time (like “LOOK!!” “salute”). When she asks her boyfriend to look at her new dress, I wondered if she was trying to change the subject after he asked her about her cheating on him with her neighbor. But, if I read her asking him about her dress before he asked about her cheating, I might have come to a different conclusion. I liked how the frames got smaller and smaller, because it made me think that their conversation was getting quieter, with less awkward silences between them, and they were feeling closer to each other.

Why is this an “A” answer?

- **The respondent engages in a great deal of interpretation, and attaches meaning to many formal elements in the work**
- **The respondent also uses a lot of description to support their assertions**
- **The respondent considers what makes this piece different from other forms of art that include narration such as illustrated books or film by referring to the changes in the piece which take place when the viewer interacts with the work. The respondent also considers how they would view the work differently if they navigated through the piece in a different way**
- **The respondent explained their point of view well, and made strong connections between the images, text and navigation**

My Boyfriend Came Back From the War sample responses (question 1):

How would you describe the relationship between the woman narrator and her boyfriend? How do you know? Do you think they will live “happily ever after?” What led you to your conclusions?

A “C” answer:

At first I thought that they were going to break up because there is a black and white picture in the beginning with two people who don't look happy. They are not looking at each other, and not smiling. Their conversation in the beginning didn't seem like a conversation between two people who love each other because I thought that if the boyfriend was away in a war for a long time, the girlfriend would be happier to see him. I think they love each other, though, because he asked her to marry him and she said yes. I don't know if they will be happy or not, because it seems like they have some problems in their relationship.

Why is this a “C” answer?

- **It is apparent the respondent made an effort to reflect on the work and think about their answer**
- **The answer shows that the respondent looked at the whole piece from the beginning to end, and tried to make a connection between at least one of the images and the pieces of text.**
- **The respondent has made an attempt to look for deeper meanings within the text, but does not make entirely clear what parts of the piece inspired their interpretation**

My Boyfriend Came Back From the War sample responses (question 2):

What do you think is the relationship between the text, the images, and the navigation in the piece? Explain your answer and support your conclusions with examples from the work.

A “C” answer:

The pictures are shown first to give you an idea what the story will be about, and to set a mood. One of the pictures of a window is also shown as an animated version, maybe to show that it is raining or snowing outside. They are left on the screen to remind you of the sad mood of the story. The pictures don't change, so the mood doesn't change. The pictures are black and white and very grainy and jagged. The pictures are kind of sad and gloomy, and so is the story, so I think the words and the pictures complement each other in that way. You can change the words and change the size of the squares at the same time, to show their conversation is progressing.

Why is this a “C” answer?

- **The respondent engages in some interpretation, and tries to attach some meaning to the formal elements in the work**
- **The respondent also uses some description to support their assertions**
- **The respondent tries to consider what makes this piece different from other forms of art that include narration such as illustrated books or film by referring to the changes in the piece which take place when the viewer interacts with the work**
- **The respondent made an attempt to explain their point of view, as well as explain the connection between the images, text and navigation**

My Boyfriend Came Back From the War sample responses (question 1):

How would you describe the relationship between the woman narrator and her boyfriend? How do you know? Do you think they will live “happily ever after?” What led you to your conclusions?

An “F” answer:

I can’t tell. They must love each other because he asked her to marry him and she said yes. They will live happily ever after because they are getting married.

Why is this an “F” answer?

- **It is apparent the respondent did not make much effort to reflect on the work and think about their answer**
- **The answer is very superficial – the respondent picked up on one small component of the work (the frame where the boyfriend asks the narrator to marry him, and the frame where the narrator says yes), and did not place it into the context of the rest of the piece**
- **There is little or no interpretation of the piece on the part of the respondent.**

My Boyfriend Came Back From the War sample responses (question 2):

What do you think is the relationship between the text, the images, and the navigation in the piece? Explain your answer and support your conclusions with examples from the work.

An “F” answer:

The words tell the story and the black and white pictures show parts of the story. The story was all random and I don’t think I was looking at the squares in the right order.

Why is this an “F” answer?

- **The respondent’s answer is overly literal, and does not indicate any significant amount of reflection**
- **There is little or no description**
- **The respondent does not consider what makes this piece different from other forms of art that include narration, such as illustrated books or film.**
- **The respondent did not take the time to explain how or why they came to their conclusion**