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Understanding the Construction of Opportunities for Learning Among Student

Groups Working on Collaborative On-line Projects

A Dissertation submitted in partial satisfaction

of the requirements for the degree of

Doctor of Philosophy

in

Education

by

John D. Puglisi

Committee in charge:

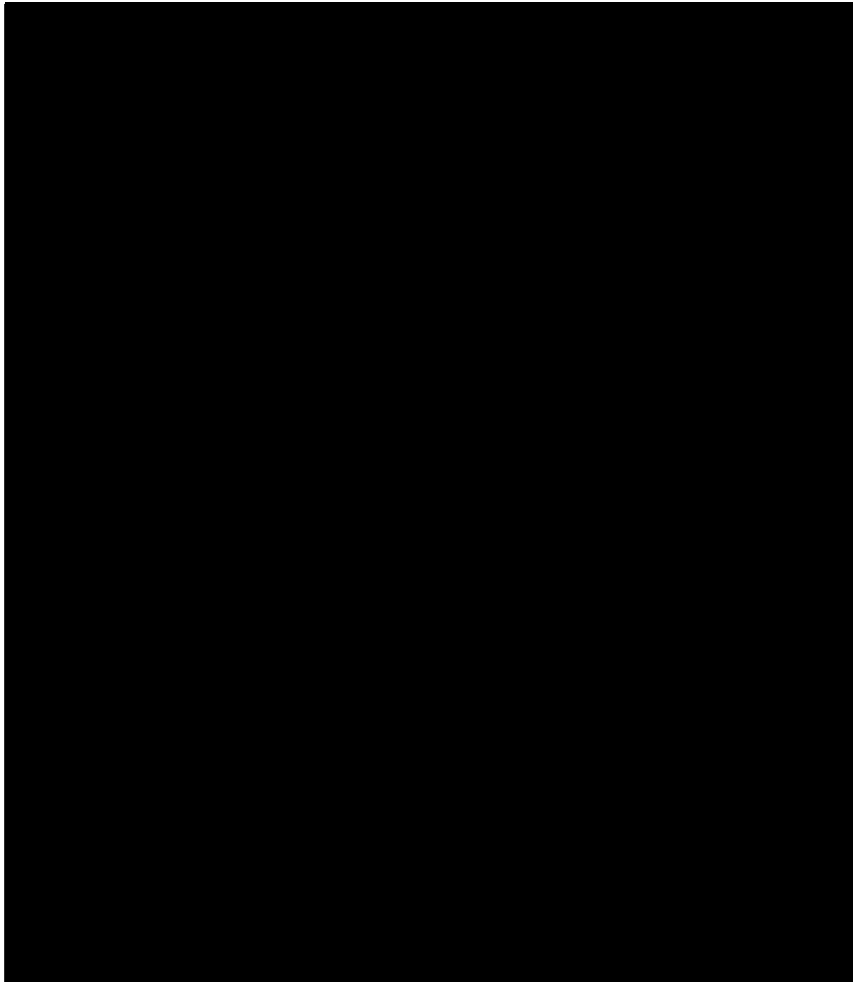Professor Janet Chrispeels, Chairperson
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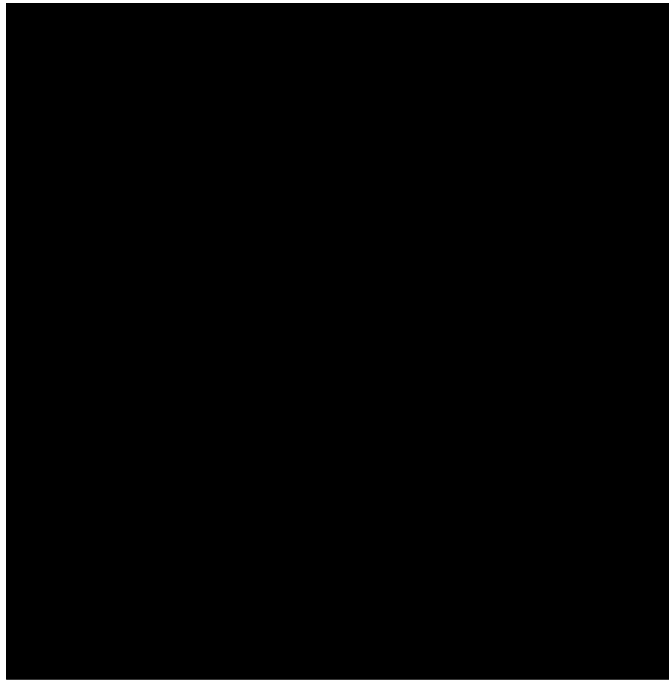Professor Mary E. Brenner

June, 2001

The dissertation of John D. Puglisi is approved:

June 2001

ii

DEDICATION

I dedicate this dissertation to my family.

To my wife Sarah, a fellow educator and mother, whose support and dedication to children's education has always inspired me.

To my children, Sylvia, Sophia, and Luca who have shared my attention with my work and study and whose endless thirst for knowledge and creativity has inspired me.

To my mother, Joan Durante, who has always believed in her son.

To my father, Vernon Puglisi, whose spirit is always with me.

ACKNOWLEDGEMENTS

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ABSTRACT

Understanding the Construction of Opportunities for Learning Among Student

Groups Working on Collaborative On-line Projects

by

John D. Puglisi

This study was conducted to understand student and teacher

perspectives of the ways on-line learning projects provide opportunities for

collaborative inquiry-based learning. Towards this end, the researcher utilized

text analysis to compare what "counted" to the project's designers to what

"counted to project participants. The study also used ethnographic methods to

examine classroom social dynamics through microanalysis of social

interactions, discourse, and texts.

The researcher served as principal/co-teacher/participant observer and

worked with a sixth grade class and their teacher as they participated in the

America Dreams on-line project; an Internet based collaborative, inquiry-

based learning project sponsored by the Library of Congress. Text from the

America Dreams web pages, linked sources, and e-mail interviews with the

project designers served as data for analyzing what "counts" as the project

from the designers' point of view. Student created texts, videos of student group collaborations, teacher interviews, surveys, and field notes served as the data for analyzing what "counts" as the America Dreams project from the perspective of the students, teachers, and researcher. The researcher explored the ways that student groups negotiate and take up common tasks as well as examining various sources of discourse and texts and their relative influence on individual student opportunities for learning.

The most significant findings pertained to the intentions of the project designers as they relate to actual usage of the project. Pedagogical, technological, and content related issues concerning the American dream were found to "count" to both the designers and users of the project. A student – centered, constructivist approach that asked students to become researchers was found to serve students and teachers as they explored their community's and their own visions of the American dream. While the project was designed to wed technology with these pedagogical concerns, several of the technological components of the project were not implemented. Internet-based research and web publishing, however, played a significant role in the actual usage of the project. Gender and social status issues among students in the classroom and group cultures emerged as significantly influential in quantities and qualities of speech during group work.

Table of Contents

List of Tables

List of Figures

CHAPTER 1

Introduction

<u>Statement of the Problem</u>

Students are frequently asked to collaborate to complete tasks and produce

group created products in today's classrooms. This type of collaborative

learning is often linked to social constructivist and phenomenological notions

of the social construction of learning, living, communication, and culture.

These learning methods have recently been utilized in new educational

frontiers on-line (Windschitl, 1998).

Students attending schools around the globe are increasingly

participating in on-line projects. These on-line collaborative experiences are

becoming part of their everyday routines, intertwining themselves in the social

fabric of their student groups, classrooms, schools, and communities.

Understanding the pedagogical concepts that underlie the structures of on-line

projects and how they relate to the diverse ways they are used by student and

teacher participants, is essential to their further development and their

potential to transform teaching and learning towards more meaningful and

effective experiences.

Many of the available on-line collaborative projects are designed upon

constructivist educational philosophy. This philosophy views learners as

1

ultimately constructing their own knowledge that then resides within them, so that each person's knowledge is as unique as they are. The emergence of constructivism as an educational philosophy, has potentially profound implications for structuring current "traditional' instruction. Its foundational concepts underlie several highly touted educational trends, for example: the transition of the teacher's role from "sage on the stage" (transmitter of knowledge) to "guide on the side" (facilitator, coach); teaching "higher order" skills such as problem solving, reasoning, and reflection; enabling learners to learn how to learn; more open ended evaluation of learner outcomes; and of course, cooperative and collaborative learning skills (Sener, 1997).

As students participate in on-line projects, they talk, listen, act, and incorporate a variety of texts as they work to create group products and individually created works. Understanding how students and teachers use language to negotiate time, tasks, and content in the construction of knowledge is key to educators' successful use of on-line projects. This understanding is also essential to the administrator who seeks to assist teachers in the incorporation and integration of these on-line projects into the established curriculum and activities of school.

The researcher's roles as principal of an elementary school located in southern California (utilizing on-line projects in several classrooms) and

graduate student doing dissertation research in partial satisfaction of the requirements for the degree of Doctor of Philosophy in Education are an important aspect of this study. Understanding how students construct opportunities for learning while participating in on-line projects blends my goals as researcher and practitioner in the spirit of action research.

Purpose and Context of the Study

This study explores the texts, dialogue, and interactions among students, student groups, and teachers as they participate in a particular on-line project entitled *America Dreams*, which embeds constructivist based pedagogical structures in its design. It utilizes a constructivist theoretical framework to explore the various ways in which specific classroom and student work-group culture and contexts construct opportunities to learn for students working on America Dreams. It is methodologically descriptive and interpretive in nature and aims to expand our understanding of the particular usage of on-line projects in public school classrooms.

The study compares the intentions and goals of the project designers with the actual project usage by a particular classroom of participants. It utilizes ethnographic methods that incorporate content analysis of the project's web pages and other designer-driven artifacts, as well as content

3

and text analysis of the artifacts created by project participants. Along with the exploration of themes and sub-themes found through content analysis, it utilizes sociolinguistic discourse analysis to examine student interactions as they work in groups to complete key project components.

This research is focused on understanding how specific classroom and student work-group culture and contexts construct opportunities for learning through their language and interactions around an on-line project.. Language, discourse, texts, and student talk are at the core of this study. Students talk, listen, act, and incorporate a variety of texts as they work to create student group products and individually created works while working on the on-line collaborative project, America Dreams. Students participating in this project move back and forth from several contexts that include: their classroom, their particular student group, family, and the Internet. Each student and student group was challenged to construct meaning from these various contexts towards the goal of constructing knowledge of the American dream.

Little research has been done to date to trace how on-line project designers conceive of their projects in pedagogical terms and how these projects affect what students can take up from their design. Teachers, administrators, project designers, and researchers need to better understand classroom supports and constraints in the implementation of on-line projects.

Research Questions

Two broad research questions guided the study:

1.   What counts as the America Dreams project to the project designers?

2.   What counts as the America Dreams project to the project

participants?

The researcher has chosen to define what "counts" to project designers and

participants by identifying prevalent themes that emerge in the data sets which

include the texts of written documents as well as transcripts of student group

conversations. In addition, the researcher the intertextuality of themes was

viewed as "counting" when similar themes emerged across multiple data sets.

What "counts" to the designers was identified by examining what the

designers wrote in the web pages, and e-mails and comparing these texts with

what they actually asked teachers and participants to do. What "counts" to the

participants was identified by examining what students and teachers said in

surveys, and conversations and comparing these texts with what they actually

did during the project.

The following more specific research questions sprang from these

initial broad inquiries and help to define what counts in America Dreams:

1. What are the local and specific events, relationships, and learning contexts occurring during the project?

2. How does student work-group culture contribute to student's opportunities to learn from the project?

3. What language do students construct and appropriate from teachers, fellow students, families, web-sites, and other texts as they work on the on-line project?

4. How do members of student groups negotiate and take-up tasks involved in the America Dreams on-line collaborative project ?

5. What opportunities to learn does the America Dreams project afford students?

6. What are the relationships between academic content and pedagogical issues in the America Dreams project?

Researcher Roles and Purposeful Decisions

This study, like many qualitative and action research based studies, followed a cyclical path of question asking, data collection, data analysis, decision making, and then asking new or continuing questions. This process was informed by and inherently intertwined with my multiple roles as principal of

the school, researcher, and co-teacher of the America Dreams project. The original choice of area of study and initial research questions emanated from my role and experience as principal. In the process of choosing an area of dissertation research, it was important as principal to choose an educational milieu that would combine my areas of interest with the particular context and stage of development of the school and teaching staff with whom I worked. The beginning stages of decision making were also informed by the logistical needs of conducting research while serving as principal.

Initially, the study was intended to describe and interpret two 6th grade teachers as they implemented the project in an independent manner. My role as researcher was planned to be more removed from the instructional process, serving as a weekly facilitator and initial project support person. After several observations in each of these classrooms and dialogue with the teachers, a principal based decision was made to focus the study on a single 6th grade classroom. This decision sprang from the realization that the 2nd teacher already had too much on her very full plate of classroom and schoolwide responsibilities and also from the researcher's realization that participation in the project would probably require a greater degree of my participation than previously planned. This decision was based on two factors. First, the level of technology awareness and comfort among the teachers was quite low.

7

Secondly, the pressures of covering district mandated curriculum and instructional activities severely competed with the project that was perceived initially as an addition or supplement. As both researcher and principal, I felt it was necessary to move into a third role; co-teacher, in order to help achieve my goals as principal in advancing the pedagogical and technological aspects of the project with both the new teacher and the school at large.

In choosing to implement and study an on-line project as principal/researcher/co-teacher this study shadowed the work of Silva and Breuleux (1994) who fashion an argument in favor of the development of on-line collaborative projects through the process of citing substantiating research as well as policy. They write... "so powerful is the belief in the inherent collaborative potential of the Internet, that policy makers have consistently justified investment in national networks on the basis that it will foster greater collaboration among different sectors of society, namely industry, education and academia" (United States, Office of Science and Technology Policy, Director, 1992; United States, Congress, 1991).

Among their assumptions is the belief in the efficacy of collaborative learning techniques as established by the work of (Davidson & Worsham, 1992a; Sharan, 1990; Slavin, et al.,1985; Slavin, 1980, 1983, 1990). This study shares this assumption or belief, and endeavors to describe and interpret

8

the participant's perspectives on what counts as collaborative on-line project-based learning in relation to what counts to the project's designers. The initial decision to co-teach the project with a second year 6th grade teacher was also informed by my observations of the regular classroom as a principal. They demonstrated that the teacher and students in the class were comfortable with and trained in collaborative learning activities that were at the core of the America Dreams project.

The next key decision that guided the project and study involved a change of setting. Initially, the classroom teacher and I planned to have project activities occur in the computer lab during their regular scheduled sessions. An initial video taping was done of a preliminary orientation to the first phase of the project. Following this event, the teacher an I discussed the day's work during our weekly project meetings. Two important results were discussed. First, the teacher and I concluded that students did not seem to be working as productively in the lab as they normally do in the classroom. Second, many of the computers in the lab were freezing during the downloading of web pages from the American Memory Collections which was integral to the first phase of the project as designed by the project creators.

These two results and our discussion also surfaced a third issue regarding group work. Issues of student's gender and status emerged as influential in group work during the initial computer lab sessions as well as in group work activities in the regular classroom that were apart from the America Dreams project. As a result, a decision was made which blended concerns from each of the roles; principal, researcher, and co-teacher. The decision involved moving the video taped sessions of the project, student group work, to a non-mediated environment. We decided to ask students to work on the group work aspects of the project in a conference room adjacent to the principal's office. It was the researcher role and the classroom teacher's decision to explore this non-mediated environment for its potential to reveal group work dynamics present in classroom based, teacher mediated group work activities that may be less amplified in the regular context but tacitly influential as it regards the construction of opportunities for learning.

In addition to the change of setting, the co-teacher and classroom teacher decided to skip the first phase of the project's design. The first phase intended that students use the American memory Collection of the Library of Congress to work as historians to explore the concept of the American dream over the last century. Computer problems and our class' lagging behind the timing of the national project led to this decision. This decision moved our

project into the second phase of the project in which students were asked to work as social researchers of their local community's concepts of the American dream. This was a key decision as it regarded the goals of the project. It was at this point that project participants moved away from historian like activities which more closely parallel the traditional American history curriculum, and turned towards a focus on students working as social science researchers.

A final set of decisions was also important to the study as they focused more on my role as a researcher. The classroom studied was ultimately divided into seven student groups working on various group-selected themes regarding the American dream. Textual and video data was collected from all of the groups. During the process of analysis, a decision was made from the researcher role's perspective, that basic quantitative data would be analyzed from all the groups, however, more thorough analysis would carried out on four groups. These four groups were selected on the basis of their student group diversity as it relates to status as well as the group's composition as it relates to gender. This decision to limit the analysis was made in order to more thickly describe the group discourse within the logistical and time constraints of the researcher/principal. Finally, a similar decision was made to limit the more acute analysis of discourse to a single group; the "Freedom"

group. This group was selected for more acute study, as it's composition

relating to gender and status was perceived as potentially revelatory regarding

the construction of opportunities for learning.

Significance of the Study

Ethnographic methods, such as those proposed in this study, can produce

credible, dependable, and confirmable inquiry (Siegle, 1998) in a specific

context. They can lay the groundwork for a more focused path of inquiry or

open the subject to a greater diversity of questions and research studies on the

same topic.

Until we can describe and interpret these new on-line learning

contexts, it is difficult for us to ask the right questions and even harder still to

answer them. This study and others like it will begin to describe on-line

collaborative projects in their initial phases of use in classrooms and schools.

Thick description and particularized interpretation in the initial stages

of use of instructional technologies such as the current emergence of on-line

collaborative projects, can help to inform their adaptation, modifications, and

integration into classrooms prior to rushing to judgement upon their

effectiveness through the use of strictly quantitative effectiveness studies.

This has often been the case in studies researching student use of the Internet

in schools and other newly introduced classroom technologies (Windschitl, 1998).

Mergendoller (1996) explains that technology can change pedagogy but it must be measured in terms of student learning. He calls for the understanding of the relationship between the technology, pedagogy, project-oriented curricula, and student learning. He also observes the changing perceptions of goals and objectives of education. He suggests that in the past, students worked as individuals to acquire discipline bound information from limited " authoritative" resources (teacher, text) for the purpose of performing well on objective based assessments.

New conceptions of learning, like the constructivist ones implicitly embedded in the America Dreams project, Global School Net, AT& T Learning Network, Global Laboratory Project and others like it, ask students to work collaboratively on multi-disciplinary tasks using a variety of resources, regulating their own learning for the purpose of developing flexible, unique understandings of subject matter (Borenfeld & Schrum, 1997). This study will add to our developing understanding of these new educational tools.

Understanding how particular students, student groups, and classrooms use talk and interaction to construct opportunities for learning, is critical to the

13

process of designing, modifying, and integrating curriculum, lessons and

activities in learner centered contexts (Green, 1983). The described

particularity of these contexts can be fruitful for those who endeavor to

educate other students with similarly constructed learning activities. This

transferability to other contexts is dependent upon the reader's judgement

(Siegle,1999) and is encouraged by the researcher's use of thick description

sufficient for readers to find contextual similarities that are useful.

Presentation

The study's chapters include the following: Chapter 1: Introduction, Chapter

2: Review of Literature, Chapter 3: Methodology, Chapter 4: Results of

Analysis of What Counts to Project Designers, Chapter 5: Results of Analysis

of What Counts to Project Participants, Chapter 6: Discussion, Appendix, and

References. Chapter 1: Introduction introduces the reader to the study's

problem, purpose and context. It also presents the study's research questions

and describes the significance of the study. Chapter 2: Literature Review

discusses current research in three important aspects of the study: on-line

technology in education, collaborative learning, and constructivist research

and teaching. Chapter 3: Methodology describes the methods used in the study

and is divided into three parts: the rationale for the study, an exploration of

ethnographic methods, and the methods, data collection, setting and context of

the study. Chapter 4: Results presents the findings and analysis of what counts

to the America Dreams designers and Chapter 5: Results presents the findings

and analysis of counts to the project participants. The study ends with Chapter

6: Discussion, References, and Appendices. The discussion in Chapter 6

explores the conclusions and implications that spring from the results. The

chapter explores conclusions and implications as they relate to pedagogy,

gender and group work, and technology. It also discusses suggestions for

further research and recommendations for practice.

CHAPTER 2

Literature Review

This review of the literature discusses three aspects important to the study: on-line technologies in education, collaborative learning, and constructivist research and teaching. Documenting the emergence of on-line activities in today's classrooms and their potential to transform teaching and learning from traditional models towards more student-centered approaches, this review reveals how researchers are beginning to research and describe what is happening among students and teachers using these technologies. In looking at collaborative learning, this review draws from nearly 25 years of research exploring what makes collaborative learning successful. It also suggests a new era of research on collaborative learning that expands upon previous findings by exploring collaborative learning in various contexts.

The review of literature on constructivist research and teaching in education demonstrates that educators are increasingly challenging positivist notions of learning and research by exploring and applying theories of learning, culture, classroom, computer mediated communication (CMC), community, and collaboration in order to make schooling contexts more

efficacious for a diversity of students. The review also represents studies

focused on on-line education, collaborative learning, and constructivist theory

as they are exploring the role of language, discourse, and texts.

<u>On-line Technologies in Education</u>

Technological change is occurring at a faster rate now than ever before. This

change is affecting communication and social interaction in every aspect of

society. Increasing sophistication in the technologies of communication and

computerization are decreasing the cost and increasing the availability of

instantaneous communication across the world. E-mail, video-conferencing

and multimedia applications are just a few examples of innovative technology

now being used in education. The use of the Internet is growing exponentially

(Berenfeld & Schrum, 1997). Minimal figures of Internet hosts had reached

approximately 13 million by mid 1996 and exceeded the 20 million mark by

August 1997, of which approximately 5 million were European hosts [1]

representing a quarterly increase of nearly 15% (Rutkowski, Appendix 2). Of

these, educational institutions as hosts (edu domains) [2] had reached more

than 2 million by June 1996 and neared 3 million in August 1997 (Rutkowski,

Appendix 2). While the society at large is being transformed by these new

technologies, many researchers suggest that educational institutions are

lagging behind in the sense that the use of technology has changed little in the

way teachers teach and students learn. Others point to a new wave of

technologically driven educational change that is beginning to open doors to

greater potentials for the transformation of learning and teaching, as we

currently know it.

Cuban (1995) suggests,

The seemingly marginal use of computers and telecommunications in
school and classrooms is due less to inadequate funds, unprepared
teachers, and indifferent administrators, than it is due to dominant
social beliefs about what teaching, learning, and proper knowledge are
and how schools are organized for instruction. (Appendix E, p.163)

Moore (1995, p. 3), refers to models explaining how educators will respond

to new technologies,

- **the minimal change model** - in which instructors make no
  fundamental changes but merely use technology as an instructional
  aid;
- **the marginal change model** - in which the pedagogy and
  organization of education remain unchanged and students are
  added on to conventionally taught classes (the most common
  application of distance education in North America);
- **systemic change** - in which institutions change the fundamental
  organization of teaching by reorganizing it into a system driven by
  technology;
- **virtual system** - in which universities and schools are "place-free,
  with little or no formal organization"

D'Ignazio (1993) describes educational institutions' response to technological change in the following manner, "businesses have been building electronic highways while education has been creating an electronic dirt road. And sometimes on a dirt road, it's just as easy to get out and walk." (p.633)

The review of literature on the educational use of technology acknowledges that education has not integrated technology to the same degree as have the business community and larger society. Peck & Dorricott (1994) describe schools as "rumbling along, virtually unchanged by the presence of computers." (p.11) While the use of technology in schools has yet to transform learning and teaching, it has been noted that the education system has typically used technology in a rather non-systematic manner. In some cases, it has been rather resistant to the implementation of technology (Kerr, 1991, Hodas, 1993).

While the educational system as a whole seems little changed due to its lack of technological infusions, there is increasing evidence of the growth of new technological implementations and associated research. The increased use of on-line projects in today's schools is evidence of this development. The quantity and diversity of available on-line projects has significantly expanded in the last decade (Riel,1994). Among the wealth of available projects are the diverse examples found in Appendix A.

19

More recently (1996), the Software Publishers Association (SPA) commissioned an independent consulting firm (Interactive Educational Systems Design, Inc.) to prepare a meta-analytic report on the effectiveness of technology in schools. Research from 1990 to 1995 was included, and 176 studies were analyzed.

The report concluded that the use of technology as a learning tool can make a measurable difference in student achievement, attitudes, and interaction with teachers and other students. The study found that positive achievement effects for all major subject areas, in preschool through higher education, as well as for both regular education and special needs. Student attitude toward learning and student self-concept were both found to be increased consistently in a technologically-rich environment across the studies included, and in general, (although not necessarily for low achieving students who tended to require more structure) student control (self-pacing) was found to be one of the more positive factors relating to achievement when technology was used.

Telecommunications capabilities, interactive video applications, and tutorial software providing feedback were among the features identified in effective technological tools for learning. Cooperative/collaborative

environments were seen to be enhanced by the introduction of technology, which also increased teacher-student interaction.

The evidence suggested that teachers who use technology in their classrooms are more effective if they have received training, if they have district-level support and if they have a network of other computer-using teachers to share experiences with others.

While Becker's (1999) results from his recent survey of teaching practice and technology use in the United States found that fewer than 1/3 of teachers had students using the Internet for research, there is evidence from case studies such as from Apple's Classrooms of Tomorrow (Sandholtz, Ringstaff, & Dwyer, 1997) and from reforming schools across the country (Means, 1995) that points to the potential of new technologies to support new ways of teaching. Moreover, these studies have provided rich details about what takes place in classrooms as local technology-supported reforms are implemented.

In addition to these kinds of studies of technology use in schools, there have been a number of published reports using national data that show the promise of technology to support school reform. Among the case studies and broader meta-studies, is the developing evidence for the positive impact of

technology and on-line technologies in classrooms across a diversity of grade levels and content areas.

Among the documented positive effects, the Educational Testing Service has found that when students use computers to apply higher order concepts and when teachers are knowledgeable about how to use computers as productivity tools, students show significant gains in mathematics achievement (Wenglinsky, 1998). Another of the best-documented successes with computers in education exists in the development of students' writing. (Peck & Dorricott, 1994).

The SPA commissioned meta-analysis on research on technological effectiveness in schools suggests technology's positive impact on student achievement, attitudes, and interactions with teachers and other students.

Peck and Dorricott's summary (1994) of the top ten reasons for technology use in education represent a good overview of the current status of what technology has been found to accomplish. These reasons include technology's potential to assist with educational goals such as:

1. individualization

2. increasing proficiency at accessing, evaluating, and communicating information

3. increasing quantity and quality of students' thinking and writing

4. improving student's ability to solve complex problems (a skill that cannot be "taught" [transferred directly from the teacher to the learner] but which appears to develop in a more focused manner when productivity tools are available)

5. nurturing artistic expression (many flexible tools are available)

6. increasing global awareness

7. creating opportunities for students to do meaningful work [work that reaches out and has value outside school - e.g. is presented to an audience other than the teacher]

8. providing access to high-level and high-interest courses [even in districts where some courses have been impossible to offer]

9. making students feel comfortable with the tools of the Information Age [which they are almost certain to use in their future]

10. increasing the productivity and efficiency of schools.

We have learned that these benefits do not happen in some miraculous way simply because the technology has been provided. Research indicates that to accomplish the profound changes associated with the integration of technology in the overall learning environment, there is a real need for training and support at all levels (e.g. Means, 1993, Aust & Padmanabhan, 1994). It is also clear that in the past decade, school's attempts to provide

more technologically related, simple motivational and short-workshop schemes, have been insufficient in enabling educators to teach differently, and well with technologies (Hawkins & Honey, 1993).

Literacy at the beginning of the twenty-first century implies being skilled in computer technologies as well as reading and writing with paper and pencil. Yet classrooms in which the potential of new technologies is fully realized are rare. According to McKinsey & Co., a New York management-consulting firm, almost half the teachers in the United States lack adequate computer training. Given this lack of technical savvy, it is not surprising that although many teachers use computers personally, only 20 per cent use them regularly as an integral part of their classroom instruction (Bulkeley, 1997).

Larry Cuban (2000) offers the following insights on the real underlying issues in a recent article in Education Week. Cuban is convinced that teachers are not taking advantage of new tools to the extent that they could for several reasons: contradictory advice from experts; intractable work conditions; demands from others; the inherent unreliability of new tools; and policymakers' disrespect for teachers' opinions.

It has become clear through past research on the impact of technology on education that technologies by themselves have little scaleable or sustained impact on learning in schools. In order to be effective, innovative and robust,

24

technological resources must be used to support systematic changes in

educational environments that take into account simultaneous changes in

administrative procedures, curriculum, time and space constraints, school-

community relationships, and a range of other logistical and social factors

(Chang, Honey, Light, Moeller & Ross, 1998; Fisher, Dwyer, & Yocam,

1996; Hawkins, Spielvogel & Panush, 1996; Means & Olson, 1994; Sabelli &

Dede, 1998; Sandholtz, Ringstaff & Dwyer, 1997).

Pressure continues to develop to find answers about how technologies

may contribute to student learning. There has been increasing recognition that

technology is a crucial player in a more complex process of change that

cannot be accomplished by technological fixes alone. As a result, researchers

are increasingly asking questions about how technology is integrated into

educational settings; how new electronic resources are interpreted and adapted

by their users; how best to match technological capacities with students'

learning needs; and how technological change can interact with and support

changes in many other parts of the educational process, such as assessment,

administration, communication, and curriculum development (Becker, 1999).

Further, the kinds of outcomes associated with changing and improving

the circumstances of teaching and learning are much more holistic than those

measured by most standard assessment practices, and they require more

sophisticated strategies of the researcher who is attempting to capture and analyze them. To explore how best to use technology in the service of these goals requires looking at technology use in context, and gaining an understanding of how technology use is mediated by factors such as the organization of the classroom, the pedagogical methods of the teacher, and the socio-cultural setting of the school.

Researchers are now emphasizing questions about the intersections of design, learning, school culture and practices, and other factors that shape the impact technologies can have in schools. A key recommendation growing out of the President's Committee of Advisors on Science and Technology (1997) is the need for large-scale, longitudinal studies that examine the consequences of technology use in school settings in concert with a broad range of factors.

The Center for Children and Technology has been conducting research in relation to both the NSF-funded work in Union City and the Project Explore initiative (Honey, Carrigg, & Hawkins 1998). Their most recent examination of the impact of the district reforms and the impact of technology on student learning resulted in three important findings: The educational reforms have had a substantial impact on students' standardized-test performance, particularly at the K-8 level, where the reforms have been in place the longest. The Explore students (those with home as well as school

access to technology) gained a substantial "leg up" during the first year of the project, scoring significantly better than their district peers in writing and mathematics. This increase was found not to be due to technology alone, but to increased expectations and to the dedication of teachers and administrators in ensuring that this group of students would excel.

Writing is the one area where deep and sustained access to technology has been demonstrated to make a difference. At the 7th-, 8th-, and 9th-grade levels, Explore students did significantly better than their non-Explore peers on the writing portion of state tests.

This research suggests that deep and sustained access to technology has the potential to have a positive impact on both students' learning and on the school community's views of their students' capabilities. It also suggests that technology in and of itself, in the absence of other components of school reform, does not produce these kinds of changes.

The Union City (1997) study identified eight key reform strategies integral to the district's success. They include: instructional leadership at the building level, effective school improvement teams, extensive professional development in whole-language teaching approaches and cooperative learning, a strong emphasis on student creativity and the expression of ideas in multiple formats, an emphasis on providing different points of entry into a

27

task for children working at different ability levels, a de-emphasis on remediation and an emphasis on learning for all, establishment of classroom libraries and media-rich classroom environments, and multi-text approach to learning that includes the integration of technology into instruction.

The Union City (1997) study demonstrates how research can focus on improving circumstances of learning, and on determining how technology can help make that happen. This requires viewing technology not as a solution in isolation, but as a key component in making it possible for schools to address core educational challenges. A consensus is emerging that the larger issue that needs to be addressed across a wide range of iterative, collaborative research projects is gaining an understanding of the qualities of successful technological innovations as they unfold and begin to have an impact within local, district, regional, and national contexts. As researchers have come to focus on these issues, a number of common characteristics have emerged in the design and methods involved in this type of research.

Key assumptions of this kind of research include: recognizing that technologies in and of themselves rarely bring about substantial change in teaching and learning, understanding that the impact of technology on specific aspects of teaching and learning can be usefully understood only in context,

technologies matter only when harnessed for particular ends within the social contexts of schools.

These findings suggest that a key phase of research must involve looking at how new technological applications can be integrated into school contexts and how they fit into the complex process of school change. This kind of research include such methodological features as being largely process-oriented. The researchers' goal is to understand how innovation occurs in schools, not just what the outcomes correlated with the innovation are. It is oriented toward change rather than doing better within the old framework.

Programs that are meaningful to study are those that support or act as catalysts for change in the organization of teaching and learning. Teachers and researchers play an active role in interpreting technologies as tools for reforming schools and in supporting and sometimes guiding the change process. The authors of the Union City (1997) study suggest that further research on technology in education combine elements of different fields, including: anthropological lenses on the culture of schools and classrooms and children's lives inside and outside them, developmental and cognitive psychology lenses on learning, and sociological lenses on school institutions and school change.

They also suggest that there are important design elements that this type of research entails which include long-term collaborations with educators. Teachers must be partners and co-constructors of the innovations and of the research process, rather than being viewed as subjects or passive recipients of the innovation. Systemic integration and research on the impact of innovations across multiple levels of the school system is necessary. The researchers of the Union City project have come to appreciate the powerful role technology can play in creating new links between schools and the world outside the schools, connecting individuals, providing resources, and broadening the cultural and political contexts available to students and teachers for exploration and examination.

In terms of researching technology use in schools, researchers of the Union City project have learned that research that is focused on change cannot be done at a distance. They also found that it can not proceed from the assumption that the answers lie outside of the school community. Rather, teachers and classrooms must work collaboratively with researchers or as researchers themselves if they are to uncover and explore the impact of technology use in specific classroom contexts.

In reviewing the literature that explores student-centered, project-based learning on-line, it is useful to examine the dimensions that have been

traditionally associated with a project approach to learning (Blumenfeld, et al., 1991).These include having a real-world connection, but adds the practice of producing final projects in a multimedia format as a central part of the practice. Among the kinds of multimedia products that students have produced are HyperStudio stacks, Web pages or sites, PowerPoint presentations, animations and videos, and music CDs.

There are seven components of the Project Based Learning Using Multimedia model. Projects are expected to:

- Be anchored in core curriculum; multidisciplinary

- Involve students in sustained effort over time

- Involve student decision-making

- Be collaborative

- Have a clear real-world connection

- Use systematic assessment: both along the way and end product

- Take advantage of multimedia as a communication tool

It is believed that the power of multimedia lies primarily in the extent to which it is integrated within the goals of the project and ongoing curriculum for the class. Products that students create come to serve as public artifacts (Allen & Pea, 1992; Blumenfeld, et al., 1991; Penuel & Means, 1999) that are part of the classroom community's memory of what it has accomplished.

SRI used case studies, interviews, teacher surveys, classroom observations, school-wide indicators of achievement, and performance assessment data as part of their study (Penuel & Means, 1999). Each of these methods has been used either to document implementation of the project or measure progress toward outcomes.

In one study, 19 classrooms were chosen from among Challenge 2000 classrooms across grade levels for observation in the fall of 1997 and the spring of 1998. Principals from schools where SRI was conducting case studies nominated three technology-using and three non-technology-using classrooms for participation. In most cases, these schools had three teachers participating in the project, or otherwise engaged in technology use, but some did not. In those cases, additional non-technology-using classrooms were observed for the study. The original observation protocol examined variables such as the dominant classroom activities, teacher and student roles, the nature of ongoing student work, and the level of student engagement.

The results of the study showed significant changes in classroom processes from fall to spring between technology-using and non-technology-using classrooms (Means & Golan, 1998). For example, in the fall students in technology-using classrooms were only slightly more likely than students in comparison classes to be engaged in long-term projects at the time of the

observation. By spring, that gap was very wide, with 67% of technology-using classrooms versus 14% of non-technology using classrooms involved in extended projects at the time of observation. Similarly, in the fall, teachers from both sets of classrooms were equally likely to be engaged primarily in questioning students, a traditional role for teachers. In the spring, far fewer technology-using teachers used questioning as their dominant way of relating to students (7% versus 49% for non-technology-using teachers). Instead, technology-using teachers were much more likely to be in a helping or monitoring role within the classroom (43% in the spring versus 18% of non-technology-using classrooms).

Similarly, students in technology-using classrooms were much more likely than their peers in non-technology-using classrooms to be engaged in constructing products and working in small groups in collaborative activity. Again, the differences were much greater in the spring than in the fall. In the fall, 56% of technology-using classrooms involved students in constructing products compared to 39% of non-technology-using classrooms. By the spring, that gap widened: 73% of technology-using classrooms engaged students in constructing products versus 38% of non-technology-using classrooms. While in the fall, few classrooms from either sample engaged students in small-group collaboration, nearly a quarter of technology-using

classrooms involved small-group collaborative activity in the spring (compared to 0% of non-technology-using classrooms).

In Year 4, they added two sets of items to the protocol that have been emphasized by sociocultural researchers (Cazden, 1986; Lemke, 1988; Mehan, 1979; Wertsch, 1991) as important for sustaining extended student inquiry. They asked observers to characterize the different forms of discourse that students and teachers used in the classroom. For example, observers looked for "instructional questions" (Mehan, 1979) in which teachers ask brief questions of students, to which the answer is already known, to test students knowledge of isolated facts. In general, they were interested to know whether Multimedia Project classrooms engaged in what have been called more dialogic (Bakhtin, 1981) forms of discourse than comparison classrooms. By dialogic, they meant forms of discourse that engage students and teachers in discussions that are not always teacher-controlled. They anticipated that comparison classrooms might be more likely dominated by a monologic or lecture-oriented form of discourse.

They also wanted to be able to analyze better the extent to which teachers allowed students to work independently with limited strategic assistance (Wertsch, 1985). They expected teachers in project classrooms to be more inclined than those in comparison classrooms to allocate more time

34

than comparison classrooms to having students practice learning skills on their own, rather than simply demonstrating the skills to students or telling them about what they need to know. They predicted that teachers would provide assistance as needed in project classrooms, but students would be given primary responsibility for their own learning.

Students in Multimedia Project classrooms engaged in significantly longer activities than students in comparison classrooms. Moreover, they were more likely to be engaged in long-term activities that is, activities that spanned more than a week of class time than their counterparts in the comparison classrooms. Both in the fall and the spring, students spent more time in project classrooms engaged in long-term activities that lasted a week or more (an average of 84% of the time in project classrooms versus 49% of the time in comparison classrooms).

Successful multimedia projects were not only long-term in nature, they were also found to engage students in complex, cognitively challenging tasks. Students were observed to be engaged in more of what might be called the cognitive activities of design. In other words, they were engaged in the kinds of higher-level cognitive activities characteristic of multimedia design as described by Lehrer (1993): deciding on the structure of a presentation; creating multiple representations, models, and analogies; arguing about or

35

evaluating information; thinking about one's audience; and revising or editing work.

In Multimedia Project classrooms, more time was spent having students practice skills on their own (whether independently or as a group) with strategic assistance provided by teachers as needed, than having students watch or listen as teachers performed a task for them or explained a process to them. This difference was particularly pronounced in the spring, when teacher-led activities comprised 29% of time in project classrooms versus comparison classrooms (62%). Their data clearly demonstrated that project teachers were more likely to give major responsibility to students for their own learning than do their comparison teachers.

Teachers in Multimedia Project classrooms were much more likely to be engaged in facilitative roles within classroom activities than were teachers from comparison classrooms. In other words, they were more likely to be engaged in assisting or helping students by moving about the classroom and responding to student questions or providing help when they see a need for it. This facilitative role is evident in the greater extent to which teachers help to organize the process by which students can work productively on their own, whether in groups or individually. By contrast, the dominant role of teachers within comparison classrooms was more directive. Teachers were more likely

to be explaining concepts, providing information, or questioning students about their understanding of material.

Project classrooms were more likely than comparison students to spend time engaged in small group collaboration. This collaboration was supported, moreover, by discourse patterns that allowed students to direct discussion among their peers about the content of the class.

While in the fall, students spent roughly the same amount of time in project and comparison classrooms engaged in small-group discussion, by the spring, project classrooms devoted much more time to this form of discourse. A corollary finding is that by the spring time, only 3% of the time in project classrooms was devoted to "instructional" or known-answer questions compared to 72% of the time in comparison classrooms.

An analysis by activity yielded similar results. There was a more dialogic pattern of discourse within project classrooms than within comparison classrooms in the spring. By contrast, comparison classrooms were much more likely to be observed as having a monologic or lecture-oriented discourse dominate classroom time.

One of the most valuable tools for connecting classrooms to wider communities is the Internet. By the spring, students in project classrooms spent half of the time observed using the Internet, searching for information,

37

graphics, pictures, sounds, and other material to use for their multimedia presentations. The Internet was not used at all in comparison classrooms, either in the fall or the spring.

Yet another way that classrooms are connected to broader communities is through the student-led projects themselves, which typically have an audience outside the classroom. In this respect, project classrooms differ significantly from comparison classrooms in the likelihood that students will have an awareness of audience and will be engaged in discussion about how their audiences would respond to aspects of a product being produced . In spring, 35% of the activities in project classroom involved students considering the audience of their work, whereas none of the activities observed in comparison classrooms found students attending to the audience of their work (beyond the teacher-as-audience).

Even with this school year effect, a convincing case can be made that project teachers are more likely to engage students in small-group collaborative activity, regardless of whether they are working on their multimedia projects. In some cases, it may be that small group work is part of the school's philosophy, and the emphasis on collaboration cannot be attributed solely to the work of the Multimedia Project. Still, the success of previous student projects appears to contribute to teachers' eagerness to use

collaborative learning as a tool to promote greater mastery of content and skill in working well with others.

Overall, the results suggest that the project met its objective of transforming classroom processes so that they become more student-centered, especially while students are engaged in project-based learning using multimedia. The results suggest a strong role for the projects themselves and for the Multimedia Fair which culminated the project, in contributing to these changes, since differences between project and comparison classrooms are much more evident in the spring than in the fall. Indeed, it may be that events like the fairs, which provide concrete links between the classroom and other classrooms and the community, deserve a more important place as levers for changing classroom practice (Penuel & Means, 1999).

While work has begun in the exploration and research of on-line projects, it is clear that there are many important questions left to be answered and many questions yet to be discovered (Windschitl, 1998). Among these important questions are those that intend to help in the description of what actually occurs among students and teachers as they participate in on-line projects. Those that ask what counts to the participants as well as the designers. Among the important results of these first steps of the initial phase of research on on-line projects includes research associated with the Middle

School Digital Library project at the University of Michigan. Researchers

working on these projects have looked at students and teachers as they

participate in inquiry tasks (Lyons, Hoffman, Krajcik, & Soloway, 1997).

Wallace and Kupperman (1997) found that sixth graders involved in a project

"surfed" the web less than expected and accepted their on-line information at

face value. Bonk, Appleman, and Hay (1996) explored the use of web-based

bulletin boards and e-mail and found that students were broadening their sense

of audience in their writings.

This study adds to the initial phase of research exploring the use of on-

line projects. It intends to be descriptive and interpretative in an effort to

further depict a new and developing form of learning that is increasingly

common in today's schools. This initial phase of technological

implementation is a prime time for in-depth studies that have the potential to

generate new questions about the use of on-line projects in specific contexts.

Research on projects such as America Dreams is located at the

intersection of advancing new Internet-based technologies, dominant school

based cultures and paradigms related to teaching and learning, and the initial

phases of projects designed to infuse technology in processes of school based

and teaching reformations and transformations. Both as principal of a school

and as researcher interested in technology use in schools, this study fits with

the research presented in this literature review by describing and interpreting an on-line project experience that was intended to develop teacher and student learning and research skills while serving as a catalyst for change within the classroom and school as a whole.

By implementing a multi-media based project that was grounded in constructivist and student-centered theory, the intention was to foster learning and teaching that was more dialogic, more real, and developing over a longer period of time than more traditionally used lessons. This study examined the comparisons among what was designed into the project, the decisions and outcomes that occurred during the project, what actually happened among participants, and what was created.

Both as a principal and researcher, this study endeavors to research real project participation at the aforementioned intersections, while endeavoring to promote authentic achievement and pedagogy (Newman, 1996). The utilization of this study's chosen project and ethnographic research methods availed the researcher/practitioner to explore the project's participation in relation to Newman's (1996) standards for authentic achievement and pedagogy. These standards include:

Construction of knowledge:

- Organization of Information

- Consideration of Alternatives

Disciplined Inquiry

- Disciplinary Content

- Disciplinary Process

- Elaborated Written Communication

Value Beyond School

- Problem Connected to the World Beyond the Classroom

- Audience Beyond the School

Collaborative Learning

Research on collaborative and/or cooperative learning is abundant and has

increased significantly since the 1970's. "Hundreds of studies have compared

cooperative learning to various control methods on a broad range of measures,

the most common goal of this research is to determine the effects of

cooperative learning on student achievement. Studies of the achievement

effects of cooperative learning have taken place in every major subject, at all

grade levels, in all types of schools in many countries." (Slavin, 1995, p.1) In

addition to the abundance of research, cooperative/collaborative learning, is used my millions of teachers in the classroom. Puma, Jones, Rock, and Fernandez (1993) found that 79% of America's elementary teachers and 62% of middle school teachers reported using cooperative learning methods in a sustained manner.

Researchers have documented a wide range of positive effects of cooperative learning. These effects include an impressive list of research that has been listed below by Leon Roland of Western Oregon University (1997).

The researcher has rearranged Roland's list of research demonstrating the benefits of collaborative learning methods following models utilized by Dunkin and Biddle (1974). The list is arranged with regards to three groupings: Student Outcomes, Classroom Environment Outcomes, and Pedagogical and Teacher Role Outcomes. Among the studies demonstrating student outcomes, the researcher has organized them by marking the studies with (C/S) for cognitive or skills related effects, (SOC) for social effects, (E) for emotional effects, and (B) for behavioral effects.

Benefits of Collaborative Learning:

Student Outcomes:

1. Develops Higher Level Thinking Skills (Webb 1982, Schwartz, Black, Strange, 1991: Cooper, et al., 1984; & Johnson, 1971). (C/S)

2. Increases Student Retention (Astin, 1977; Garibaldi, 1976; Treisman,1985) (C/S)

3. Develops Oral Communication Skills (Yager, 1985; Johnson, Johnson, Roy, & Zaidman, 1985; Neer, 1987; Tannenberg, 1995) (C/S)

4. Stimulates Critical Thinking And Helps Students Clarify Ideas Through Discussion and Debate (Johnson, 1973a, 1974a; Peterson & Swing, 1985) (C/S)

5. Enhances Self Management Skills (Resnick, 1987) (C/S)

6. Modeling Problem Solving Techniques By Students' Peers (Schunk & Hanson,1985; Levin, Glass, & Meister, 1984; Bargh & Schul, 1980). (C/S)

7. Students Are Taught How To Criticize Ideas, Not People (Johnson, Johnson, & Holubec, 1984) (C/S)

8. Weaker Students Improve Their Performance when Grouped With Higher Achieving Students (Cohen, 1994; Swing & Peterson, 1982; Cohen, 1994; Hooper & Hannafin, 1988; Felder, 1997; Burns, 1990) (C/S)

9. Provides Stronger Students With The Deeper Understanding That Comes Only From Teaching Material (Cognitive Rehearsal). (Felder, 1997; Feltcher, 1985; Cohen, 1994; Webb, 1983, 1991; Swing & Peterson, 1982) (C/S)

10. Leads To The Generation Of More And Better Questions In Class. (Felder, 1997) (C/S)

11. Develops Social Interaction Skills (Johnson, Johnson, & Holubec, 1984; Cohen & Cohen, 1991) (SOC)

12. Promotes Positive Race Relations (Johnson & Johnson, 1972; Slavin, 1980; Johnson & Johnson, 1985b; Aronson, 1978; Slavin, 1993) (SOC)

13. Promotes Student-Faculty Interaction And Familiarity (Cooper, 1984) (SOC)

14. Fosters Team Building And A Team Approach To Problem Solving While Maintaining Individual Accountability (Cooper et al., 1984; Johnson, Johnson & Holubec, 1984; Slavin, 1983b) (SOC)

15. Encourages Diversity Understanding (Burnstein & McRae, 1962; Swing & Peterson, 1982; Hooper & Hannafin, 1988) (SOC)

16. Students Develop Responsibility For Each Other (Stahl, 1992; Bonoma et al., 1974). (SOC)

17. Builds More Positive Heterogeneous Relationships (Webb, 1980; (Johnson & Johnson, 1985c). (SOC)

18. Fosters And Develops Interpersonal Relationships (Johnson & Johnson, 1987) (SOC)

19. Creates A Stronger Social Support System (Cohen & Willis, 1985; Kessler & McCleod, 1985). (SOC)

20. CI Activities Promote Social And Academic Relationships Well Beyond The Classroom And Individual Course (Bean, 1995) (SOC)

21. CI Increases Leadership Skills Of Female Students (Bean, 1995) (SOC), (E)

22. Greater Ability Of Students To View Situations From Others' Perspectives (Development Of Empathy) (Yager, 1985b; Johnson, 1975a, 1975b). (SOC), (E)

23.   Builds Self Esteem In Students (Johnson & Johnson ,1989; Slavin, 1967; Kagan, 1986; Webb,1982) (E)

24.   Enhances Student Satisfaction With The Learning Experience (Turnure & Zeigler, 1958) (E)

25.   Promotes A Positive Attitude Toward The Subject Matter (Bligh,1972; Kulick & Kulick, 1979) (E)

26.   Encourages Student Responsibility For Learning (Baird & White, 1984) (E)

27.   Classroom Anxiety Is Significantly Reduced (Kessler, Price & Wortman, 1985; Slavin & Karweit, 1981) (E)

28.   Test Anxiety Is Significantly Reduced (Johnson & Johnson, 1989) (E)

29.   Promotes Higher Achievement And Class Attendance (Hagman & Hayes,1986; Cooper, 1984; Janke, 1980). (B)

30.   Students Stay On Task More And Are Less Disruptive (Stahl & VanSickle, 1992). (B)

31.   Cl Increases Students' Persistence In The Completion Of Assignments And The Likelihood Of Successful Completion Of Assignments (Felder, 1997; Johnsons, 1990). (B)

32.   Helps Students Wean Themselves Away From Considering Teachers The Sole Sources Of Knowledge And Understanding (Felder,1997) (B)

Classroom Environment Outcomes:

33.   Establishes An Atmosphere Of Cooperation And Helping School wide (Deutsch 1975, 1985; Slavin, 1987)

34.   Cl Promotes Positive Societal Responses To Problems And Fosters A Supportive Environment Within Which To Manage Conflict Resolution (Davis, 1997; Sherman,1991; (Messick & Mackie, 1989;

Dembo, 1994; Good & Brophy, 1990; Slavin, 1991; Glover & Bruning, 1990)

35. Creates An Environment Of Active, Involved, Exploratory Learning (Slavin, 1990)

36. Students Explore Alternate Problem Solutions In A Safe Environment (Sandberg, 1995)

37. Classroom Resembles Real Life Social And Employment Situations (Breen, 1981).

38. Cl Processes Create Environments Where Students Can Practice Building Leadership Skills. (Johnson & Johnson, 1990; Bean, 1995)

39. In Colleges Where Students Commute To School And Do Not Remain On Campus To Participate In Campus Life Activities, Cl Creates A Community Environment Within The Classroom.

Pedagogical and Teacher Roles related Outcomes:

40. Cl Fits In Well With The Tqm And Cqi Models Of Effective Management (Walker, 1997)

41. Promotes A Learning Goal Rather Than A Performance Goal (Gentile, 1997)

42. Promotes A Mastery Attribution Pattern Rather Than Helpless Attribution Pattern (Gentile, 1997)

43. Allows Students To Exercise A Sense Of Control On Task (Sharan and Sharan, Gentile, 1997)

44. Is Especially Beneficial In Mathematics Courses (Davidson, 1990; Johnson & Johnson, 1990)

45 Involves Students In Developing Curriculum And Class Procedures (Kort, 1992)

46. Fits In Well With The Constructivist Approach (Davis, Mahler & Noddings,1990; Wooley et al., 1990)

47. Encourages Alternate Student Assessment Techniques (Rosenshine & Stevens, 1986; Cooper, 1984; Cross & Angelo, 1993).

48. Creates A More Positive Attitude Toward Teachers, Principals And Other School Personnel By Students And Creates A More Positive Attitude By Teachers Toward Their Students

49. Addresses Learning Style Differences Among Students (Midkiff & Thomasson, 1993)

50. Promotes Innovation In Teaching And Classroom Techniques (Slavin, 1980, 1990)

51. Jigsaw Is An Ideal Structure For Laboratory And Design Projects (Felder, 1997; Clarke, 1994)

52. Students Practice Modelling Societal And Work Related Roles (Johnson, Johnson & Holubec, 1984; Houston, 1992; Sandberg, 1995; Wlodowski, 1985)

52. Cl Is Synergystic With Writing Across The Curriculum (Wac)

53. Cl Activities Can Be Used To Personalize Large Lecture Classes (Bean, 1996)

54. Skill Building And Practice Can Be Enhanced And Made Less TediousThrough Cl Activities In And Out Of Class. (Tannenberg, 1995)

55. Cl Is Especially Useful In Foreign Language And ESL Courses Where Interactions Involving The Use Of Language Are Important (Brufee, 1993; Lotan & Benton, 1990; DeAvila, 1981; Neves, 1983; Lotan & Benton, 1990; Hatch, 1978; Richie, 1978; Neves, 1983)

56. Allows Assignment Of More Challenging Tasks Without Making The Workload Unreasonable. (Felder, 1997; Davidson, 1990)

57.   Provides Training In Effective Teaching Strategies To The Next Generation Of Teachers (Felder, 1997).

While researchers and teachers have developed a growing consensus regarding the positive effects of cooperative learning, there remains " a great deal of confusion and disagreement regarding the reasons why cooperative learning methods effect achievement, and even more importantly, under what conditions cooperative learning has these effects (Slavin, 1995, p.1). Slavin suggests that there are four major theoretical perspectives on cooperative learning and achievement: motivational, social cohesion, cognitive, and developmental.

Motivational perspectives on cooperative learning emphasize reward or goal structures under which students operate (Slavin, 1977, 1983a, 1995). From a motivationalist perspective (e.g., Johnson & Johnson, 1992; Slavin, 1983a, b, 1995), cooperative reward and goal structures create a situation in which the only way group members can attain their own personal goals is if the group is successful.

"A review of 99 studies of cooperative learning in elementary and secondary schools that involved durations of at least four weeks compared achievement gains in cooperative learning and control groups. Of sixty-four studies of cooperative learning methods that provided group rewards based on

the sum of group members' individual learning, fifty (78%) found

significantly positive effects on achievement, and none found negative effects

(Slavin, 1995, p.3)." Group goals based on the sum of individual learning

performances were found to be necessary to the instructional effectiveness of

the cooperative learning models (e.g., Fantuzzo, Polite, & Grayson, 1990;

Fantuzzo, Riggio, Connelly, & Dimeff, 1989).

A theoretical perspective related to the motivational perspective

suggests that the effects of cooperative learning on achievement are strongly

mediated by the cohesiveness of the group. This perspective holds that

students will help one another learn because they want the people in the group

to succeed. This perspective is similar to the motivational perspective in that it

emphasizes primarily motivational rather than cognitive explanations for the

instructional effectiveness of cooperative learning. While motivational

theorists suggest that students help their groupmates learn because it is in their

own interests to do so. Social cohesion theorists, however, emphasize the idea

that students help their groupmates learn because they care about the group.

The social cohesion perspective emphasizes teambuilding activities in

preparation for cooperative learning, and processing or group self-evaluation

during and after group activities. This perspective tends to de-emphasize or

eliminate group incentives and individual accountability that motivationalist

researchers find essential. Cohen (1986, pp. 69-70) states "if the task is challenging and interesting, and if students are sufficiently prepared for skills in group process, students will experience the process of group work itself as highly rewarding...never grade or evaluate students on their individual contributions to the group product."

Social cohesiveness theories include the work of Cohen (1994a) as well as that of Shlomo and Sharan (1992), Aronson, Blaney, Stephan, Sikes, & Snapp (1978). Cohen, Aronson, and Sharan use forms of cooperative learning in which students take on individual roles within the group, which Slavin (1983a) calls "task specialization" methods. Slavin (1995, p. 4), however, suggests that, "The achievement outcomes of cooperative learning methods that emphasize task specialization are unclear."

Slavin (1995, p.5) states that, "Methods which emphasize teambuilding and group process but do not provide specific group rewards based on the learning of all group members, are no more effective than traditional instruction in increasing achievement, although there is evidence that these methods can be effective if group rewards are added to them."

The cognitive perspective contrasts the motivationalist and social cohesiveness perspectives. Rather than focusing on group norms, it suggests that interactions among students themselves increase achievement. The

perspective suggests that student achievement increases attained in cooperative learning occur as a result of mental processing of information rather than motivations.

Developmental perspectives spring from cognitive viewpoints that suggest that interactions among children around appropriate tasks, increases their mastery of critical concepts. Vygotsky (1978) suggested that collaborative activity among children promotes growth because children of similar ages are likely to be operating within one another's proximal zones of development, modeling in the collaborative group behaviors more advanced than those they could perform as individuals. Vygotsky (1978, p.86) described the influence of collaborative activity on learning as follows:

> Functions are first formed in the collective in the form of relations among children and then become mental functions for the individual ... Research shows that reflection is spawned from argument.

Slavin (1995) finds that while there is much theoretical and classroom support for "pure" cooperative learning, there is little evidence from classroom experiments done over meaningful time periods that interaction itself produces higher achievement. However, it is likely that the cognitive processes described by developmental theorists are important as mediating variables to explain the effects of group goals and group tasks on student achievement (Slavin, 1987, 1995).

Another cognitive perspective, which differs from the developmental viewpoint, focuses on what Slavin calls the cognitive elaboration perspective. This perspective focuses on the idea that if information is to be retained in memory and related to information already in memory, the learner must engage in some sort of cognitive restructuring, or elaboration, of the material (Wittrock, 1986). This research has suggested that one of the most effective means of elaboration is explaining the material to someone else. Research on peer tutoring has long found achievement benefits for the tutor as well as the tutee (Devin-Sheehan, Feldman, & Allen, 1976).

The cognitive elaboration perspective and related research points to the potential of cooperative learning in writing process models (Graves, 1983), in which students work in peer response groups or form partnerships to help one another draft, revise, and edit compositions. Such models have been found to be effective in improving creative writing (Hillocks, 1984), and a writing process model emphasizing use of peer response groups is part of the Cooperative Integrated Reading and Composition Writing/Language Arts program (Stevens, Madden, Slavin, & Farnish, 1987), a program which has also been used to increase student writing achievement (Slavin,1995).

While the previously described research looks at various perspectives and theories explaining cooperative/collaborative learning effects, Slavin

(1995) suggests that research needs to explore the factors or conditions that detract from or support effectiveness in collaborative learning. He cites his own work when he reports that group goals and individual accountability were found to produce positive effects in 78% of the studies reviewed.

Slavin suggests that a few reviewers (e.g., Damon, 1984; Kohn, 1986) have recommended against the use of group rewards, fearing that they may undermine long-term motivation. He finds that there is no evidence that they do so, and do not undermine long-term achievement. Among multi-year studies, methods that incorporate group rewards based on individual learning performance have consistently shown continued or enhanced achievement gains over time (Stevens & Slavin, 1995a, b; Hertz-Lazarowitz, Ivory, & Calderón, 1993; Greenwood, Delquadri, & Hall, 1989). In contrast, multi-year studies of methods lacking group rewards found few achievement effects in the short or long-term (Solomon, Watson, Schaps, Battistich, & Solomon, 1990; Talmage, Pascarella, & Ford, 1984). Cohen (1994b) suggests that group rewards and individual accountability may not be necessary for higher-level activities that reach beyond basic-skills instruction. Slavin, however, finds little evidence for this intriguing possibility.

There is also evidence found in the work of Meloth and Deering

(1992) that carefully structuring the interactions among students in

cooperative groups can also be effective, even in the absence of group

rewards. They suggest that the effects of group rewards based on the

individual learning of all group members are clearly indirect; and only

motivate students to engage in certain behaviors, such as providing each other

with elaborated explanation. The research by Meloth and Deering (1992),

Berg (1993), and others suggests that students can be directly taught to engage

in cognitive and interpersonal behaviors that lead to higher achievement,

without the need for group rewards. There is, however, a growing body of

evidence to suggest that a combination of group rewards and strategy training

produces much better outcomes than either alone (Fantuzzo et al., 1992; Berg,

1993).

While Slavin (1995) suggests that the theoretical and empirical support

for the centrality of group goals and individual accountability is strong for

a broad range of school tasks, there may be some kinds of tasks that do not

require these elements. He suggests that "Controversial Tasks Without Single

Answers" may be one category of task that do not require these elements to be

effective. He cites Bershon (1992) when he notes that consistent with classic

Vygotskian paradigms, it is likely that students benefit by hearing others

thinking aloud. When hearing higher-quality solutions or thought processes, it is believed that students incorporate these ideas in their own private speech. These types of controversial tasks often present students with situations in which they argue or listen to others argue and justify their opinions or solutions. While there is evidence that these tasks may be effective alone, there is evidence that adding group rewards enhances the effects (Fantuzzo, Polite, & Grayson, 1990). In light of these findings, Slavin suggests further research on the conditions under which group goals and individual accountability may not be necessary.

The role of the teacher in promoting cognitive processing during collaborative learning is also an important focus of research. Meloth and Deering (1999) examine the significance of monitoring and teacher beliefs on collaborative learning effectiveness. Their studies find that monitoring of groups appears to be a very important and complex component of collaborative learning. They suggest that teachers need to develop understandings of how best to monitor specific groups that might include how often and how to comment and intervene. The quality of instructional exchanges, not the existence or length of the exchanges per se, is what is seen to make them effective.

Meloth and Deering (1999) also found that teacher beliefs are clearly

tied to collaborative groupwork effectiveness. They recognize that many

teachers appear to hold beliefs reflecting a "transmission" view of teaching

and an "absorptionist" view of learning (Rich, 1990; Prawat, 1992; Palincsar,

Stevens, & Gavelek, 1989). They note that Goodlad (1984) so consistently

observed "in action," teachers lecturing (transmitting) and students enduring

(ostensibly absorbing). These transmissionist beliefs are seen to be instilled in

future-teachers during their years of experience as passive students, and are

strongly supported by the broader culture (Buchmann, 1989; Flory, 1991), and

are quite resistant to change (Buchmann, 1989; Feiman-Nemser & Buchmann,

1985).

This transmissionism conflicts, however, with the learning

perspectives of the majority of the proponents of collaborative learning, which

is itself a highly popular educational approach, and even a belief system

(Bossert, 1988,89). Most collaborative learning theorists conceive of learning

as a dynamic, social, and inexact process. For example, Johnson and Johnson

(1985) find that student learning is enhanced through academic controversy,

in which "facts" are open to dispute, not simply commodities to be absorbed.

Finally, Meloth and Deering (1999) find that teachers find difficulty in

supporting cognitive processes in collaborative groups. They often fail to

prepare students for collaborative roles, fail to monitor effectively, or disrupt the process as a whole by virtue of their own personal beliefs about the nature and purposes of collaborative learning.

In considering questions that explore which students gain the most from collaborative learning experiences, the work of Slavin (1995) suggests that high, average, and low achievers all benefit from cooperative learning experiences. The work of Bianchini (1999), however, explores our understanding of groupwork in the science classroom-to use the sociological construct of status (defined as a student's perceived academic ability and popularity) to explain inequitable participation by group members. It also seeks to identify strategies that promote reasoned consideration of all ideas within groups.

Bianchini (1999) found a strong influence of status on student-student interactions during groupwork and student performance on science tests. Using quantitative and qualitative methods, she found that high status students talked more often and achieved more academically. In her recommendations for groupwork, she acknowledges that the groups she studied had not had issues of status and inequities fully addressed by teachers or curriculum. This led to inequities in group work participation and science learning. Bianchini recommends teachers intervene on behalf of equity within group work by

58

strategically assigning roles and procedures to ensure student access to materials, discourse, and decisions. She also suggests that teachers' interventions serve to "overturn" student notions of what it means to be smart if they are preventing equitable participation.

Lloyd and Cohen (1999) also focus on the problem of unequal participation of students within small cooperative learning groups in middle-school classrooms. According to previous research using Status Characteristic Theory, this unequal participation stems from differential expectations for competence based on academic and peer status. Previous research had also found that in classrooms where rank on these two status orders was uncorrelated (incongruent classrooms), problems of unequal participation were less severe.

Lloyd and Cohen's study involved systematic observations of students in working groups in four middle-school science classrooms. The derivation of hypotheses required an extension of Status Characteristic Theory to handle three-to-five-person groups working in a multi-characteristic situation. The results showed good support for hypotheses explaining the effect of incongruence in the social structure on participation of low-status students. Incongruent classrooms had fewer small groups that were highly differentiated on status. Moreover, the degree of status differentiation in the

groups was a direct predictor of the participation rates of the low-status students. Thus, the less differentiated groups in incongruent classrooms showed fewer status problems. As a practical matter, the tendency of students to construct peer status orders that are independent of academic status acts as a natural treatment for unequal participation.

In summarizing the literature review's section on collaborative and cooperative learning, is clear that there has been a significant quantity and variety of studies exploring effectiveness. Among the many documented positive effects are those that can be grouped as student outcomes, pedagogical and teacher role related, and those related to classroom culture and environment. Among the effects documented relating to student outcomes, there are several sub-groupings of studies which include positive cognitive/skill based effects, social interaction effects, emotional effects, and behavioral effects.

In seeking the understanding of why collaborative learning is effective, there are several perspectives begin to explain what's at work when students work together in groups. Among these perspectives are those related to motivation, social cohesion of the group, cognitive, and developmental aspects of learning. Supporting the motivational perspective, Slavin's studies and meta-studies suggest that rewards and accountability for groups and

individuals are often necessary for collaborative learning to work well in the classroom.

As both principal and researcher, this study sought to explore collaborative learning which focused less on rewards and accountability while focusing on issues of social cohesion, the development of a student dialogic, cognitive elaboration, and the use of controversial and engaging tasks. As principal/co-teacher designing and adapting this study, the research and on-line project participation developed towards the goals of providing authentic learning pedagogy and opportunities for authentic achievement (Newman, 1996).

In addition to the abundance of research on collaborative learning, there is also a significant and prevalent use of collaborative and cooperative learning strategies in classrooms in every content area and grade level. Research has explored issues of equity and access within groupwork situations. Slavin and other researchers suggest that there is a need for more research exploring the conditions that support effectiveness as well as equity in the vast variety of contexts in which collaborative learning occurs. This study expanded the exploration of status and gender, as well as teacher views on learning and collaborative groups as they relate to the construction of opportunities for learning.

Constructivist Philosophy and Educational Theory

Constructivist philosophy, educational theory, and its implications for classroom practice underlie many on-line classroom projects. It is also the basis for the vast amount of research, theory and practice related to collaborative learning. While constructivist thought seems antithetical to objectivist theory and associated behavioral pedagogies, it is perceived by some theorists as post-epistemological. Rather than replacing objectivism, it is seen as a way of thinking about knowing and a referent for building models of teaching, learning and curriculum (Tobin and Tippin, 1993). In this sense it is a philosophy.

Constructivism can also be viewed as a theory of communication (Vygotsky, 1978). Viewed in this way, teaching becomes the establishment and maintenance of a language and a means of communication between the teacher and students, as well as between students.

A constructivist perspective views learners as actively engaged in making meaning. Constructivist teaching asks students to analyze, investigate, collaborate, share, build and generate ideas based on what they already know. In this context, the teacher must develop an awareness of the environments

and the participants in a given teaching situation, in order to continually adjust their actions to engage students in learning, using constructivism as a referent.

There are many perspectives on constructivism that are useful in guiding theory, research, and practice. Several of these perspectives will be explored later in this section, however, it is important to understand the implications this view of learning has for teaching.

Constructivism's central idea is that human learning is constructed, that learners build new knowledge upon the foundation of previous learning. This view of learning sharply contrasts with one in which learning is the passive transmission of information from one individual to another, a view in which reception, not construction, is key. In constructivism, learners are seen to construct new understandings using what they already know. Learners are viewed as coming to learning situations with knowledge gained from previous experience. That prior knowledge influences what new or modified knowledge learners will construct from new learning experiences.

Learning is also viewed as active rather than passive. Learners confront their understanding in light of what they encounter in the new learning situation. When learners encounter inconsistency with their current understanding, their understanding can change to accommodate new experience. Learners are seen to remain active throughout this process: they

apply current understandings, note relevant elements in new learning experiences, judge the consistency of prior and emerging knowledge, and based on that judgment, they can modify knowledge (Sener,1997).

Pedagogically, constructivism in its many forms suggests several basic tenets for teaching (Dougiamas, 1998). These include the ideas that students come to class with an established world-view, formed by years of prior experience and learning. Student world-views are seen to evolve and filter all experiences while affecting their interpretation of observations. Students change their world-view through work. They learn from each other as well as the teacher. They learn better by doing. As teachers allow and create opportunities for students to voice their ideas, they promote the construction of new ideas.

Constructivist teachers are seen as guides on the side who provide students with opportunities to test their current understandings. Since learning is based on prior knowledge, teachers must recognize that knowledge and provide learning environments that exploit inconsistencies between learners' current understandings and the new experiences before them. Children are seen to need different experiences to advance to different levels of understanding.

The teacher's role is seen as helping students apply their current understandings in new situations in order to build new knowledge. They are called on to engage students in learning, bringing students' current understandings to the center of classroom activities. Teachers can ensure that learning experiences incorporate problems that are important to students, rather than those that are primarily important to teachers and the educational system. Teachers can also encourage group interaction, where the interplay among participants helps individual students become explicit about their own understanding by comparing it to that of their peers.

It is also acknowledged that when knowledge is actively built, time is needed to build it. Ample time is seen to facilitate student reflection about new experiences, how those experiences line up against current understandings, and how a different understanding might provide students with an improved (not "correct") view of the world (SEDL, 1996).

Yager (1991) suggests the following procedures for constructivist teaching:

1. Seek out and use student questions and ideas to guide lessons and whole instructional units.

2. Accept and encourage student initiation of ideas.

3. Promote student leadership, collaboration, location of

information and taking actions as a result of the learning process.

4.   Use student thinking, experiences and interests to drive lessons.

5.   Encourage the use of alternative sources for information both from written materials and experts.

6.   Encourage students to suggest causes for event and situations and encourage them to predict consequences.

7.   Seek out student ideas before presenting teacher ideas or before studying ideas from textbooks or other sources.

8.   Encourage students to challenge each other's conceptualizations and ideas.

9.   Encourage adequate time for reflection and analysis; respect and use all ideas that students generate.

10.   Encourage self-analysis, collection of real evidence to support ideas and reformulation of ideas in light of new knowledge.

11.   Use student identification of problems with local interest and impact as organizers for the course.

12.   Use local resources (human and material) as original

sources of information that can be used in problem

resolution.

13.   Involve students in seeking information that can be

applied in solving real-life problems.

14.   Extend learning beyond the class period, classroom and

the school.

15.   Focus on the impact of science on each individual student.

16.   Refrain from viewing science content as something that

merely exists for students to master on tests.

17.   Emphasize career awareness--especially as related to

science and technology.

Yager (1991) also suggests the following strategies for implementing a

constructivist lesson.

1.   Starting the lesson: Observe surroundings for points to question,

ask questions, consider possible responses to questions, note

unexpected phenomena, Identify situations where student perceptions

vary.

2.   Continuing the lesson: Engage in focused play, brainstorm possible

alternatives, look for information, experiment with materials, observe

a specific phenomena, design a model, collect and organize data,

67

employ problem-solving strategies, select appropriate resources, students discuss solutions with others, students design and conduct experiments, students evaluate and debate choices, students identify risks and consequences, define parameters of an investigation.

3. Proposing explanations & solutions: Communicate information and ideas. Construct and explain a model, construct a new explanation, review and critique solutions, utilize peer evaluation, assemble appropriate closure, integrate a solution with existing knowledge and experiences

4. Taking action: Make decisions, apply knowledge and skills, transfer knowledge and skills, share information and ideas, ask new questions, develop products and promote ideas, use models and ideas to illicit discussions and acceptance by others.

Following the previous descriptions of constructivist based teaching, it is useful to extend the view to the nature of constructivist classrooms. Jonassen (1994) proposed eight characteristics that differentiate constructivist learning environments:

1. Constructivist learning environments provide multiple representations of reality.

2. Multiple representations avoid oversimplification and represent the complexity of the real world.

3. Constructivist learning environments emphasize knowledge construction inserted of knowledge reproduction.

4. Constructivist learning environments emphasize authentic tasks in a meaningful context rather than abstract instruction out of context.

5. Constructivist learning environments provide learning environments such as real-world settings or case-based learning instead of predetermined sequences of instruction.

6. Constructivist learning environments encourage thoughtful reflection on experience.

7. Constructivist learning environments enable context- and content-dependent knowledge construction."

8. Constructivist learning environments support collaborative construction of knowledge through social negotiation, not competition among learners for recognition.

As previously mentioned, there are many perspectives on constructivism. These perspectives are commonly categorized into two strands; cognitive and social. Jonassen's eight characteristics would seem to be supported by both

social and cognitive constructivists while they may emphasized differently by these two strands.

Cognitive constructivism is based on the work of developmental psychologist's such as Jean Piaget. Piaget's theory has two major parts: an "ages and stages" component that predicts what children can and cannot understand at different ages, and a theory of development that describes how children develop cognitive abilities (Piaget, 1970). The developmental theory clearly rests as the foundation for cognitive constructivist approaches to teaching and learning. Piaget's theory of cognitive development suggests that humans must "construct" their own knowledge by building their knowledge through experience. These experiences are seen to enable them to create schemas or mental models in their heads. These schemas are changed, enlarged, and made more sophisticated through two complimentary processes: assimilation and accommodation (Piaget, 1970).

Piagetian theory suggests that the role of the teacher is to provide a rich environment for the spontaneous exploration of the child. A cognitive constructivist classroom inspired by Piagetian theory is equipped with interesting things to explore that encourage students to become active constructors of their own knowledge (their own schemas) through experiences that encourage assimilation and accommodation.

To Piagetian theorists, learning is an active process. Direct experience, making errors, and looking for solutions are central to assimilation of knowledge and accommodation of information. Information is introduced as an aid to problem solving and serves as a tool rather than an isolated arbitrary fact. Piagetian theorists advocate learning that is whole, authentic, and real. They suggests that meaning is constructed as children interact in meaningful ways with the world around them. While students continue to learn basic skills in Piagetian classrooms, they are more likely to learn them if they are engaged in meaningful activities .

Papert (1993), a cognitive constructivist theoretician working in the area of educational computing, characterizes behavioral approaches as "clean" teaching whereas Constructivist approaches are "dirty" teaching. He emphasizes the differences between approaches that isolate and break down knowledge to be learned (clean) versus approaches that are wholistic and authentic (dirty).

The teacher's major problem in terms of a cognitive constructivist viewpoint, is how to structure and guide student's mental processes so that the "residue" of these processes is consistent and desirable as it relates to curriculum outcomes (Nuthall,1995).While it is assumed that each student will construct knowledge in their own way, the teacher is charged with

71

helping students appropriate and use the cultural concepts and tools that are necessary to such disciplines as science, mathematics, etc (Driver, et al,1994).

There appears to be an overlap between the work of Piaget and another cognitive psychologist, Lev Vygotsky (1978). Vygotsky, however, placed more emphasis on the social context of learning thus his constructivist theory is often called social constructivism. Teachers and more experienced learners are seen to play important roles in his view of learning. For Vygotsky, culture provides learners with cognitive tools they need for development. The tools of culture are seen to include cultural history, social context, and language.

Among his most noted concepts is the "zone of proximal development." It suggests that students learn to master concepts with the help of adults or more advanced children, in ways that they could not achieve on their own. The Vygotskian teacher, like the Piagetian teacher, creates an engaging and interesting learning environment where children can discover and explore. However, the Vygotskian teacher guides the students to work in groups, as well as stimulating them to think about issues and questions that arise from their involvement in real life situations. They see learning and development as social and collaborative activity among students and teachers, and students and students (Dixon & Krauss, 1996).

The work of Piaget and Vygotsky (cognitive and social strands of

constructivism) are often divided by their apparent location of the mind in

either the individual or the social milieu. The work of Cole and Wertsch

(1996), however, offers an insightful view of the similarities and differences

of these two strands and theorists.

They suggest that,

> Commentators on the differences between these two thinkers have
> placed too narrow an emphasis on their ideas about the primacy of
> individual psychogenesis versus sociogenesis of mind while neglecting
> what we believe is a cardinal difference between them: their views
> concerning the importance of culture, in particular, the role of
> mediation of action through artifacts, on the development of mind.
> (p.1)

They also suggest that, while it is commonly held that Piaget located

cognitive development in the mind of the exploring child and Vygotsky in

social origins, there is evidence in the writing of each of the theorists that

these distinctions are blurred. Cole and Wertsch (1996) suggest that Piaget

acknowledged the "co-equal role of the social world in the construction of

knowledge," and cite Piaget directly when he stated;

> There are no more such things as societies qua beings than there are
> isolated individuals. There are only relations .... and the combinations
> formed by them, always incomplete, cannot be taken as permanent
> substances (Piaget, 1932, p. 360).

and again in the following passage:

There is no longer any need to choose between the primacy of the social or that of the intellect: collective intellect is the social equilibrium resulting from the interplay of the operations that enter into all cooperation (Piaget, 1970, p. 114).

They view Vygotsky, on the other hand, as sharing Piaget's emphasis on the active construction of the individual learner. They also suggest the following passage written by Vygotsky as part of a review and critique of Piaget's account of egocentric speech is yet again evidence of the blurring of the distinctions between the two theorists,

Activity and practice: these are the new concepts that have allowed us to consider the function of egocentric speech from a new perspective, to consider it in its completeness ... But we have seen that where the child's egocentric speech is linked to his practical activity, where it is linked to his thinking, things really do operate on his mind and influence it. By the word things, we mean reality. However, what we have in mind is not reality as it is passively reflected in perception or abstractly cognized. We mean reality as it is encountered in practice (Minnick, 1987, pp. 78-79).

Cole and Wertsch (1996, p. 2) suggest that Vygotsky's emphasis on speaking and thinking spring from " strong assumptions about the active individual." They concur with theorists that suggest there is "a complementarity of active individual and active environment." (see Valsiner, 1993; Wozniak, 1993).

Cole and Wertsch (1996) also suggest that the overemphasis on blurry distinctions between the location of mind and cognitive development in the

74

work of Piaget and Vygotsky, has hampered the acknowledgement of the influence of a "third factor in the process of co-construction: the accumulated products of prior generations, culture, the medium within which the two active parties to development interact." (p. 2)

Cole and Wertsch (1996, P. 2) emphasize the "The primacy of cultural mediation." They view, as they suggest Vygotsky did, " the development of mind as the interweaving of biological development of the human body and the appropriation of the cultural/ideal/material heritage which exists in the present to coordinate people with each other and the physical world (See Cole, 1996; Wertsch, 1991; for further discussion).

They go on to state that, " Higher mental functions are, by definition, culturally mediated; they involve not a 'direct' action on the world, but an indirect action, one that takes a bit of material matter used previously and incorporates it as an aspect of action. In so far as that matter has itself been shaped by prior human practice (e.g., it is an artifact), current action benefits from the mental work that produced the particular form of that matter." (p. 2)

Taking this view, artifacts become central to the transformation of mental function.. They suggest that, in Vygotsky's view, " artifacts clearly do not serve simply to facilitate mental processes that would otherwise exist. Instead, they fundamentally shape and transform them." (p. 2) They also

suggest that, " all psychological functions begin, and to a large extent remain, culturally, historically, and institutionally situated and context specific." (p.2) Cole and Wertsch (1996) suggest that mind "cannot be unconditionally bounded by the head nor even by the body, but must be seen as distributed in the artifacts which are woven together and which weave together individual human actions in concert with and as a part of the permeable, changing, events of life." (p. 3)

For Cole and Wertsch (1996) there is still much to learn from the cognitive and social strands of constructivism identified with Piaget and Vygotsky. They suggest that rather than arguing over the location of mind in individual or social contexts,

> That the more interesting contrast between them concerns the role of cultural artifacts in constituting the two poles of the individual-social antimony. For Vygotsky, such artifacts play a central role in elaborating an account of what and where mind is. In pursuing this line of inquiry, he focused on a set of issues and phenomena that do not appear to have any clear counterpart in Piaget's thinking, and consequently may be more appropriately characterized as being different, rather than directly in conflict with those at the center of Piaget's project. (p. 5)

Among the social constructivist theories that spring from Vygotskian theory is the work of Lave (1988, 1991) and Rogoff (1990; 1994.). Their work highlights social constructivist concepts that include: the importance of a community of learners, situated learning, and apprenticeship as they relate to

76

learning and classrooms. Language serves as the primary cultural tool in each of these theorist's work. Language is viewed as the sociocultural tool through which members of a learning community negotiate meaning.

Among the diversity of researchers and educators exploring language's role in classroom learning is the work of Green and the Santa Barbara Classroom Discourse Group (1992a). These researcher/educators are exploring the ways that knowledge and opportunities for learning are "talked into being" in the classroom. Green and Dixon (1993) examine everyday classroom life by examining classroom members' interactions. They view classroom life as a series of events that tie students and teachers together in an ongoing and fluid intersection of roles and status negotiation. Students and teachers' talk and discursive practices are seen as the key cultural tool through which opportunities to learn, knowledge, and acceptances of what knowledge is are constructed.

Beyond the differences and similarities of cognitive and social constructivist theory and approaches lies many other derivations on constructivism that suggest that constructivist concepts have evolved in many directions. Among the noted derivations of constructivism are the following: radical constructivism as described by the work of Von Glasersfeld (1990), constructionism as described by the work of Papert (1990), critical

constructivism as described work of Taylor (1996), and cybernetic

constructivism as described in the work of Von Foerster (1984).

While there are many branches of theory that have emerged from

constructivist philosophy, there are also key concepts and classroom

applications that have developed as a result. These applications and concepts

such as; situated cognition, anchored instruction, apprenticeship learning,

problem-based learning, generative learning, and exploratory learning are

grounded in and derived from different branches of constructivist philosophy

and theory. Each approach articulates and operationalizes constructivist theory

in unique and differentiated ways.

Multiple perspectives, authentic activities, and real-world environments are

among the themes that are frequently associated with the diversity of

perspectives on constructivist learning and teaching. The following

characteristics of constructivist classrooms suggested by Murphy (2000) also

serve to link the diversity of constructivist perspectives in terms of their

practical applications. They are presented below in a non-hierarchical order.

1.   Multiple perspectives and representations of concepts and content are
      presented and encouraged.

2.   Goals and objectives are derived by the student or in negotiation with
      the teacher or system.

3. Teachers serve in the role of guides, monitors, coaches, tutors and facilitators.

4. Activities, opportunities, tools and environments are provided to encourage metacognition, self-analysis -regulation, -reflection & -awareness.

5. The student plays a central role in mediating and controlling learning.

6. Learning situations, environments, skills, content and tasks are relevant, realistic, and authentic and represent the natural complexities of the 'real world'.

7. Primary sources of data are used in order to ensure authenticity and real-world complexity.

8. Knowledge construction and not reproduction is emphasized.

9. This construction takes place in individual contexts and through social negotiation, collaboration and experience.

10. The learner's previous knowledge constructions, beliefs and attitudes are considered in the knowledge construction process.

11. Problem-solving, higher-order thinking skills and deep understanding are emphasized.

12. Errors provide the opportunity for insight into students' previous knowledge constructions.

13.	Exploration is a favored approach in order to encourage students to seek knowledge independently and to manage the pursuit of their goals.

14.	Learners are provided with the opportunity for apprenticeship learning in which there is an increasing complexity of tasks, skills and knowledge acquisition.

15.	Knowledge complexity is reflected in an emphasis on conceptual interrelatedness and interdisciplinary learning.

16.	Collaborative and cooperative learning are favored in order to expose the learner to alternative viewpoints.

17.	Scaffolding is facilitated to help students perform just beyond the limits of their ability.

18.	Assessment is authentic and interwoven with teaching.

In summarizing the wide range of approaches and perspectives on constructivism, Murphy (2000) suggests that,

> Multiplicity is an overriding concept for constructivism. It defines not only the epistemological and theoretical perspective but, as well, the many ways in which the theory itself can be articulated. Researchers and theorists have developed variants of constructivism or have evolved the theory in different directions. Nonetheless, there are many common themes in the literature on constructivism which permit the derivation of principles, instructional models and general characteristics. (p. cle2b.html)

While there may exist a multiplicity of perspectives and facets of constructivism, Murphy (2000) also suggests a wide variety of specific characteristics or principles of constructivist learning and teaching that binds constructivist theory and practice. They include the following:

- Multiple perspectives

- Student-directed goals

- Teachers as coaches

- Metacognition

- Learner control

- Authentic activities & contexts

- Knowledge construction

- Knowledge collaboration

- Previous knowledge constructions

- Problem solving

- Consideration of errors

- Exploration

- Apprenticeship learning

- Conceptual interrelatedness

- Alternative viewpoints

- Scaffolding

- Authentic assessment

- Primary sources of data

The preceding literature review was intended to ground the study of the America Dreams project in the current research on on-line technologies in the classroom, collaborative learning, and the constructivist philosophy and theories that underlie them. Initial review of the America Dreams on-line project suggested that it utilized a WebQuest model that was rooted in collaborative learning activities and supported by both cognitive and social constructivist notions regarding the ways students learn and teachers should teach.

Given this initial orientation towards the constructivist nature of the project, this literature review is directly tied to the qualitative methodologies chosen to explore the project, and the development of the chosen research questions. While many studies of technology, collaborative learning, and/or constructivist pedagogy in classrooms have studied the effects of these strategies, this study explores how these strategies worked or did not work by thickly describing the project participation over the duration of the project.

CHAPTER 3

Methodology

The review of literature demonstrated that there is a large body of research and practice which supports the academic and social benefits of collaborative and cooperative learning. It also demonstrated that the use of collaborative learning strategies in on-line projects is growing in terms of actual classroom practice. While researchers and educators continue to experience technological, cultural, and logistical difficulties and barriers towards their effective implementation, evidence is mounting that supports the positive effects of these projects in such critical areas as the improvement of writing and the encouragement of critical and higher level thinking. The literature review also examined the constructivist philosophies and theories that are foundational to many on-line projects.

This dissertation research was undertaken to describe, analyze, and interpret a particular on-line project; America Dreams. It was carried out in two phases. First, it used ethnographic methods to conduct text analysis of original source documents and e-mail in order to compare the project's design to its actual usage. Second, it used text analysis and discourse analysis to

83

explore student constructions of opportunities for learning as they participated in the project.

This chapter is divided into three parts and presents the methods used to study and analyze student participants as they worked on the America Dreams on-line project. First, the rationale of the study is provided which emphasizes the need to utilize qualitative research methods to explore novel learning contexts (i.e. on-line projects) that utilize collaborative learning and constructivist pedagogies. Second, ethnographic methods are examined as they relate to the study of schooling and classrooms and are explained as they relate to their use as appropriate methodologies for the data collection and analysis in this study. Third, the methodology, data collection procedures, setting, and context of the study are presented.

Rationale for the Study

In their article entitled, " The Use of Participatory Design in the Implementation of Internet-Based Collaborative Learning Activities in K-12 Classrooms, Silva and Breuleux (1994, p.103) explain that "one of the most common justifications for the establishment of educational networking projects is the belief that the use of computer networks fosters collaborative

learning. In other words, computer networks are ideal vehicles for collaborative learning tasks and activities (Bump, 1990; Din, 1991; Levin & Cohen, 1985; Owen, 1991; Owen, 1993; Resnick, 1992; Riel, 1990a; Riel 1990b; Riel 1992a; Robinson, 1993; Sloan & Koohang, 1991; Tinker, 1993)." They go on to cite the work of Riel (1990b) who claims that computer networks have the ability "to create new forms of group interactions that are essentially of a collaborative nature (1990b, p.449)."

Silva and Breuleux (1994, p.115) argue for the development of on-line collaborative projects through the process of citing substantiating research as well as policy. They write... "so powerful is the belief in the inherent collaborative potential of the Internet, that policy makers have consistently justified investment in national networks on the basis that it will foster greater collaboration among different sectors of society, namely industry, education and academia (CANARIE Associates, 1992; United States, Office of Science and Technology Policy, Director, 1992; United States, Congress, 1991)."

Silva and Breuleux (1994) base their beliefs on the assumed efficacy of collaborative learning techniques as established by the work of (Davidson & Worsham, 1992a; Sharon, 1990; Slavin et al, 1985; Slavin, 1980, 1983, 1990). This efficacy is seen as stemming from such on-line project's characteristics as their ability to contextualize work, and to bring learning

85

activities more in line with the understanding of learning and cognition that is emerging from constructivist research. This study explores these assumptions and beliefs about on-line projects and examines participant perspectives on what counts as collaboration and the creation of opportunities to learn during on-line project participation.

In choosing to study this particular technology-based educational context with qualitative research methods, the researcher acknowledges the fact that, "Educators, politicians, and the general public have embraced technology; educators in particular, have developed wave after wave of special classroom activities and collaborative projects based on the use of the Internet. Unfortunately, the uncritical, popular attention given to these Internet initiatives is rapidly becoming disproportional to the amount of substantive classroom research on learning derived from these projects (Windschitl, 1998, p. 28). "

The researcher's orientation towards the use of technology in schools is important to understand in framing this particular study. It should be noted that while the researcher/principal is a strong advocate for the thoughtful integration of technology in general and on-line projects specifically, this advocacy continues to be guarded. The lack of research, in particular, thick and descriptive research regarding the use of on-line projects, continues to

foster the researcher's skepticism regarding the connection between the lofty

goals and potentials of on-line projects and their actual implementations. As

the development of computer mediated communication (CMC) progresses and

with it opportunities for the development of new educational contexts such as

on-line projects, this study addresses the essential task of researchers and

educators in developing a greater understanding of what is happening in these

on-line educational contexts.

In depth descriptive and interpretive study of these on-line educational

contexts serves to further our knowledge in several key areas. First, it

commences the development of a baseline knowledge construction that can

serve on-line educational project designers in their efforts to create more

effective and efficient on-line educational experiences. Second, it explores

and uncovers cultural dynamics, behaviors, and themes, among on-line

participants as they create their communities of practice. Third, by utilizing

both the limitations and expanded opportunities of on-line educational

contexts, a variety of aspects of learning theory are exposed to new

perspectives as a means to explore areas of interest previously studied in

contiguous, or face to face classroom settings.

Windschitl (1998) cites the work of Waugh, Levin, and Smith (1994)

in which they describe three examples of collaborative projects that differ in

their degree of structure and requirements placed on the participants.

Windschitl (1998) suggests that the study of the differences between the

Global School Net, AT&T Learning Network, and the National Geographic

Kids Network calls for further studies of projects which inquire into such

areas as the investment of learners in the collaborative processes, the patterns

of interactions among participants, the development of communities of

learners, and the evolution of the projects over time. This study addresses each

of Windschitl's suggestions for new research.

Windschitl (1998) also cites the work of several researchers pursuing

knowledge related to the study of communications among participants in on-

line educational contexts (Bonk, Appleman, & Hay, 1996; Sugar & Bonk,

1995; Cervantes, 1993; Graves, 1983; Levin, Waugh, & Smith, 1989; Kiesler,

Siegel, & McGuire, 1984; Zuboff, 1988; Shank, 1997). These researchers

have studied a variety of important questions related to the manner in which

participants communicate with each other and learn in various arrangements

of media. These studies have focused on participant's communications whose

purpose is to instruct users. Windschitl (1998), however, suggests that further

study should be done on the ways in which participants share meanings

(academic or otherwise) using the Web (World Wide Web: Internet) as a

medium. In the case of this study, a focus is placed on developing an understanding of student communications with student group work contexts.

Windschitl (1998, p. 31) states that "novel learning environments require researchers to describe at various levels what is happening to the participants." He notes that viewing CMC interactions as semiosis, the dynamic process of meaning making emerging from both source and the destination (Shank, 1997; Shank & Cunningham, 1992) rejects the notion of education as a transmitting process and considers it rather a process of dialogue and negotiated meaning stemming from shared social experiences. He cites Fetterman (1989) and Patton, (1980) in noting that ethnography is particularly well suited to examine these perspectives in depth.

Ethnography in Education

As an example of qualitative research methods and design, ethnography offers us better understandings of the complexities of human interactions (Marshall & Rossman, 1995). Ethnography's ability to describe the symbols and values of a culture, (in this case, a classroom culture) positions it as an appropriate methodology to address the unfolding of novel educational contexts. Through the use of participant observation, in-depth interviews, document analysis, unobtrusive measures, and survey questions, ethnography can be used to

explore the salient behaviors, events, beliefs, attitudes, structures, and processes that are occurring when students, teachers, experts, and others communicate, collaborate, and learn together in online contexts.

This study's ethnographic perspective is consistent with basic premises cited by Green, Dixon, and Putney (1998) that are also found to be consistent with the design and usage of the America Dreams on-line project. The premises include:

1. An ethnographic perspective represents the view that all learning and literate practices are situated within a context that is or was constructed by members of a social group.

2. An ethnographic approach honors the complexity of daily life and the overtime nature within and across events of daily life.

3. An ethnographic approach is based on the perspective that the moment of learning is illusive, and that to know that someone has learned something or can use their knowledge involves observing what the person or group can and does do over time and over contexts with different groups or individuals.

4. An ethnographic approach involves asking a set of questions that make visible what a member needs to do, understand, produce, predict, and interpret in order to participate in socially and academically appropriate ways.

5. The questions asked by an observer using an ethnographic approach include: Who can say, read, write, what with and to whom in what ways, under what conditions, when and where and for what purposes, and with what outcomes.

6. These questions make visible what is occurring moment by moment, and overtime and they provide a basis for examining the developing literate processes and practices of and among members of the group as they use language, reading, and writing to learn.

Ethnography, from this theoretical perspective, is seen as an approach to studying the everyday life of a social group, which in this case is represented by the classroom. It is a theoretically driven approach to the study of culture and cultural practices. Given its goals of identifying and understanding what counts as literate practices, text, participant, event, teaching, learning, academic content, etc. to members of a social group (e.g, a classroom), it is clearly suited to the content and purposes of this study.

Ethnography is also seen as a form of language that teachers, students, researchers, and others use to talk about classroom practices, processes and outcomes from an emic or insider=s point of view (Green, Dixon, & Putney, 1998). Ethnographic field methods include: participant observation, interviewing, artifact analysis, document analysis, and triangulation of theory, method, data, and perspective.

In an effort to describe and interpret what counts as collaboration and opportunities to learn among the on-line project's communities of practice, the researcher grounded the study in a theoretical and methodological framework which fits the problem and the available data sources. The researcher's view of the nature of these communities of practice suggests that once a member becomes part of a community of practice, there develops a set of norms, expectations, roles, relationships, rights, and obligations which members

construct through access to the events and spaces available to the group. These cultural constructs, once developed, may and often become invisible to the members, and remain in a state of flux as the group produces and reproduces itself. By examining the discourse, artifacts and activities of the members through this theoretical lens, the researcher can study how members take up, resist, transform, and reconstruct the social and cultural practices afforded them in the day to day life of the group (Corsaro, 1985).

By analyzing the bit by bit construction of text, the chains of action among members, the roles of prior and future texts in connecting these bits, and what members take from one text to another, this study examines both the individual and the collective as an entity. It conceptualizes and analyzes learning as the collective constructing and individualized opportunities to learn represented in a slice of life of the community of practice (Tuyay, Jennings, & Dixon, 1995).

Gee and Green (1995) suggest that it is prudent and consistent with their theoretical framework to try to understand local, specific, events, relationships, and learning contexts rather than trying to define what learning is. If learning is situated as such, the study of a novel context, in a specific or particular on-line collaborative project should yield information and understanding which is relevant to the particular context and others like it.

In developing what Birdwhistell (1977) calls a logic of inquiry the researcher undergirds the theoretical framework of the study with working perspectives on discourse, language, and learning. Discourse is viewed as a social practice among individuals and the collective. Language as a socio-cultural practice and a social resource of the group and learning, as previously stated, is viewed as a socio-cultural activity of communities of practice. In studying the language of a group from an ethnographic perspective, the researcher considers two dimensions of language: situated meanings and cultural models.

Situated meanings are images or patterns that participants assemble on the spot in interactions as they communicate in a given context, based on their construal of that context and on their past experiences (Barsalou, 1991, 1992; Clark, 1993; Clark, 1996; Gee, 1996, Gumperz, 1982a; Hofstadter, 1997; Levinson, 1983; Wittgenstein, 1953). These situated meanings are seen from this view as not simply residing in individual minds; but rather as often negotiated between people in and through social interaction (Billing, 1987; Edwards & Potter, 1992; Goffman, 1981; Goodwin, 1990; Gumperz, 1992).

Cultural models refer to families of connected images like a mental model or informal theory which is shared by people belonging to a specific social or cultural group (Gee & Green, 1998). This group construction

becomes a resource that " any individual may call on to guide his or her actions." These models can connect with other models to create "more complex models"...which "become framing models that particular members or groups within a society draw on to guide their actions in a particular domain of life." (Gee & Green, 1998, p. 123-124)

This study explores the relationships between adult created expectations, values, and contexts (those designed into the project) and those created or taken up by students. By looking at the manner in which participants represent the activity, we can explore the inter-subjectivity (sharing the same definition of situation) as well as those dissimilarities which occur as participants represent the activity in terms of setting, objects, events, and action patterns. These differences in project designer, teacher, and student definitions offer us rich information into the dynamics of student group work in a variety of contexts and are potentially fruitful for the effective design and adaptation of collaborative educational activities.

Having established learning in this context as a socio-cultural phenomena, the researcher looked to the work of Mikhail Bakhtin to place ongoing dialogical relationships between individuals and groups as central to these phenomena. Bakhtin viewed social contexts as involving a multiplicity of different languages, discourses, and symbolic practices. As we look at

94

dialogical events within classrooms and student groups, like Bakhtin, we study once occurrent events in which participants show and shape themselves and their relationships with others.

Underlying the Bakhtinian perspective is the notion that mental processes, such as learning, are created within language which is intertwined in social practice. Human thinking is seen as predominantly dialogical and marked by an internally complex two-sidedness (Bakhtin, 1986). Language and words are seen, not as abstract entities of grammar, but rather as the living social practice of utterances. Life lies then in actual moments, not completed speech acts or grammatical structures. The realities of internal mental structures are then understood through observing communication acts. These communication acts, like those studied in the proposed research, must be understood utterance by utterance utilizing a notion of communication as a continual tension between the centripetal and centrifugal forces of language. Centripetal forces, according to Bakhtin, push towards unity, agreement, and monologue while centrifugal forces seek multiplicity, disagreement, and heteroglossia. For Bakhtin, these forces are inseparable in both communication itself and in the human psyche. The use of video tape and sound recording devices allows us to analyze utterances and chains of utterances in a fine grain method; scanning them many times to be able to

account for the many different dimensions of variation and complexity that constitute them.

By studying what students say within classes and student work groups, this study examines the inner-lives of students by understanding the often unnoticed features of our ongoing social practices. It examines the complex mixture of influences at work in unique momentary, ephemeral events occurring in discourses between individuals. It looks at words, which for Bakhtin (1986), are inherently two-sided acts; determined equally by whose word it is and for whom the word was meant. As the study examines student understanding and construction of opportunities for learning that surround the concept of the American dream, it observes students who take the words of others and come to understand them in a practical and dialogical sense. The students are viewed as carrying languaged activity to each other and understanding things as they occur in the continually updated active response interplay of utterances. In this way, the speaker can be seen as expecting understanding from the listener, as a practical continuation of the exchange of intelligible utterances.

Based on this language and discourse related theoretical framework, this study researches students and teachers at work by focusing on the unique, unrepeatable ways in which their behavior unfolds over time. For Bakhtin,

96

culture, the self, and meaning are all dialogical and social in nature. In studying student groups wrestling with texts and discourses concerning the American dream, this study works to understand how student selves (dynamic, embodied, and creative entities striving to attribute meaning and value to the world) construct their world by simultaneously and actively engaging with and altering lived environments and themselves.

The researcher utilizes sociolinguistic analysis as a basis for examining how members construct the patterns of everyday life through their face to face interactions (Gumperz, 1986; Hymes, 1974). This involved the researcher in transcribing video data to represent observations of class and group interactions. Discourse analysis of the texts of these transcriptions was undertaken to reveal the social conventions for talking, interacting, writing, doing etc. that exist within the groups. These data serve to represent the emic patterns, perspectives and demands on members that are constructed within the group.

This study involved the researcher in transcribing videotaped sessions of student groups working collaboratively to write summaries of findings of student created survey results and Internet based searches. The transcription texts were analyzed to uncover the social conventions of talking, interacting, writing, and constructing of opportunities to learn within group work. Along

these lines, "event maps" were created to represent the events, cycles of activity, or segment of activity that was constructed by the actors (Santa Barbara Classroom Discourse Group, 1992).

These event maps emerge theoretically from a discourse system framed by Green and colleagues (Green & Wallet, 1981,1982; Green & Meyer, 1992), which is described as sociolinguistic ethnography. While the foundation of the system lies in the combination of the sociolinguistic and pedagogical aspects of instructional conversations (Green, 1983), they are seen to be fruitful for the purposes of analysis of student group work discourse in the context of non-teacher mediated summary writing sessions involved in the America Dreams project.

A message is seen as the basic unit of analysis of this analysis system. It is the minimal meaning unit in a conversation and is called a message unit. (MU) (Green, 1983). The message unit is compared to a free morpheme in structural linguistic terms (Green & Wallet, 1982). This study borrowed from the work of Kelly & Crawford (1997) in their definitions of the units of analysis used in transcriptions. They describe message units as bounded utterances or social action that must be identified post hoc by cues to contextualization (Gumperz, 1992). Message units in this study were

identified from videotape of group work sessions and were represented by separate lines of text and numbered as such.

The next level of analysis was the actor's action unit (AU) which are comprised of one or more message units (Kelly & Crawford, 1997). Action units are seen as often connecting a participant's message units in an intended act. These were also identified post hoc and represented by grouping message units together for a single speaker. The third level of analysis was the interaction unit (IU) which considered actor's responses to actions of other group members. Interaction units were represented by linear divisions that created borders that demonstrated the structure of the conversations. A complete event map of the "Freedom" group's survey summary writing session is found in Appendix B.

The Study

The classroom involved in this study is the sole sixth grade classroom within a school of twenty-nine classes. During the 1998/1999 school year, the school studied was comprised of kindergarten through sixth grade with an enrollment of 736 students. It is located in a Southern Californian, lower to middle socio-economic residential neighborhood within an agricultural, military and

99

commercial labor community. Seventy - five percent of the students qualified for free or reduced lunch. The ethnic makeup of the student population was as follows: Hispanic (48.3%), White (33.2%), Black (7%), Filipino (5.9%), Asian (3%), Pacific Islander (2.3%), and American Indian (0.3%).

The researcher worked on the study in a variety of roles including: school administrator, co-teacher, teacher, participant observer, and on-line project collaborator. The classroom teacher involved in the study, a second year teacher, was involved as teacher, co-teacher, participant observer, and interviewee. The 27 students involved in the study worked on the project in a variety of contexts which included: individualized and group work within the classroom, individualized and group work in a computer lab, individualized work at home, and individualized work interacting with family members and friends.

In these various contexts, students were involved in a variety of activities which included: directed classroom instruction, student group Internet based research, student group summary writing, student group development of surveys, individualized surveying, individualized interviews, individualized homework assignments, and individualized story writing.

The participating class began its involvement with the America Dreams project in October of 1998 and culminated its activities in May of

1999. In the initial months of the project, participation in the project was less frequent as the researcher/principal worked with the classroom teacher to develop a context and logistical framework that would serve the particular needs and limitations of this classroom. During these initial stages, student involvement occurred on a weekly basis. The duration and complexity of student activities associated with the America Dreams project increased significantly in March of 1999 and continued to the end of the school year in May of 1999. Appendix C, the America Dreams Project timeline represents and briefly describes the chronology of student/teacher/principal activities during the school year.

The School

The school involved in this study was selected because of the principal's role as researcher and the commitment that staff and leadership team have made to implement and integrate technology (particularly the Internet) across the curricula. During the 1998/1999 school year, the school studied was in their second year of implementation of a three year technology plan. The plan included the goals of outfitting and completing infrastructure for classroom and computer lab usage of networked computers and associated software. The school was undergoing an upgrading and completion of the local area network

(LAN) and installation of additional computers when the study began. The teaching staff had experienced several in house and out-sourced training sessions on the use of the Internet during the past school year and was continuing to pursue technological information at various rates and depths. The school studied developed its LAN to include: a T1 frame relay network back bone, more than 100 computers (cross – platform Mac/PC), two network servers, and Internet access during the year studied. A few teachers at the school had prior experience with on-line projects including the GLOBE project. The teacher involved in the study, however, did not have prior experience with such projects.

The Classrooms

Among the 29 classrooms at the school, the sole sixth grade and 5th/6th classrooms were selected initially because both teachers expressed interest in integrating on-line projects into their classroom curricula. In addition, the principal/researcher felt that the age levels represented in the classrooms, and the collaborative and instructionally accomplished styles and abilities of the two teachers would lend themselves well to a new on-line experience for both teachers and students.

As the school year began, the principal/researcher discussed the idea of collaboration among the teachers and him and began a dialogue about logistics and possibilities. Each teacher selected had demonstrated excellence in a variety of educational contexts. The interest in integrating technology in this new way was expressed as an opportunity to develop their use of instructional technology in the classroom or lab. Among the two teachers selected in the initial phase of the study was an accomplished and veteran teacher with more than 20 years experience, and an accomplished new teacher in her second year. The new teacher, Ms. F. described her technological knowledge as very limited while the more experienced teacher, Ms. L., described herself as having moderate levels of technology knowledge and skills. Each teacher was in the initial phase of integrating the Internet and associated technologies into their classroom.

Following the initial phases of observation, interviews, and dialogue with each teacher and class, the researcher and teachers decided to pursue the on-line project/research project with the sixth grade class only. This decision was the product of several sets of observations and teacher interactions which suggested that the logistics of both on-line activity, classroom research, and professional growth, would be best served if the study focused solely on the sixth grade classroom. This decision placed the principal/researcher into the

roles of co-teacher/teacher rather than facilitator/administrator of a two

teacher collaborative project.

In order to provide the reader of the research with a greater degree of

context for the students, school, and community of the studied participants,

the following tables represent more in-depth demographic data.

Table 1 represents student and parent demographics for the classroom

studied.

Table 1
Student and Parent Demographic Information for Classroom Participants

Student	Group Name	Gender	Ethnic.	Parent Income	Parent Education	Parent Status	Parent Ethnic.
Sandy	Freedom	F	W/H	-	4	SM	W/H
Janet	Freedom	F	W	-	1	GP	W
Bryan	Freedom	M	W	1	1	SM	W/B
Craig	Freedom	M	A	-	4	M	A
Irma	Family I	F	H	-	3	M	W/H
Francis	Family I	F	W	-	1	M	W
Steve	Family I	M	H	-	1	M	H
Lacey	Family II	F	W	-	1	M	W
Veronica	Family II	F	H	2	1	M	H
Dean	Family II	M	H	-	1	M	H
Felix	Family II	M	H	-	2	SM	H
Teresa	Wealth I	F	W	-	1	M	W
Anna	Wealth I	F	W	2	4	M	W
Alan	Wealth I	M	W	-	3	M	W
Jaime	Wealth I	M	H	1	2	M	H
Cliff	Wealth I	M	H	1	1	GP	H
Donna	Wealth II	F	B	-	3	M	B
Terri	Wealth II	F	H	-	1	M	H
Joseph	Wealth II	M	W	2	1	M	W
Bill	Wealth II	M	H	2	1	M	H
Adriana	Peace	F	H		1	M	H
Charlotte	Peace	F	H	2	3	M	H
Mandy	Peace	F	W	-	1	M	W
Jorge	Peace	M	H	2	2	M	H
Jasmine	Respect	F	W/H	1	1	M	W/H
Linda	Respect	F	H	2	1	SM	H
Juan	Respect	M	H	1	1	M	H
Mark	None	M	W	-	1	M	W

Ethnic legend: H= Hispanic, W= White, B= Black, A=Asian
Parent Income legend: 1= Free lunch, 2 = Reduced lunch
Parent Education legend: 1= high school graduate, 2= not high school graduate, 3= some college, 4= college graduate, 4= post graduate
Parent Status legend: M= married, SM= Single mother, GP= Grandparent
* all names pseudonyms

Table 2 compares the ethnicity of the classroom's students and parents with

school wide student demographics.

105

Table 2

Comparison of School Wide, Project Participant, and Participant Parent
Ethnicity

Ethnicity	% of students School wide	% of Class Participants	% of Class Parents
Hispanic	57.3	57	57
White	24.8	43	46
Black	6.4	4	7
Asian	1.8	4	4
Filipino	7.4	0	0
Indian	.7	0	0
Pacific Islander	1.6	0	0

Table 3 compares the income levels of the classroom's student's parents with

school wide parents.

Table 3

Comparison of School wide parent Income levels with Project Participant
Parent's Income

Income level	% of students School wide	% of Class Participants
Free/reduced Lunch	69	43
Non Economic. Disadv.	31	57

Table 4 compares the schoolwide parent education levels with those of the

classroom participant parents.

Table 4

Comparison of School Wide Versus Participant Parent Education

Income level	% of students School wide	% of Class Participants
Non High School Grad.	21	11
High School Graduate	57	64
Some College	12	14
College Graduate	7	11
Post Graduate	2	0

The parental status of classroom participants was as follows:

Married = 79%
Single Mother = 14%
Grandparents = 7%

Overall Data Set

Beginning in September 1998 and continuing through October of 1998,

observations lasting between 45 to 60 minutes were completed once weekly in

each classroom, using ethnographic methods. Preliminary ethnographic field

notes from these observations were compiled and analyzed throughout this

time period. The observations occurred in two different contexts, initially in

the classrooms and subsequently in the school's computer lab. The

observations were conducted at varying times of the day and in such a manner

that was not out of the normal routine for the principal or school.

The observations conducted during the period from September through October were focused on the following: a) teacher's beliefs about how children learn to read and write, b) teacher's goals for the use of technology in the classroom and lab, c) actual writing activities and routines within each classroom, d) patterns of interaction among students and teacher, and students and students, e) patterns of interaction within small group, whole class, and independent activities.

In addition to the field notes collected during this period, semi-structured interviews were conducted with each teacher. The interviews were designed to address each teacher's goals, philosophies, feelings, and ideas about using technology (specifically the Internet) across the curriculum.

Specific Data Set

Between November1998 and June 1999, observations, video-tape, audio tape, interviews, surveys, and review of student, teacher and family created artifacts were conducted solely with Ms. F.'s sixth grade class. The families of all 28 sixth grade students (14 female, 14 male) were contacted by letter and informed of the objectives and methods of the study. Positive responses from 26 of 28 students' families granted permission for their children to participate in the study. All students participated in the on-line project as it was integrated

108

into the regular classroom routine and curricula. A copy of the consent letter can be found in Appendix D.

Between November 1998 and March 1999 the researcher taught and co-taught weekly 45 minute to hour-long lessons. These lessons focused first on an understanding of the Internet, an understanding of research, and an introduction to the concept of the American Dream. Subsequent lessons focused on the introduction and exploration of the America Dreams on-line project. The researcher compiled field notes from these lesson observations and collected audio-tape interviews and discussions with Ms. F. Themes and issues emerged from these lessons which focused the researcher and Ms. F. first on logistical and pedagogical issues surrounding the class' participation in the project. Subsequent dialogue and analysis focused the researcher onto the three key issues: small group dynamics, student appropriation of language from various texts, and the comparison of the project's design to actual usage.

In March of 1998, the researcher explored the use of video taping in the context of the school's computer lab. Following the initial video taping session held in the computer lab, the researcher and teacher concluded that an alternative context was needed to encourage more productive student, and small group participation. The researcher suggested the concept of video taping small group activity that was segregated from the classroom culture.

Student groups were asked to meet to perform collaborative writing tasks. These tasks were held in a conference room located directly behind the principal/researcher's office. Each session began with the researcher starting the video camera, explaining the task to the students, answering student questions, and then leaving the students alone to accomplish their task. Groups worked for periods of time that ranged between 24 and 46 minutes. The principal/researcher returned to his adjacent office while the students worked on writing their summaries.

This alternative context was discussed among the researcher and teacher and found to be advantageous in several ways. First, it freed Ms. F. to teach other lessons while the groups worked. Secondly, it contributed to the student's sense of a special status attributed to the on-line project which was intended to inspire and motivate students more than what had been observed in the computer lab setting. Thirdly, the focus on the group dynamic (unmediated by teacher interaction) afforded the teacher and researcher an opportunity to observe student to student interactions less visible in the small groups within the classroom and/or those that are present in the classroom but mitigated by teacher intervention.

Throughout this period of videotaping from March 1999 to June 1999, bi-monthly whole class lessons focused on the on-line project were taught,

homework assignments were given, and other events concerning the America

Dreams project continued. Teacher interviews were audio taped, student and

teacher artifacts were gathered electronically and by hand.

Case Selection

The researcher analyzed transcripts and artifacts in order to select case groups

for in-depth analysis. This selection was guided by the following criteria:

(variability of groups in terms of arrangements (i.e. gender, #'s of students,

etc.), groups working together over more than one task, and groups whose

collaboration styles were in marked contrast to one another. The researcher

selected cases that displayed a wide range of interactive patterns of behavior.

The aim of selecting cases from within the spectrum of the entire class was

not to generalize these cases to all the student experiences, but to uncover the

particular and unique experiences that children have when they work together

and create opportunities for learning within on-line collaborative projects.

The classroom teacher initially divided the students that were studied

into seven cooperative learning groups. These groups then chose from themes

developed in their initial study in order to choose their names and topics for

further study. The seven cooperative group names were as follow: Freedom,

Family Love I, Family Love II, Wealth I, Wealth II, Peace, and Respect.

During the first phases of analysis of student work and videotape transcripts,

four groups emerged that represented a diversity of group work dynamics,

gender and status compositions, and thematic intertextualities among the

various student-created artifacts and dialogue. These four groups, Freedom,

Family Love II, Wealth I, and Wealth II were chosen for more in depth

quantitative and qualitative analysis. These cases were chosen such that they

could be represented with depth and complexity in order to inspire continued

investigation and refinement of current theory (Stake, 1994).

The second phase of analysis of the dialogue and work products of

these four cooperative learning groups uncovered a variety of issues that

related to the influence of status, and gender on student constructions of

opportunities for learning. The researcher chose the "Freedom" group for in-

depth analysis on the basis of this logic in order to explore these influences.

The group was comprised of 1 high academic and high social status male, 1

high academic and high social status female, 1 low academic and high social

status male, and 1 low academic and low social status female. The second

phase of analysis of the "Freedom" groups dialogue and work products

suggested that more in depth analysis would yield significant findings as they

related to gender and status as well as issues related to what opportunities for

learning students were constructing as participants of the America Dreams

project. In addition, as the group explored issues of race, their elaboration and construction of new knowledge pertaining to slavery and segregation emerged as a significant topic for study.

Data Preparation and Analysis

All audio and videotaped sessions were transcribed. These transcripts were then be expanded to include contextual information recorded from field notes. Event maps were then constructed from these transcripts. These maps, comprised of message units and interaction units, were used to identify initial codes for key events or patterns of interaction. Throughout this process, trust worthiness of the data was achieved through the review of maps, and codes by the participating classroom teacher and through the reanalysis and revision of codes following successive examination of new data.

Triangulation and verification of the analysis of discourse and artifacts was achieved as well through cross analysis of the various textual sources, artifact types, and educational contexts. The researcher examined discourse, text, and interaction in order to understand the ways in which specific students constructed opportunities for learning within on-line projects. The researcher explored the specific ways students appropriated and constructed language in these contexts.

113

Data Management

Data were collected during the 1998/1999 school year. In order to discover
what counts as the America Dreams project from the perspective of the project
designers, the researcher analyzed:

- 157 web pages created for the America Dreams project.

- 108 web pages that were linked to by the designers but created by other
  sources.

- 103 e-mail messages between the project designers, the researcher, and
  other project participants.

The sources linked by the America Dreams included the Library of
Congress (primary source usage guide & citing electronic sources guide),
Columbia University (Constuctivisim, technology and the classroom,
Cooperative learning guide & WWW constructivist project design), San
Diego State (WebQuest methodology & WebQuest designer information),
Internet Catalyst (America Dreams designer background information), and the
National Center on Education and the Economy (New Standards).

Among the 157 web pages analyzed, the researcher identified 105 text
passages as pertinent to the first research question. The researcher identified
147 text passages from the 108 linked to web pages, and 47 text passages

114

from the 103 e-mail messages. Among the total of 368 original source documents analyzed (including web pages and e-mail), the researcher identified 299 text passages as relevant to understanding what counts as the America Dreams project from the perspective of the designers.

The text passages identified from each data source were chosen as they were found to be directly linked to pedagogy or technology, or were representative of new or emergent themes that related to what counted to the project designers. The text passages identified were grouped as they related to four main themes: pedagogy, technology, transforming teaching, and the American dream concept. These themes clearly counted to the designers.

Once coded as relating to these themes, the text passages for each data set were arranged by theme and re-analyzed by the researcher. This process reorganized a small number of text passages into a new theme group and also identified a small number of text passages that were initially coded for one group but were found to be relevant for two themes. These passages were then grouped for multiple passages. Finally, the coded text passages, coded themes, and re-coded text passages were analyzed and coded by a colleague (Stephen C. Clark, a fellow educator working in the same school district). His analysis and coding was consistent the majority of codes identified by the researcher. Discussion between Mr. Clark and the researcher was held regarding the few

text passages that we had coded differently. This discussion resulted in the recording of a minority of the codes in question.

Videotape transcripts were compiled from 25 minute sessions with seven different student groups in which the teams worked collaboratively to summarize results of surveys they created on their self-chosen American dream theme. A second session was taped with each of the seven student groups in which they worked collaboratively to summarize Internet searches they completed while researching their American dream theme. Event maps were created for the video transcripts and analysis completed looking at message units, events, and patterns of interaction.

As previously mentioned, the "Freedom" theme student group was selected for in-depth study. The group's gender and status make-up, collaborative styles, and patterns of interaction combined to present a rich opportunity to uncover the particular and unique experiences that children have when they work together and create opportunities to learn within on-line collaborative projects Video transcript data was analyzed, in conjunction with student-created documents that included:

- responses from (researcher created) survey/interview on the American Dream that students administered to family members. (12/98)

116

- (student group created) survey questions on the student group theme related to the American dream that students administered to family members (2/99).

- responses from (student group created) surveys on the student group theme (freedom) related to the American dream that students administered to family members (2/99).

- Wall of Dream entries (a component of the America Dreams project) (3/99)

- video transcripts of summary writing sessions of survey results (3/99)

- summary of results of student group created surveys (student group created) (3/99)

- culminating student survey responses to (researcher created) on the America Dreams project (4/99),

- culminating teacher survey responses to (researcher created) on the America Dreams project (4/99),

- student created America Dream stories (4/99),

- web pages saved as result of searches on student group themes (2/99-5/99)

- summaries of information found on search web pages (student group created) (5/99)

- and student journal entries summarizing the America Dream project (6/99)

117

- researcher field notes recorded between (9/98 and 6/99)

Each of these data sets were transcribed into electronic form after being
assembled into notebooks in their original form. The data sets were arranged
in chronological order such that analysis could proceed following the
timelines of the actual project participation.

Data Collection and the Project's Sequence of Events

The researcher first met with the class in October to orient them to the idea of
an on-line project, and specifically with the details of the America Dreams
project. The initial meeting was held in the computer lab during the class'
regularly scheduled session (Friday from 11:00 am to 11:45am), which was
just before their lunch. Field notes of classroom and computer lab
observations noted a marked difference in the two settings, as it pertained to
student and teacher role and behavior. In comparing the two settings it was
noted that students exhibited greater noise levels, more off-task behaviors, and
less instances of collaborative work than was noted in the regular classroom.
Student productivity levels appeared to be considerably lower in the lab.

In looking at the learning structures designed by the teacher in both
settings, the lessons and tasks in the computer lab were observed to be less

118

focused and curricularly integrated than those in the regular classroom. These computer lab sessions were clearly not as effectively designed and managed as those observed in the regular classroom. The teacher's comfort level in the technology lab setting was noticeably less than the confidence and control she exuded in the classroom. Students used these lab sessions to word process documents, browse the Internet, and use computer programs in a manner that they determined. Informal interviews with students suggest that this was their "computer time" before lunch, and they went to the lab to " do computers." (It must be said that, although the participating classroom teacher was in her second professional year, her excellence in classroom management, instruction, and curriculum integration was among the best the researcher has observed in those new to the profession.)

It was in the light of this observation, that the teacher and researcher jointly planned to use the scheduled time to focus class lab sessions on the America Dreams project. This effort intended to give the classroom teacher and students, an entry into the integrated and structured use of computers and the Internet. It was during this first session in the lab on October 16, 1998, that the researcher talked to students about their understanding of the make-up of the Internet. The researcher discovered that students had little knowledge of the structure and workings of the Internet. The great majority of students did

not know how personal computers downloaded web pages. Most students held

conceptions that suggested the web pages pre-existed on their local hard

drives. This dialogue led to a discussion of the actual structure of the Internet

that was accompanied by hand-drawn charts, and culminated in a question and

answer review period.

Students arrived at this first session after being prepared by their

teacher with a brief description of the America Dreams project. The students

had also been assigned student roles based on the structure of the collaborative

groups that had been designed into the project. After the discussion of the

Internet, dialogue turned towards the America Dreams project. The concept of

the American Dream was discussed in the fifteen minutes that remained in the

period. The researcher was struck with the fact that the majority of the

students appeared not to have been familiar with the American dream concept.

Few students responded to inquiries, and those that did provided vague or

unclear descriptions of the concept. In fact, Lacey (a pseudonym) was noted

as saying, " I've never even heard of the American dream, I can't believe

that." Lacey expressed her surprise (as one of the high social status and high

academic status students in the class) that she was not aware of the concept

that the researcher was describing in such profound historical terms.

In the following session at the computer lab, the researcher guided students in the exploration of the America Dreams web site. Students began the scavenger hunt practice lessons in an initial attempt to learn to search the American Memory Collections. At the end of this session, students were then guided to review the "Wall of Dreams" portion of the project. It was here, that they read through other project participants' initial posting of dreams. This connected the classroom students to participant created texts from across the diversity of national project participants. Appendix E describes the demographics of America Dreams participants nationwide.

It was during the end of this early session on the project, that the researcher asked students if they would like to enter their own dreams. One student, Robert (a pseudonym), informed the class that he had already done so at home. The researcher suggested that interested students search for Robert's entry and then put one in on their own. The result of this interaction was a hurried attempt by most of the students to complete a "Wall of Dreams" entry in the 20 minutes that was left in the session. The researcher noted that the teacher seemed uncomfortable with the quality and pace of the writing that students were inputting during this session. Towards the end of the session, she stopped the class and explained to all the students that they would be

asked to go back to their classroom, and review and revise what they had written.

When students returned for the next session on the following Friday, each student had completed a brief entry into the "Wall of Dreams." In doing so, they had embarked on what the researcher had noted in his field notes as, the students' first real personal interaction with the subject matter and the idea of the American dream. Later in November, students took the first survey home as a homework assignment. Discussions between the researcher and the classroom teacher were already leading towards the practical decision of bypassing the part of the project aimed at extensively searching the American Memory Collections, and focusing on the next component of the project in which students studied the American dream in their own community.

Technological problems with the computers in the lab and classroom, technology integration issues with a technologically novice teacher, time constraints, and the desire to align our work with the time and pace of other project participants, suggested that we move on to study the community's dreams. The researcher's suggestion of this adaptation of the project was put forth during the weekly meeting with the classroom teacher that preceded the survey homework assignment. The classroom teacher described and

explained the homework assignment prior to students taking it home. Complete results of the family/friends surveys are included in Appendix F.

The results of the survey responses were posted on the school web pages as the first component of the America Dreams classroom project. Family members and adult friends responded to the student's set of 4 questions and each student recorded their responses. The class recorded 22 responses to the first question: **What do you think the American dream is?** It was December 10, 1998, when the researcher led the classroom in a lesson aimed at analyzing the results of the previously described survey. The lesson was held in the students' regular classroom from 10:10 am to 11:30 am. This time period fell after the student's morning recess and before their lunch. Students and teacher were all given word-processed copies of all of the survey responses, grouped by each of the 4 initial survey questions. The researcher guided the class in a discussion and explanation of "what researchers do," "kinds of research (qualitative, quantitative, hybrid)," "the purpose of research and surveys," and "methods of analysis."

This part of the class session led to a whole class (question and answer style) session in which students were asked to analyze all the responses and find themes and trends that emerged from the data. Researcher field notes describe the session as including excellent discussions, thoughtful student

123

input and analysis, and high degrees of student participation and interaction with the both the process and content of the lesson. In the meeting with the classroom teacher that followed this session, it was jointly agreed that each student group would choose from the themes that the class had uncovered, in order to create their own survey and further explore the American dream as conceived by their family and friends.

Student groups were given a 15 minute discussion time to choose a theme for further study. Now that students had administered a survey with questions written by the project designers, and had analyzed their responses, they were being asked to learn more about "being a researcher" while exploring the American dream in their local community in greater detail. Student groups chose the following themes for their focus and these themes became their group names:

- Freedom

- Wealth I

- Wealth II

- Peace

- Respect

- Family Love I

- Family Love II

124

The class had generated a large list of themes and trends they had found in the survey responses and chose these group themes from among them. Researcher field notes remarked that (high social status/high academic status) students were observed as highly influential in discussion leading to the theme choice. This influence was characterized as: suggesting a theme, affirming a theme suggested by others in the group, or rejecting a theme and asserting their own theme in response. A general observation of all of the groups was made at this time rather than a careful recording and tallying of these phenomena.

Students from each student group administered their student created surveys to family and adult friends. This task was also given as a homework assignment. Students returned the following week with the task accomplished. The results of the surveys were collected by the teacher and researcher and saved until the groups came together to write their results summary. Field notes and discussion with the classroom teacher suggested that group dynamics and the interaction among students (related to gender, social and academic status) were emerging as significantly influential in the creation of opportunities to learn in the project.

The researcher had observed that the gender and status make-up of whole group, and small group activities in the class seemed tied to student

125

outcomes and opportunities for students to speak and be heard. As research

has demonstrated (Schultz, Erickson, & Florio, 1982), the role of the teacher

is integral in mediating the unique influences of student groups and interacting

with them in ways that will promote the greatest number and most equitable

opportunities to learn among the group. Observation of the classroom teacher

demonstrated an advanced ability to interact successfully with student groups

during this and other projects, and students in this class had been practiced in

successfully carrying out classroom activities in a small group setting.

However, the researcher observed that gender and status issues among

students groups remained significantly influential in this and other group

activities.

This observation influenced the researcher's suggestion to videotape

the survey results summary writing sessions in a conference room not

mediated by the teachers. Students arrived at these written summaries of their

survey results by coming together in a conference room adjacent to the

principal's office. Although the researcher/principal was working in the

adjoining room, students were left to their task with a recording video camera

and their own devices. The researcher intended to capture the group dynamic

and influences of gender and status as students worked together to write their

results summaries. The researcher's observations and analysis resulted in the

belief that status and gender influences exist, but mediated by the teacher in the classroom, would be more revealed in this non-teacher mediated setting.

Students read the results of their fellow classmate's surveys for the first time during their summary writing sessions. These survey responses, as artifacts from students families, also contributed to the group dynamic and interactions. Each summary writing session began as the researcher/principal entered the room and gave the students a brief explanation of their task and left them with a task sheet that read as follows:

Figure 1:   Student Group Work Summary Writing Task Sheet

AMERICA DREAMS GROUP PROJECT

You have two tasks:
1.   Write a summary of your results regarding the theme your group chose to explore.
2.   Write a summary of what you found on the Internet regarding your theme.
Accomplish your task by:
re-reading,
discussing,
brainstorming,
writing and editing

Take the lesson seriously.
Work as a group.
Ignore the video camera

The first group of students to work on their summaries, the "Freedom" group, found that the two tasks prompted by the instruction sheet required more than one work session. Initially, the researcher planned to give each group approximately 25 minutes to accomplish the two tasks. The "Freedom" group was allowed to continue for nearly twice that time period and accomplished only the first task in 46 minutes and 43 seconds. Each of the following groups was then asked to accomplish only the first task in their first session. They did so in sessions lasting between 24 and 29 minutes.

Social and Academic Status Among Collaborative Groups

To explore this theme further, the researcher rated students according to the following codes:

- **(HAS) High Academic Status:** Perception based on observation that peers perceive them as "smart," "get good grades," or "get good test scores." Other students frequently take up their academic or school-related language, ideas, and actions.

- **(LAS) Low Academic Status:** Perception based on observation that peers perceive them as "not smart," "get bad grades," or "get bad test scores."

Other students rarely take up their academic or school-related language, ideas, and actions.

- **- or no rating** represented students perceived as average or not falling in (HAS, or LAS) status.

- **(HSS) High Social Status:** Perception based on observation that peers perceive them as "cool." Other students frequently take up their social language, ideas, and actions. Others choose to interact with them often in and out of the classroom.

- **(LSS) Low Social Status:** Perception based on observation that peers perceive them as "not cool." Other students rarely take up their social language, ideas, and actions. Others choose not to interact with them often in and out of the classroom.

- **- or no rating** represented students perceived as average or not falling in (HSS, or LSS) status.

Following the researcher's rating of the students, the researcher explained the rating criteria to the classroom teacher and asked her to independently rate each student. She was not given access to the principal's rating prior to her rating the students. The classroom teacher was asked to rate the students in the same manner as the principal, with one exception. She was

129

asked to rate the students based on her perception of how student's peers

perceived students as well as how she perceived students on her own.

Table 5 represents the results of the student status ratings given by the

researcher and the classroom teacher for students in each of the four groups

whose video transcripts were examined in depth.

Table 5

Teacher/Principal Rating of Students Regarding Social and Academic Status

Student	Peer Academic Status Rating	Teacher Academic Status Rating	Principal Academic Status Rating	Peer Social Status Rating	Teacher Social Status Rating	Principal Social Status Rating
Freedom Group						
Sandy	HAS	-	HAS	HSS	HSS	HSS
Janet	LAS	LAS	LAS	LSS	LSS	LSS
Bryan	LAS	-	-	HSS	HSS	HSS
Craig	HAS	HAS	HAS	HSS	HSS	HSS
Family Love I						
Irma	HAS	HAS	HAS	HSS	HSS	HSS
Francis	HAS	LAS	-	LSS	LSS	LSS
Steve	LAS	HAS	LAS	LSS	LSS	LSS
Wealth I						
Donna	LAS	-	-	LSS	-	-
Terri	HAS	HAS	HAS	HSS	HSS	HSS
Joseph	LAS	LAS	LAS	HSS	HSS	HSS
Bill	LAS	LAS	LAS	LSS	LSS	-
Wealth II						
Teresa	LAS	-	-	LSS	-	-
Anna	LAS	LAS	LAS	LSS	LSS	LSS
Alan	-	HAS	-	HSS	HSS	HSS
Jaime	LAS	LAS	LAS	LSS	LSS	-
Cliff	LAS	LAS	LAS	LSS	LSS	LSS

* all names are pseudonyms

130

Analysis of the various teacher ratings for each group and discussion

with the classroom teacher, suggest that Ms. F. attempted to create student

groups which would mix males and females, and (HAS) High Academic

Status students with Low Academic Status Students. This effort to

heterogeneously group students is often suggested in literature on cooperative

learning (Slavin, 1995). According to the teacher's rating of academic status,

student groups explored in depth were comprised as follows:

Freedom Group: Male (HAS), Male(-), Female(-), Female(LAS)
Family Love I Group: Male (HAS), Female (HAS), Female (LAS)
Wealth I Group: Male (LAS), Male (LAS), Female (HAS),Female (-)
Wealth II Group: Male (HAS), Male (LAS), Male (LAS), Female(-),
                     Female (LAS)

The researcher noted that 3 of the 4 groups had at least one (HAS)

male, while 2 of the 4 groups had at least one (HAS) female. One group, the

Wealth I group, was composed of two (LAS) males and two females with high

or average academic status (HAS)(-) according to the teacher's rating. The

"Family Love I" group was the only group with more females than males.

This group combined a male and female (HAS) student with one (LAS)

female.

It is important to note these groupings, as the goal of the teacher in

creating the student groups was to provide all students with the greatest

opportunities to learn in the collaborative frameworks. It is also important to

131

examine the social status of students in each group as this dynamic contributes

to the construction of opportunities to learn. According to the teacher's rating

of social status, student group compositions were as follow:

Freedom Group: Male (HSS), Male(HSS), Female(HSS), Female(LSS)
Family Love I Group: Male (LSS), Female (HSS), Female (LSS)
Wealth I Group: Male (HSS), Male (LSS), Female (HSS),Female (-)
Wealth II Group: Male (HSS), Male (-), Male (LSS), Female(-), Female
                       (LSS)

The researcher noted that 3 of the 4 groups had at least one (HSS)

male, and 3 of the 4 groups had at least one (HSS) females. The "freedom"

and "wealth I" groups had HSS students out-numbering other students. This

was reversed in the "family love I" and "wealth II" groups in which (HSS)

students were out numbered by (LSS) students.

Also of note was the comparison of ratings among the teacher's own

rating and how she perceived student's rated each other, in conjunction with

ratings given by the researcher/principal. As previously described, each adult

rated the students independently, without knowledge of the other's rating. It

was found that the classroom teacher rated 7 of 16 (44%) students differently

than what she perceived their peers would have in terms of students' academic

status. Discussion with the classroom teacher suggested that her ratings of

student academic status were based on her knowledge of their ability. Among

the students with different peer and teacher academic status ratings, there were

5 students that the teacher gave a higher academic rating than she believes

their peers would have, and 2 students for whom she gave a lower rating.

It was noted that the difference between teacher and peer ratings for the

"Freedom" group was significant. Peer ratings were found to balance even

numbers of (HAS) and (LAS) males and females, while the teacher's

academic rating suggested an imbalance with one (HAS) male and no (HAS)

females.

The principal/researcher's ratings were the same as the teacher's rating

for 12 of 16 (75%) students. It was found that the principal rated 2 students

higher than the teacher and 2 students lower than the teacher as they related to

the students' academic status.

The principal/researcher's ratings were the same as the teacher's

perception of how "peers" would rate students for 12 of 16 (75%) students. It

was found that the principal rated three students higher than the teacher

thought the peers did and one student lower as they related to the students'

academic status.

In terms of student's social status, the teacher found that her rating

agreed with peer ratings for 14 of 16 (87%) of students. Among the 4 students

that the principal researcher gave different social ratings than the teacher, 2 of

the students were those that the teacher had rated differently than she

perceived their peers would rate them. Each of the differing ratings given by the principal/researcher were higher than those the teacher believed the students' peers would give. It was noted that the "Freedom" group's social status ratings were the same for the teacher, teacher perception of peers, and the principal/researcher. The "Freedom" group was found to be composed of 2 (HSS) males, 1 (HSS) female), and Janet; the sole (LSS) student in the group.

Table 6 compares student participant's academic and social status with their Stanford 9 total reading achievement test scores for 1998 and 1999 (the year of the study). This information is included to provide further context and descriptive information regarding the study's participating students.

Table 6

Comparison of Student Participant Status Ratings and Stanford 9 Total
Reading Scores for 1998 and 1999

Student	Peer Academic Status Rating	Teacher Academic Status Rating	Peer Social Status Rating	SAT 9 Total Reading Percentile Rank		
				Gain/ Loss	1999	1998
Freedom Group						
Sandy	HAS	-	HSS	+3	41	38
Janet	LAS	LAS	LSS	+9	45	36
Bryan	LAS	-	HSS	+34	49	15
Craig	HAS	HAS	HSS	-14	85	99
Family Love I						
Irma	HAS	HAS	HSS	-5	83	88
Francis	HAS	LAS	LSS	-2	55	57
Steve	LAS	HAS	LSS	+3	91	88
Family Love II						
Lacey	HAS	HAS	HSS	+34	78	44
Veronica	LAS	LAS	LSS	+9	19	10
Dean	HAS	HAS	LSS	+7	74	67
Felix	LAS	LAS	LSS	DNA	8	DNA
Wealth I						
Donna	LAS	-	LSS	+30	66	36
Terri	HAS	HAS	HSS	+1	83	82
Joseph	LAS	LAS	HSS	-3	33	36
Bill	LAS	LAS	LSS	DNA	DNA	DNA
Wealth II						
Teresa	LAS	-	LSS	+23	87	64
Anna	LAS	LAS	LSS	+1	43	42
Alan	-	HAS	HSS	+51	78	27
Jaime	LAS	LAS	LSS	+11	43	32
Cliff	LAS	LAS	LSS		DNA	DNA
Peace group						
Adriana	HAS	HAS	LSS	-4	89	93
Mandy	LAS	LAS	LSS	NS	NS	22
Charlotte	LAS	LAS	LSS	DNA	29	DNA
Jorge	-	-	-	-3	31	34
Respect group						
Jasmine	LAS	LAS	LSS	-3	27	30
Linda	LAS	LSS	LSS	+7	31	24
Juan	LAS	LAS	LSS	-2	6	8
No group						
Mark	HAS	HAS	HSS	+16	85	69

135

Among students identified by their teacher as having high academic status among their peers, there were 5 students whose Stanford 9 total reading scores improved between 1998 and 1999. There were 4 students whose total reading scores declined during the same period. Among students identified by their teacher as having low academic status among their peers, there were 9 students whose Stanford 9 total reading scores improved between 1998 and 1999. There were 2 students whose total reading scores declined during the same period. As a class, there were 15 of 23 students (65%) whose reading scores improved and 8 of 23 students (35%) whose scores declined.

The range of Stanford 9 total reading scores for (HAS) high academic status students as perceived by their peers was (38-99 PR) in 1998 and (41-89 PR) in 1999. High academic status students had a mean total reading score of 70.7 PR in 1998 and 74.7 PR in 1999. The mode of total reading scores for these students was 69 PR in 1998 and 83 in 1999. The average improvement of total reading scores for these students between 1998 and 1999 was +6 PR.

The range of Stanford 9 total reading scores for (LAS) low academic status students as perceived by their peers was (8-88 PR) in 1998 and (6-91 PR) in 1999. Low academic status students had a mean total reading score of 34.1 PR in 1998 and 41.2 PR in 1999. The mode of total reading scores for

136

these students was 32 PR in 1998 and 38 in 1999. The average improvement of total reading scores for these students between 1998 and 1999 was +10 PR.

Summary

This chapter on methodology provides a rationale for the study's use of qualitative and specifically ethnographic methods to describe, analyze, and interpret the novel technological educational contexts presented by the growth of use of on-line collaborative projects. Ethnographic approaches to text analysis examined and compared original source documents, e-mail, with student created artifacts in an effort to illustrate the similarities and differences between the America Dreams project designer's intentions and goals and the actual usage of the project by sixth grade student participants. The results of analysis of these documents are presented in Chapter 4 results. Ethnographic approaches to text analysis and sociolinguistic discourse analysis examined student created artifacts and student group discourse in exploration of the ways that student construct opportunities to learn during the collaborative aspects of the project. Results of analysis of the classroom participant data in Chapter 5 results.

CHAPTER 4

Results of Analysis of What "Counts" as the America Dreams Project from the Perspective of the Designers.

This chapter, is the first of two results chapters which give a report and analysis of the data collected. It includes the results of analysis of data collected related to the first research question: What "counts" as the America Dreams on-line project from the perspective of the designers.

As was described in Chapter 3 on methodology, the researcher analyzed three data sets in order to explore the first research question. These data sets included America Dreams on-line project web pages created by the designers, web pages that were linked to by the project but created by other authors, and e-mail conversations between the designers of the project, the researcher, and other project participants. Table 7 represents the data analyzed for the first research question. Appendix G represents samples of America Dreams on-line project web pages.

Table 7

Distribution of Text Passages Relevant to Research Question 1

Data Source	Quantity of Original Source Documents	# of Text Passages Selected
America Dreams On-line Project Web Pages	157 web pages	105
Web Pages linked to by the America Dreams Project	108 web pages	147
E-mail Conversations between Designers, Researcher, and Participants	103 e-mails	47
Total	368	299

The researcher's initial reading of the project's purpose and design

suggested two themes as important to the designers. Further analysis found

these themes to be the most prevalent and important across all three data

sources (project web pages, linked pages, e-mail). These themes, **pedagogy**

and technology, were represented by a significant number of text passages

from each source. The researcher identified 57 text passages selected from

America Dreams web pages, 125 text passages found in linked web pages, and

17 text passages found in e-mail messages, that were related to **pedagogy**.

In addition, 12 text passages selected from America Dreams web pages, 47 text passages found in linked web pages, and 12 text passages found in e-mail messages were identified as related to **technology**.

Table 8 represents the distribution of text passages, with these two themes, as they emerged from the three data sources. Appendix H represents sample web pages linked to by the America Dreams project. Appendix I represents sample e-mail messages between the designers of the project and the researcher and project participants. Analysis of Table 8 suggests that the text passages found in both the America Dreams project web pages and the web pages linked to the project, were focused predominantly on the pedagogical issues related to the constructivist nature of the project. While the project was implemented through Internet technology, these web pages offered more information about the pedagogy than they did the technological aspects of thew project. E-mail among the project designers, participants, and the researcher, however, focused both on pedagogy and technology as the communications helped to address the technological logistics of the project as well as the designer's interest in developing Internet-based projects.

Table 8

Distribution of Text Passages Relevant to Themes

Data Source	# of Text Passages on Pedagogy	# of Text Passages on Technology
America Dreams On-line Project Web Pages	57	12
Web Pages linked to by the America Dreams Project	125	47
E-mail Conversations between Designers, Researcher, and Participants	12	17
Total	194	76

Transforming education and teaching emerged as another important theme to the project designers.. It was a prevalent theme among text passages selected from two data sources; linked source pages and e-mail. There were 24 text passages selected from web pages linked by the America Dreams project that were identified as related **to transforming education and teaching**, and 15 text passages found in e-mail messages. Table 9 represents the distribution of text passages with this theme as they emerged from the two data sources.

Table 9

Distribution of Text Passages Relevant to Emergent Theme

Data Source	# of Text Passages on Transforming Education
Web Pages linked to by the "America Dreams" Project	24
E-mail Conversations between Designers, Researcher, and Participants	15
Total	39

Among the themes that were specific to a single data source, the researcher uncovered the **American dream** as a theme that emerged specifically from the America Dreams on-line project web pages. The researcher identified 15 text passages that represented the **American dream** as a theme. Table 10 represents and summarizes the text passages identified from each data set for each of the main themes.

Table 10

Text Passages Related to Each Main Theme Identified from the Three Data Sets

Data Set	# of Text Passages Identified For Main Themes			
	Pedagogy	Technology	Transforming Teaching	American Dream
America Dreams Web pages	57	12		15
Linked Web Pages	125	47	24	
Email	12	17	15	
Total	194	76	39	15

Pedagogy Counts

As previously noted, analysis of data sources found that pedagogy is important to the America Dreams designers. The designers made it clear in their project web pages, linked web pages, and e-mail that pedagogical concerns "count" in the America Dreams project. Table 11 represents key pedagogical sub-themes

that emerged from the text passages found in the three data sources. Each of the sub-themes will be discussed further in this chapter.

Table 11

Pedagogical Sub-themes (Text Bits) Found in Three Data Sources

Sub-theme	America Dreams web pages	Linked web pages	E-mail
Student centered	x	x	x
Students as researchers	x	x	x
Real life/real time	x	x	x
Community of learners	x	x	x
Group tasks	x	x	x
Active/engaged learning	x	x	x
Teacher as guide	x	x	x
National standards	x	x	
Inquiry based learning	x	x	
Guided investigation	x	x	
Interdisciplinary	x	x	
Teaching thinking	x	x	
Estab. knowledge base	x	x	
Constructivist	x	x	
Personally relevant		x	x
Whole learning	x		x
Holistic learning	x		x

Student-Centered Learning

The " Teaching tips page" of the project prepares teachers for the use of the project and describes the classroom elements which will support project success. These "elements for success" include: "student centered teaching environment" and "student choice and accountability." The project is "student

centered" by design in that it asks students to come together in groups, work as historians gathering information, and then produce original multimedia products as "storytellers." The teacher serves as facilitator while the students in their student groups make the decisions and choices that will serve to construct their collaborative and individual understandings of the American Dream.

The project asks students to pursue objectives " define, present, and defend their ideas on the American dream through the decades" and "relate what they have uncovered from inquiry and research to their own American dream." The design of the project places the student and student group at the center of the learning. It is their gathering of information, their prior knowledge and experience, their decision making and thinking processes, and finally their multi-media projects that are highlighted and central to the project design.

This "student centered" approach is re-enforced in web pages linked to by the America Dreams project. Columbia University's WWW Constructivist Project Design Guide suggests that " a constructivist would put students directly in touch with primary materials, rather than articulate for them a broader framework and connections to be made ahead of time." The America Dreams project clearly utilizes this form of "constructivist" design.

The National Center on Education and the Economy's (NCEE) web

pages on New Standards are also linked to by the America Dreams project.

Their web pages advocate learning situations in which students are asked to

achieve performance standards by creating work samples that " produce

evidence that demonstrates understanding of big ideas and unifying concepts."

The NCEE's " Who We Are" web pages emphasize "student centered"

learning in the following quote that describes their beliefs:

> We also think that learning systems cannot be effective unless the
> students themselves take responsibility for their own learning and the
> system is designed so that they will do so. We believe that students of
> all ages learn best when they can see the purpose of their learning and
> are constantly putting what they are learning to work (NCEE, 1998, P.
> 1).

This statement is strongly consistent with the design of the project and other

NCEE's value statements.

In another web page linked to by the America Dreams project,

Strommen and Lincoln (1992) suggest educational reforms that propose

constructivism be used as a "guiding philosophy that suggests principled

changes in the curriculum." Among these suggested changes is a focus on the "

child as a self-governed creator of knowledge." They go on to propose

"educational practices that follow from this focus are designed to facilitate

children's learning by nurturing their own active cognitive abilities. To

accomplish this end, a supportive environment, one in which they can create

their own ideas, both individually and collaboratively, must be provided."

They choose the term "child-driven learning environment (CDLE)" to

describe the model of education they advocate. In the CDLE , the relationship

between the teacher and student is changed.

> In traditional classrooms, the teacher's role is that of the sole giver of
> knowledge and the student's role is that of the passive recipient. A
> CDLE does away with this hierarchic structure and operates according
> to an egalitarian, cooperative structure where the ideas and interests of
> the children drive the learning process. The teacher serves as the guide,
> rather than the source, of knowledge. The performance required for this
> new role is far more complex than traditional classroom teaching (
> Ringstaff, Sandholtz, and Dwyer, 1991). The teacher engages the
> children by helping to organize and assist them as they take the
> initiative in their own self-directed explorations, instead of directing
> their learning autocratically (Strommen & Lincoln, 1998, p. 2)

The authors suggest that " flexibility is the most important feature of

the new role the teacher will have to play in such and environment." They

describe the teacher role as moving among children, helping individuals,

groups, and the whole class as is needed. They also suggest that the teacher

needs to be flexible enough to move back and forth from the "guide role" to a

more traditional role as the situation and context demands.

In still another web page linked to by the America Dreams project,

Kenneth Lee Watson (1999) describes the WebQuest learning model, the

model created by professor Bernie Dodge of San Diego State University and

147

used by the designers of the America Dreams to structure their project. Watson

discusses the resistance of teachers to implementing a "student-centered"

curriculum. He quotes Zaraza and Fisher, (1995), " Changes in instruction that

threaten a teacher's ability to present the great bulk of material they feel they

must cover will be met with resistance." Watson suggests that

> This perceived resistance to change among teachers may lie in the
> fundamental alteration of the classroom dynamic from curriculum-
> centered to student-centered (Sandholtz, Rigstaff, and Dwyer, 1997).
> However, this perception just as easily may be explained by the
> tremendous pressures being placed on teachers to meet academic
> standards while an increasingly violent society threatens the stability of
> the classroom environment (p. 2).

It is clear that the America Dreams project centers the bulk of

information in the American Memory Collections of the Library of Congress

rather than with the teacher. The student is responsible for sorting and

gathering the information while the teacher guides the process.

In e-mail conversations with America Dreams project designer Leni

Donlan, she re-iterates the need for "student-centered" learning projects.

Leni: The truth is, kids have been so inundated with "canned"
        curriculum that they expect it, and many teachers would
        not know how to "teach" if they didn't have their
        "recipe" books and teacher guides. Sad, but true.

148

Researcher: It begs many questions regarding what to do to transform this problem. Do we scaffold to it a bit at a time?

Leni: That's an option and one of the compelling reasons for me in designing and implementing online curriculum/projects.

Further on, the researcher inquired of Ms. Donlan her thoughts on whether the economic status of children was likely to impact their access and exposure to "student-centered learning." Ms. Donlan suggested, "That inner city students are most often unlikely to do this kind of work." She went on, however, to state that the "privileged" students with whom she worked at a private school in San Francisco, California, received very "traditional fare" within subject areas although they did benefit from many advantages including "excellent technology and arts programs."

These e-mail dialogues suggested that the America Dreams designers' professional experience and knowledge base have established that there is a lack of "student centered" learning experiences across all of the social and economic educational spectrum.

Ms. Donlan's initial plunge into teaching students with on-line projects "…accentuated the changes already occurring in my teaching…more student centered, importance of personal relevance, whole learning, etc.." Ms.Donlan's

statement in the preceding e-mail passage marks "student centered" learning as one of the important characteristics of her preferred method of teaching. This statement and analysis of each of the three data sources analyzed (America Dreams web pages, linked web pages, & e-mail by designers) suggest that the "student centered" nature of the America Dreams project "counts" to the designers.

Students as Researchers

The America Dreams project is designed to place students in the role of researcher. They are asked to use primary source documents to do historical analysis as well as researching their local community for issues regarding the American dream. In the " Teacher notes " web pages of the project the designers describe the project outcomes in the following passage:

> The learning outcomes of this project encompass development of the skills of research; comparison and analysis; a deeper understanding of American history; an objective and more complete knowledge and appreciation of their own community; and a voiced vision for the future.

The America Dreams project web pages asks students to locate and utilize primary source documents; analyze, interpret, and conduct research;

interpret 19th and 20th century social life; and relate this knowledge to their own life. As historical researchers, the project asks students to " use the digital resources of the American Memory collections, Library of Congress, for research. It prepares students to become the historians who will write the story of their own community. *Outcome: Team web exhibits.*" Later in the "story teller" component, the project asks students to become social researchers as they do " focused studies that begin with families and expand to include communities, and classrooms across the nation will create community narratives."

The " Teaching page" invites teachers " and your students to sift through the vast collection of rare print documents, early motion pictures, numerous collections of rare prints and photographs, or browse the library's recorded sound collection right from your classroom." The American Memory collection contains more than 500,000 primary sources and serves as the resource selected by the designers, for students to utilize in developing their exhibit and telling their story.

The " Student page " of the project offers a variety of group roles that student groups can use to explore the collections. Groups can choose from roles that include: lawyer, poet, politician, producer, comedian, musician, and newspaper reporter. From within these roles they explore historical documents

and media in order to describe the American dream of a particular decade.

Within the student groups, each of the four student members chooses a "group

task.." The tasks include: team manager, research manager, production

manager, and archive manager. The "Research manager" team member role is

described in the following way:

> Your job is key to the success of this project. You must be relentless in
> your quest for finding just the right quote, picture, or sound bite. Your
> team will rely on effective use of your detective skills as you search the
> collections.

In the description and inclusion of the " research manager " task, it is clear that

the designers of the project view "students as researchers" as an essential

aspect of the America Dreams project.

This finding is re-enforced by web pages linked to by the America

Dreams project. One of the Library of Congress' web pages provides students

with a lesson entitled "What are Primary Sources?" This page informs students

about the difference between primary and secondary sources and describes the

vast nature of the historical record. It informs students that:

> Historians use a wide variety of sources to answer questions about the
> past. In their research, history scholars use both primary and secondary
> sources. primary sources are actual records that have survived from the
> past, such as letters, photographs, articles of clothing. Secondary
> sources are accounts of the past created by people writing about events
> sometime after they happened.

The student lesson goes on to use history textbooks as an example of

secondary sources. It also describes the historical record as " all the clues

people living in the past left about their lives including primary and secondary

sources in the form of books, personal papers, government documents, letters,

oral accounts, diaries, maps, photographs, reports, novels, and short stories,

artifacts, coins, stamps, and many other things." In the second part of the

lesson, " students then learn techniques for analyzing primary sources."

Focusing on historical research, another linked web page by the Library

of Congress asks students to become historical detectives. The page suggests

students :

> Ask questions (who? what? where? when? why? how?), hunt for clues,
> talk to witnesses and visit the scene to search for evidence; to form a
> hypothesis (I think...because...) and gather evidence to prove your
> hypothesis; find evidence that must be authentic, first hand information
> that you have carefully reviewed to make certain that it is genuine and
> will prove your hypothesis; and occasionally your investigation will
> uncover vital facts that will make you rethink your original hypothesis
> and make the necessary changes to solve your riddle or prove your
> case.

Other links from the Library of Congress inform students on the proper

methods of citing electronic sources. The pages suggest that, " while there is

still variation among the organizations publishing style guides, the researcher

can look to the guide favored by the academic discipline for suggested

treatment of electronic sources."

The America Dreams project also links to the Library of Congress' web pages on copyright, fair use, and responsible use of the American Memory Collections. These web pages inform students on the proper use of intellectual property and provide them examples of issues that might occur as students work as researchers. It's clear that the Library of Congress and their National Digital Library is specifically interested in students using their resources as "researchers."

San Diego State University's Taxonomy of WebQuest Tasks web pages are another linked source available to students. These pages list the variety of possible WebQuest tasks which include: retelling tasks, mystery tasks, journalistic tasks, design tasks, creative product tasks, consensus building tasks, persuasion tasks, self-knowledge tasks, analytical tasks, judgment tasks, scientific tasks, and compilation tasks. The analytical tasks ask students, "To look closely at one or more things and to find similarities and differences, to figure out the implications for those similarities and differences. They might look for relationships of cause and effect among variables and be asked to discuss their meaning." These types of WebQuest tasks clearly place students in the role of researcher.

E-mail conversations with America Dreams project designer Leni Donlan regarding the origin and development of the project also suggest the

154

central importance of students as researchers. The America Dreams project developed as an outgrowth of the required work of the American Memory Fellows program. The designers were required to choose a collection from the digital library and create a lesson that could be used with students. Their choice of collections, choice of the WebQuest model, and interest in social studies combined to create a research project that was "open and permeable if it is to be doable."

In an excerpt of an e-mail message sent to all project participants, Leni Donlan highlights the central role of research in the American Dream project, " We hope that these resources will prove helpful as you conduct research about your hometown and prepare your chapter for the 'Portrait of America' digital exhibit." In response to an e-mail inquiry regarding the direction that participating students had taken in researching environmental issues in their local community, Ms. Donlan states, "I was thrilled to see the direction they were taking, because they were making something meaningful and locally important out of this."

Analysis of each of the three data sources analyzed (America Dreams web pages, linked web pages, & e-mail by designers) suggest that "students as researchers" "counts" to the designers of the America Dreams project.

The " real world" nature of the America Dreams project is prominently

described in each of the three data sources. Beginning with the project web

pages, moving to the linked web pages, and ending with analysis of e-mail

discussions, the researcher found that "real world," "real life," "real time," "

real learning contexts," and " real problems " are central to the design of the

on-line project. The opening "Overview" pages of the project introduce

students and teachers to the project in a manner that contextualizes their

learning in the realities of the past, present and future. The opening description

begins as follows:

> As we near the dawn of a new millennium, America Dreams creates a
> timely forum for citizens to consider the dreams of our past, the
> realities of the present, and our hopes for the future.

The project asks students to investigate "real world" primary source

documents, media, and elements of the historical record in order to learn about

the realities of the past. They explore the stories and artifacts of real people and

places as they fashion a conception of the American dream during a particular

decade in the past. Students have the opportunity to browse "real life"

documents and media such as:

- Votes for Women Suffrage Pictures, 1850-1920

- Documents from the Continental Congress and Constitutional Convention, 1774-1789

- The Walt Whitman Notebooks, 1847-1860's

- The Spanish American War in Motion Pictures

- California Gold: Folk Music from the Thirties, 1938-1940

- American Variety Stage, (playbills, Houdini) 1870-1920

Later, the students are asked to explore their "real world" community to develop an understanding of the local issues relevant to the American dream. Among the learning projects from the "Student Gallery" were:

- Rocky Run Middle School's America Dreams Project
  Rocky Run Middle School, Chantilly, VA

- Bard Dreams
  Richard Bard Elementary School, Port Hueneme, CA

- Edenvale's America Dreams Project
  Edenvale Elementary School, San Jose, CA

- Our American Dream
  Henderson Intermediate School, Starksville, MI

- Exploring the American Dream
  Allentown High School, Allentown, NJ

- Voices from the Dustbowl
  Ben Franklin Middle School, Daly City, CA

- The Golden days
  Town School for Boys, San Francisco, CA

Finally, students are asked to explore their own dreams, which offer them an opportunity to center their studies in concepts and knowledge bases that may be the most "real" for a given individual. One of the activities in which students explored their own dreams, " The Wall of Dreams," was a posting of brief individual dreams. Students posted their dreams on the project bulletin board. Among the many entries from across the country were the following:

- " I want my American Dream to be a better life for everyone, so that people get along with each other. I want my dreams to come true and to be a better person like to get along with every one or to be better in life. My dream is to be a doctor. Those are my dreams."

- " The dream is to have a home and a good job."

- " My dream is that there is no violence and everyone lives in peace."

- " I want to go to college and get a degree and be an astronomer and discover a galaxy, constellation, and UFO's."

- "As for my country, I dream of seeing the United States claim the respect it once had for itself and the respect it had from other nations. The country needs to stand strong if it is to remain a force in the new millennium. In my community I dream that, eventually, the town's problems with crime will end. For myself, my dream is basically to be successful and happy in life."

- "In my world, I wish that we could appreciate each other and each other's color. Racism has a big effect on this world, and if we could get to know people for their soul and personality, and not for their color, then the world would be a better place. In my country, I dream that we would give everyone a chance: rich, poor, ugly, beautiful. We are all warm-hearted

people, and we are all equal no matter what we look like. I also dream that I can change people's minds about the different types of people we have around the world. I know if I can change one mind, it will make a difference."

Analysis of the student entries in the "Wall of Dreams" component of the project suggests that student participants responded to the writing prompt by describing "real world" issues in contemporary society as well as " real life" personal issues which sprang from their individual dreams and aspirations.

Web pages of the Library of Congress that were that the project linked to, guide children in the use of "real world" documents from the historical record. It's clear that the Library of Congress is interested in providing, " Historical resources created and saved by people interested in recording history." These "real world" artifacts include, " journals, diaries and autobiographies, recorded family trees, and saved business and personal letters and papers." The Library of Congress' web pages on copyright also clearly focus on the use of "real world" artifacts. They discuss "fair use" issues with such artifacts as:

- American Life Histories: Manuscripts from the Federal Writer's project, 1936-1940

- Color Photographs from the Farm Security Administration and the Office of War Information, 1938-1944

In another link, Maureen Brown Yoder (1999) describes the WebQuest

learning model and details the history and development of WebQuests and how

best to use them. In her introduction to writing a compelling scenario for a

WebQuest, she suggests a variety of starting points for the teacher interested in

creating an online project. Among these starting points are: "bringing

contemporary world problems into the classroom," Yoder suggests teachers

give students,

> A real problem, one that currently troubles a local or the world's population. The topic may be environmental, political, or sociological and can range from polluted rivers to human rights to endangered animals. Often these problems defy easy solution, but nonetheless students are challenged to come up with feasible resolutions, engage in debate, reach consensus, and formulate a plan.

She also suggests teachers begin by "evaluating history." She suggests
teachers:

> Let students look closely at wars, major tragedies, disasters, or periods of exploration. When dealing with historic difficulties, teachers challenge students to imagine themselves as eyewitnesses. As a result, we have seen excellent WebQuests on the Civil War, the sinking of the Titanic, the Great Depression, and a range of historic voyages from Noah's Ark to Apollo 7.

Finally, in "dealing with life's realities," Yoder suggests to teachers

that,

> The task is something a student might actually encounter: finding a job, buying a car, traveling to another city or country. The students can use such online resources as employment pages, airline schedules, and money-exchange rates.

160

These linked pages by Yoder, clearly describe the WebQuest model as dealing with real world learning contexts and problems. The "real world" nature of the investigation aspect of the America Dreams project was supplemented with "real-time" technological communication experiences such as video conferencing and chat sessions. These experiences were regularly scheduled throughout the project to bring project participants, designers, and Dr. Billington (The Librarian of Congress), together to dialogue regarding various aspects of the project.

E-mail dialogue with designer Leni Donlan re-enforces that "real-time" aspects of the America Dreams project are important to the designers. In an excerpt, Ms. Donlan states,

> The project certainly has great value without participation in IRC or CU-SeeMe events, but these interactive events are important. They provide students with a sense of a project that is "bigger" than they are. They offer a real sense of community... of working with others, which can elevate the experience from parallel play to collaborative effort.

Each of the three data sources analyzed produced an abundance of evidence that suggest that the "real life, real world, real time, real learning contexts and real problems" involved in the America Dreams project are of great significance to the project designers.

161

Community and a Community of Learners

The data sources also point to the finding that the America Dreams on-line project designers are concerned with students learning about and from their local community as well as participating in local and national communities of learners. As previously described, the project "Overview" pages define the "Storyteller" component of the project that use focused studies, "That begin with families and expand to include communities, classrooms across the nation will create community narratives ....Collectively, the narratives become a digital gallery, Portrait of America, which tells the story of our nation as we enter the new millennium."

In the "Celebrant" component of the project, the overview pages describe the culminating activity of the project; " Celebration of Americans." The designers propose that, " In schools across the nation, students will host community festivals to share their stories and dreams. Meeting in electronic chat rooms and video conferences, local narratives will be shared with other classes and with state officials." The "Celebrant Consideration" pages of the project suggest that after completing the project, " You are ready to commemorate your experience by inviting those members of the community

162

with whom you have worked to join you in a day of festivities." The pages go

on to suggest that guests might include:

- Other students from your school

- Family members

- Community members who helped with your research or participated in

  your interviews

- Local office holders (Mayor, City Council, etc.)

- Representatives from community groups(Historical society, etc.)

- Press

- Any combination of the above

     These pages further inform students and teachers on methods of

creating press releases and other issues related to celebrating the project within

the local community. From viewing these pages, it is easy to see that the

designers built in explicit opportunities for the project to include interaction

and learning opportunities among local and global communities and

communities of learners. They suggest that as teachers and students are,

" Busily conducting their projects within their classrooms and communities.

On-line interaction will create a national community of participants, working

together toward common goals (p. 3)."

Towards the development of national communities of learners for both teachers and students, the designers built in a regularly scheduled calendar of participation in "Community Meetings (Student Chat)," and "Professional Discussions (Teacher Chat)." A total of six student community meetings were scheduled each week, three per day on successive days. Monday meetings were held for grades 3-8 at 11:00 am (EST) and at 1:00 pm for grades 9-12. Tuesday meetings were held at 2:30 pm for grades 3-8 and at 3:30 pm for grades 9-12. Table 12 represents the schedule and specific topics designed for each "Community Meeting Student Chat."

Table 12

Calendar of Community Meetings (Student IRC Chat Sessions) Scheduled in the America Dreams Project

Chat #	Dates	Topic
1	Mon., Oct. 19 Tues., Oct. 20	Using the American Memory Collection
2	Mon., Oct. 26 Tues., Oct. 27	Presenting and Defending Decade Dreams Projects
3	Mon., Nov.2 Tues., Nov.3	Assessing Community Dreams
4	Mon., Nov.9 Tues., Nov.10	Sharing: Portrait of America Project
5	Mon.,Nov.16 Tues., Nov.17	Sharing: Dreams and Celebrations! Guest: Jim Bickford, The America Dreams Collections

Towards the goal of developing a "community of learners" among the

participating teachers in the project, the designers scheduled teacher

professional discussions that started the week before the project

commencement and continued until one week after the project's end. The

"Calendar" page describes these teacher chats as including, " Teacher

participants, higher education students and professors, and invited guests who

focus on the use of the Internet for research, collaboration and publishing,

ensuring meaningful learning outcomes for students; instructional strategies,

management issues, and technology integration issues." Table 13 represents

the schedule and topics for these teacher chats.

Table 13

Calendar of Professional Discussions (Teacher IRC Chat Sessions) Scheduled
in the America Dreams Project

Chat #	Dates	Topic
1	Wed., Oct. 7 Thur., Oct. 8	Using CU-SeeMe and IRC Guest
2	Wed., Oct. 14 Thur., Oct. 15	Using the American Memory Collections Guest
3	Wed., Oct.21 Thur., Oct.22	Pulse Taking How are we doing?
4	Wed., Oct. 28	Assessing Community Resources
5	Wed., Nov. 4	Development of the "Through Our Eyes" Project Q/A Sharing
6	Wed., Nov. 11	Community Celebration Considerations
7	Wed., Nov. 18	Dreams and Celebrations! Guest: Jim Bickford, The America Dreams Collections
8	Wed., Nov. 25	Celebrating and Evaluation
9	Thur., Dec. 17	Debriefing Discussion

As a third component of the designers' effort to create a national on-

line community, the project included two Cu-SeeMe video conferencing

sessions. The first session, entitled " Meet the Dreamers," was held on October 14th from 1:00- 4:00 pm (EST) and included a guest session with Dr. Billington (the Librarian of Congress). The second session, entitled "Celebration of Americans," included a guest session with Linda White (Coordinator of the National Library Visitor's Center) and Martha Anderson (of the American Memory Production Team). The " Calendar" pages of the project describe these sessions by stating, "That they will contribute to the building and bonding of our online community and allow us to experience, first hand, being involved in something *greater than ourselves*."

E-mail conversations with project designer Leni Donlan also serve to support the finding that the America Dreams project designers believe that creating community, learning about community, and creating a community of learners "count" as project objectives. In one message from Ms. Donlan to all the participants, she encourages teachers with the statement, " You are an amazingly talented group, and are creating wonderful learning communities in your classrooms." In another e-mail conversation between the researcher and Ms. Donlan, she describes the goals of Internet Catalyst (Her organizational affiliation). She states, " We are interested in anything and everything that creates enhanced learning opportunity and a community that is larger than the classroom."

167

While it is clear from these e-mails and the web pages previously described, that the creation of community, the study of community, and the creation of local and national communities of learners are important to the designers of the America Dreams project, technology is not seen as the sole catalyst.

Following the theme of creating a " community of learners" among the participating teachers in the project, Strommen and Lincoln (1992) discuss the concept that educational technology tools are not sufficient by themselves in changing American education. In these pages from Columbia University that are linked to by the project, the authors quote Riel (1990) when she states that, "....new tools alone do not create educational change. The power is not in the tool but in the community that can be brought together and the collective vision that they share for redefining classroom learning (p.35)."

Collaborative Learning and Group Work

Collaboration and group interaction are at the core of the America Dreams project. The primary evidence is found in the directions given to students found on the "Student Pages." Students are directed to:

1. Divide into groups of four.

2. As a group, choose one of the roles to create your project.

3. Read your task and set up your group management system.

4. Discuss the assessment questions and create an action plan.

5. Search the collection and gather your evidence.

6. Create your learning product. Compare your dream to history.

Secondarily, the project includes many opportunities for students and teachers

to interact online with other participants from the project. This computer

mediated collaboration is built into the project. Prior to these pages, the

"Overview" pages describe the project as, " A collaborative effort by Leni

Donlan and Kathleen Ferenz, 1997 Fellows, American Memory Program,

Library of Congress." In doing so, they emphasize the idea that the project was

both created and intended to be used in a collaborative manner.

In pages linked to by the project, Strommen and Lincoln (1992) suggest

that, " Two specific features of constructivist philosophy hold particular

promise." They cite child development research (c.f. Dauite, 1989; Garvey,

1977; Herron & Sutton Smith, 1971) when they suggest that " play and

experimentation are valuable forms of learning." They explain that play and

experimentation are, " Self-structured and self-motivated processes of

learning.... that are powerful forces in the development of the individual mind,

169

but constructivism has led to the additional discovery that powerful gains are made when children work together, as well." (Strommen & Lincoln, 1992,p. 3)

They suggest that,

A growing body of research on collaborative or cooperative learning has demonstrated the benefits of children working with other children in collective efforts (Johnson, Maruyama, Johnson, Nelson, & Skon, 1981; Rysavy & Sales, 1991). When children collaborate, they share the process of constructing their ideas, instead of simply laboring individually. The advantages of this collective effort are that children are able to reflect on and elaborate not just their own ideas, but those of their peers as well. Children come to view their peers not as competitors but as resources. Mutual tutoring, a sense of shared progress and shared goals, and a feeling of teamwork are the natural outcomes of cooperative problem-solving, and these processes have been shown to produce substantial advances in learning.

The project provides help for student groups to work collaboratively by describing each individual role for team members that include: team manager, research manager, production manager, and archive manager. For each role that a team might choose which include: lawyer, poet, politician, producer, comedian, musician, and newspaper reporter, the project provides the teams with assessment questions, an action plan outline, and hints for searching the collections. Each role is also provided a set of specific collections from the American Memory Collections that were chosen to relate to their topics. It is clear that the bulk of the work in the America Dreams project is designed to occur in these student groups. It is also clear that the designers have structured

this group work in an attempt to ensure success and a clear and defined

direction for individuals and the groups.

In yet another web page posted by Columbia University and linked to

by the project, Stephen Balkcom (Office of Educational Research and

Improvement, U.S. Department of Education) describes "cooperative

learning" in the following way:

> Cooperative learning is a successful teaching strategy in which small
> teams, each with students of different levels of ability, use a variety of
> learning activities to improve their understanding of a subject. Each
> member of a team is responsible not only for learning what is taught
> but also for helping teammates learn, thus creating an atmosphere of
> achievement.

Next, he explains why this method should be used;

> Documented results include improved academic achievement,
> improved behavior and attendance, increased self-confidence and
> motivation, and increased liking of school and classmates. Cooperative
> learning is also relatively easy to implement and is inexpensive.

Among " typical strategies" he describes, is " group investigations that

are structured to emphasize higher-order thinking skills such as analysis and

evaluation. Students work to produce a group project, which they may have a

hand in selecting." This type of "cooperative learning" strategy is clearly what

is utilized in the America Dreams project.

171

Balkcom also suggests that, " More than 70 major studies by federally

sponsored research centers, field initiated investigations, and local districts

examining their own practices – have demonstrated cooperative learning

effectiveness on a range of outcomes." Among these outcomes are student

achievement (when group goals and individual accountability are used

together), improved relations among different ethnic groups, and

mainstreaming students with disabilities.

The WebQuest page, also a project link, describe "critical attributes"

of the Web Quest model as well as " some other non-critical attributes."

Among these "non-critical" attributes, the authors note:

" WebQuests are most likely to be group activities, although one could imagine

solo quests that might be applicable in distance education or library settings."

It is clear that the America Dreams project has chosen a "collaborative," "

cooperative," "Web Quest," model to design their on-line project.

In a telling excerpt from an e-mail message from project designer Leni

Donlan and the researcher, she emphasizes the importance of student group

and classroom collaboration with on-line projects;

Researcher: I'm very much interested in looking at the contiguous
(face to face) collaboration among local student groups
of four, and the relationship between this type of
collaboration and that which is achieved online

Leni: I have participated with my own students (in my distant
             past) in another similar online project, Westward Ho! As
             I always tell participants in my projects, the "real
             action" is in their classrooms. The online interaction
             gives the experience a "bigger than just us" intensity and
             adds the sense of global importance, but face to face
             collaborations in the classrooms are really where it is at.

This telling e-mail and the web pages previously described, suggest that

the "collaborative" nature of both student and teacher work in the America

Dreams on-line project are essential to the project design.

Active and Engaged Learning

The " Teacher Survey # 1 Evaluation" of the America Dreams project asked

participating teachers 12 questions at the beginning of the project. The

evaluation, authored by Laurie Maak (Director of Internet Catalyst), Leni

Donlan (Producer of America Dreams), and Karen Andrews (Researcher,

Stanford University) asked teachers to reflect on what they wanted to

accomplish in the project, what works, doesn't work, and the help they will

need to be effective. Question # 3 on the survey;

173

What goals do you have for your students' "active learning" (hands on, problem based) during the America Dreams project? suggests that " active learning" counts to the designers.

Although the terms " active" or "engaged" learning appear only in this evaluative instrument of the project, the design of the project is full of examples of with students creating multi-media projects, researching, problem solving, discussing, using the Internet, interviewing family and community members, and relating their work to their own lives. All of these contribute to making the project " active" or "engaged " learning. It is clearly designed to place students in non-traditional learner roles where their active engagement with the information and each other will be directly linked to the knowledge they construct and their final project outcomes.

Web pages links point to the "active", and "engaged" aspect of the learning as being important to the project designers. The NCEE's web pages on New Standards point to their focus on internationally benchmarked standards that ask students to demonstrate their knowledge in a combination of traditional assessments and "performance tasks." These "performance tasks" ask students to use their knowledge to solve complex problems and are indicative of a focus on engaged and active learning and assessment.

Strommen and Lincoln's (1992) web pages links, once again call for

constructivist philosophy as a guiding principle for educational reform when

they state,

> One foundational premise is that children actively construct knowledge.
> Rather than simply absorbing ideas spoken at them by teachers, or
> somewhat internalizing them through endless, repeated rote practice,
> constructivism posits that children actually invent their ideas. They
> assimilate new information to simple, pre-existing notions, and modify
> their understanding in light of the new data. In the process, their ideas
> gain in complexity and power, and with appropriate support children
> develop critical insight into how they think and what they know about
> the world as their understanding increases in depth and detail. (p.4)

Bernie Dodge's web pages " Some Thoughts About WebQuests" which

are also linked to by the project, he describes longer term WebQuests

in a manner consistent with Strommen and Lincoln's previous description of

active learning. He suggests that, " After completing a longer term WebQuest,

a learner would have analyzed a body of knowledge deeply, transformed it in

some way, and demonstrated an understanding of the material by creating

something others can respond to, on-line or off."

Another web page created by Bernie Dodge and linked to by the

project, the author describes a strategy for scaffolding higher level learning in

WebQuests. The web page suggests that the underpinnings of the WebQuest

are; constructivism, cooperative learning, scaffolding, and fading. It also

suggests that the WebQuest includes " Tasks for Bloom's Penthouse" that

include: synthesizing conflicting opinions, putting multiple sources of data

together to discover the non-obvious, creating something new within the

constraints of a problem definition, and defining a stance and defending it.

All of these activities and project components clearly qualify as " active" and

"engaged" learning.

In a link posted by San Diego State University, a WebQuest

"taskonomy " is described. The web page authors state, " A well designed task

is doable and engaging, and elicits thinking in learners that goes beyond rote

comprehension."

E-mail conversations with designer Leni Donlan, also re-enforce the

importance of "active", and "engaged" learning in the America Dreams

project. In this excerpt from the discussion, Ms. Donlan makes a strong point

about engaging learning experiences:

Leni: We know that real learning takes a real context and real
        engagement...anything but those deadly 20 minute periods for spelling,
        and 40 for SS, 60 for math and reading etc..) I think that modeling this
        kind of project will help some teachers who are "ready" to see the
        possibility in teaching this way. I suspect that I am a dreamer : -)

This e-mail dialogue and the web pages described, suggest that "active" and

"engaged" learning "counts" to the project designers.

Constructivist Philosophy

As Table 11 represented, analysis of the three data sources uncovered a variety of pedagogical sub-themes that emerged as important to the America Dreams designers. As previously described and documented in this chapter, the sub-themes: student centered learning, students as researchers, real world-real life problems and contexts, community and community of learners, collaborative learning, and active or engaged learning each emerged from the project web pages, linked web pages, and e-mail that was analyzed. Each of these sub-themes fits comfortably into a "constructivist" educational philosophy. In fact, the constructivist underpinnings of the America Dreams project is explicitly described in the project web pages and the web pages linked to by the project.

The "Teaching Tips Page" of the project encourages teachers to visit Columbia University's Institute for Learning Technologies' Constructivist Project Design Guide, which they say is a "treasure trove of additional ideas for teachers." These pages, Strommen and Lincoln's (1992) web pages on Constructivism, Technology, and the Future of Classroom Learning, and the many linked web pages on the WebQuest Model used by the America Dreams project, are all linked by their theoretical foundations in constructivist

educational philosophy. These references to educational theory are the only

such theoretical themes or sub-themes that emerged prominently. Other sub-

themes such as:

- teacher as guide,

- inquiry-based learning,

- guided investigations,

- interdisciplinary projects,

- teaching thinking skills and content,

- establishing and refining a knowledge base,

- personally relevant, and

- holistic or whole learning

which were discovered among the data sources, are all consistent with

constructivist learning as described by linked to web pages from Columbia

University and the WebQuest pages from San Diego State University.

     " Standards and accountability " emerged as a secondary pedagogical

theme of importance. The "Teaching Pages" component of the project includes

a sub-heading entitled "Curriculum Standards" which reads as follows:

> Most Lessons don't just teach a block of content; they also implicitly
> teach "thinking". In addition to describing learning outcomes within
> traditional subject areas, they describe what kind of thinking and
> communication skills were encouraged by the lesson. Inference
> making? Critical Thinking? Creative Production? Creative problem-

solving? Observation and categorization? Comparison? Teamwork? Compromise? Standards can be drawn from the National New Standards Project. The state of California has begun to design curriculum standards.

The project links to the NCEE's pages on New standards that describe their joint project with the Learning and Research and Development Center (LRDC) of the University of Pittsburg. They describe the standards written in 1996, as "a widely praised comprehensive set of performance standards in mathematics, English language arts, science and applied learning at the elementary, middle, and high school levels." They go on to describe the standards in the following passage:

> The standards represent the first integrated set of performance standards in these subject areas developed for national use in the United States. While professional and research associations have developed content standards, which indicate what should be taught in the various subject areas, the New Standards performance standards indicate the level of performance students should demonstrate- how good is good enough. These standards have been benchmarked to the expectations of those countries with the highest student performance in the world.

While the America Dreams project provides a link to these pages and cites them as worthwhile teacher tools, they leave the work of assessment and accountability for their particular project, up to the participating teachers. The teachers are provided with the following assessment questions on the project's

"Teaching Tips Pages" which are intended to guide the teacher and their class with a structure to create a rubric for evaluating their student team work:

- What is the American dream?

- How has the American dream changed over time?

- How do diverse cultures view the American dream?

- How have significant historical events effected the dream?

- How will new opportunities of the 21st century challenge the American dream?

- What makes your area of interest (e.g. photography) an effective medium for sharing the dream?

- What is your American dream?

E-mail conversations with the project designers did not surface further issues related to national or international standards. They served rather to re-enforce the local classroom's role in developing assessment rubrics for student group work that would be relevant and appropriate to the local context.

In summarizing the pedagogical findings of what "counts" as the America Dreams project from the perspective of the project designers, the researcher has analyzed the project web pages, web pages linked to by the project, and e-mail conversations with the project designers. This analysis has

180

clearly pointed to the aspects of the America Dreams project which are guided

by and consistent with constructivist educational philosophy and that include:

- the student centered natured of the project

- the central role of students as researchers

- the real life, real world, real time, real learning context, and real problem

  aspects of the project

- the collaborative work of student groups

- the active and engaged nature of the work of students

These major pedagogical sub-themes were found to be supported in

importance by an abundance of data from the three data sources. In addition to

these main pedagogical themes, data also suggested that the following

pedagogical sub-themes were important to the America Dreams project from

the perspective of the designers:

- teachers as guides

- inquiry-based learning

- guided investigations

- interdisciplinary units and lessons

- teaching thinking skills and content

- establishing and refining knowledge bases

- whole or holistic learning

181

As previously noted, analysis of data sources found that technology is important to the America Dreams designers. The designers made it clear in their project web pages, linked web pages, and e-mail that technology and its educational potentials is a theme that "counts" in the America Dreams project. Table 14 represents the key technological sub-themes that emerged from the text passages found in the three data sources.

Table 14

Technological Sub-themes (Text Bits) Found in Three Data Sources

Sub-theme	America Dreams web pages	Linked web pages	E-mail
On-line interaction	x	x	x
Resource based curric.	x	x	x
Teacher development	x	x	x
Integration of curric.	x	x	
Multi-media production	x	x	
Web publishing	x	x	
Interdisciplinary	x	x	
Constructivist use	x	x	
Video conferencing	x	x	
Lack of tech awareness		x	x
Need for admin support		x	x
Transforming teaching		x	x
Distance education		x	
Technology planning		x	
Developing tech skills		x	

<u>On-line Interaction and On-line Forums</u>

Although the project can be completed without "on-line interaction," as previously noted in e-mail dialogue, the project designers devote a considerable number of project web pages, and scheduled events in promoting student and teacher chat and video conferencing sessions. The " Overview pages" of the project suggest that, "On-line interaction will create a national community of participants, working together towards common goals."

The "Overview" pages also explain to teachers that their classes' use of online interactions will be supported by, " a mailing list; weekly, on-line professional discussions; written directives and hands-on practice sessions for use of CU-SeeMe and IRC chat applications...web site access to the applications for chat and CU-SeeMe." The project devotes four web pages on the use of IRC Chat. These pages state, " Use of real time Internet conferencing adds an exciting dimension and creates a sense of community. Successful participation in IRC sessions, requires some advance preparation." These pages then go on to guide teachers and students in the preparation and usage of this form of on-line interaction.

The project also devotes two web pages to guiding teachers and students through the use of CU-SeeMe video conferencing. The pages state,

" Video conferencing allows us both to see and hear one another in real time. This makes an online, virtual experience suddenly become very real. It contributes to the creation of a "community of learners" as each learner realizes they are part of a bigger whole." The pages then guide participants in the use of these on-line interactions.

The project's "Teacher Survey # 1 Evaluation" also alludes to the importance placed on online interaction by the project designers.

Question # 5 (a) asks teachers:

Have you participated in Internet Relay Chat (IRC)?

Question # 5 (b) asks teachers to respond:

If no, check all reasons why you did not participate:

Lack of Internet access
Insufficient computing power
District/school policies prevent IRC use
Inability to find and install software
Inability to use the software
Unable to fit student chats into my class schedule
Unable to fit teacher chats into my schedule
Other reasons

Question # 6 (a) asks teachers:

Have you participated in CU-SeeMe?

Question # 6 (b) asks teachers:

If no, check all reasons why you did not participate?

Lack of Internet access
Insufficient computer power
District/school policies prevent use of CU-SeeMe
Inability to obtain camera
Inability to obtain software
Insufficient technical support
Insufficient administrative support
Unable to fit CU-SeeMe sessions into my class schedule
Other reasons.

In the "Concluding Teacher Survey," project designers Leni Donlan

and Laurie Maak asks teachers to respond to Question # 2:

As an educator, what have you gained from participation in America
Dreams?

Among the possible responses, the first response was:

Increased proficiency with video conferencing and or IRC

The survey also asks teachers if more support for the use of IRC and CU-

SeeMe would have made the project more successful.

In web pages linked to by the project, biographies of the members of

the Internet Catalyst describe their roles as " leaders and developers of online

network curricular projects.....and conductors of on-line training on curricular

integration of technology." The goals and work of the members of the Internet

185

Catalysts (including the project designer) focus on the use of Internet projects

and online interaction in the reform and improvement of education.

Project designer Laurie Maak also discusses her experience with

teacher effectiveness and their use of on-line technologies in e-mail

conversations:

> Laurie: We've found those teachers who participate in on-line
> discussions and communicate with other participating
> teachers tend to be more successful in projects. This
> interaction furthers the collaboration between
> participants during the project and later on.

As previously quoted, Leni Donlan (project designer) suggested in e-mail

dialogue with the researcher that although the "real action" in the project is in

the classroom, " the on-line interaction gives the experience 'a bigger than just

us' intensity and adds a sense of global importance."

Integrating Technology with Curriculum

The design of the America Dreams project integrates the use of technology,

specifically the Internet, with social studies curriculum focused on American

history. It clearly treats the use of educational technology as a tool to pursue

existing educational curriculum rather than as an end in itself. This sub-theme

of integrating technology into curriculum is found in project web pages as well as web pages that are linked to by the project.

The "Teaching Tips Pages" of the project explain to teachers that, " The flexibility inherent in this project will allow teachers to adapt the project to their classroom needs." This type of "adaptation" is essential to integrating the technology into classroom/school cultures and environments. The same web pages propose "Suggestions for Implementation" which describe the integration in the following terms,

> You can spend a week, a month, or a year on this project. Use this project to inspire your students to learn more about themselves as they, too, will define the America Dream. This unit could be designed to accompany a thematic unit on American Literature, poetry and U.S. history from the late 1800's through the 1960's. You may choose to narrow your focus to a single decade or to a specific collection or follow a broader topic of "The American Dream" as it has changed over time.

Question # 4 in the first teacher survey provides teachers with a text box in order to respond to the following inquiry: "List a few ways you have integrated the America Dreams project into your curriculum." The "Concluding Teacher Survey" also makes a point of asking teachers to consider technology integration when it asks teachers, "As an educator, what have you gained from participation in America Dreams? " Later providing,

" Learned to incorporate technology effectively in curriculum," as one of the possible responses.

Strommen and Lincoln's (1992) web pages, which are linked by the project, make it clear that, " We think that technology must be thought of as an integral component of the curriculum, a chameleon-like tool that can be used with almost any content." Later in their web pages they suggest that technology is an essential tool coupled with constructivist philosophy towards the goal of educational reform. They state, " The key to success lies in finding appropriate points of integrating technology into new pedagogical practice, so that it supports the deeper, more reflective self-directed activity that children must use if they are to be competent adults in the future."

More evidence that integrating technology into the curriculum "counts" to the America Dreams designers, comes from linked pages entitled, " Integrating the Internet into the Curriculum; Using Web Quests in your Classroom." These pages describe a, " Quiet revolution is taking place on the Internet. K-12 educators and university professors around the world are working together to develop new, innovative ways to bring the Internet into their curriculum, and then sharing their successful implementations with others via the World Wide Web."

Kenneth Watson's (1999) web pages on Web Quests (also linked by

the project) echo the importance and power of the WebQuest to integrate the

use of technology into the curriculum. He suggests that,

> Over the course of the last 20 years, educators have been inundated
> with new programs and methods aimed at integrating new technologies
> with classroom curriculum. Many discussions have centered around
> attempts to determine the most effective uses in the classroom. From
> these discussions additional questions continue to be generated. How
> can this technology enhance middle school education? What are the
> most effective approaches to integrating technology with curriculum so
> that it provides the greatest benefit for students?....... WebQuests are
> reflective, fluid, and dynamic. They provide teachers with the
> opportunity to integrate Internet technology into the course curriculum
> by allowing students to experience learning as they construct their
> perceptions, beliefs, and values out of their experience (Beane, 1997).
> WebQuests can be especially useful for teachers who are novices in the
> area of technology in that offer pre-packaged, self-contained lessons
> ready for implementation.

It is clear that the designers believe that integrating technology and the

project into curriculum is of utmost importance.

Resource Based Curriculum

The America Dreams on-line project utilizes the American Memory

Collections of the National Digital Library (a wing of the Library of Congress)

as its basic resource for student research. This use of digitized primary source

documents is central to the project design and the foundational element in

student's building of a knowledge base. The "Historian" phase of the project

summarized on the "Overview Pages" describes the central role of the digital

resources in the following statement, " This phase establishes a knowledge

base and an analytical outlook as students use the digital resources of the

American Memory Collections, Library of Congress, for research." The

"Teaching Pages" of the project describe America Dreams in their

introduction; "America Dreams …through the decades is an interdisciplinary

Internet project designed to utilize digitized primary source documents from

the American Memory collection. Its conception and design is a collaborative

effort of Kathleen Ferenz and Leni Donlan, American Memory Fellows to the

National Digital Library."

The designers go on to describe the value of this resource based

learning when they state,

> It's not your imagination… it's the real thing! This project invites you
> and your students to sift through the vast collection of rare print
> documents, early motion pictures, numerous collections of rare prints
> and photographs, or browse the library's recorded sound collection
> right from your classroom. Together you will experience the depth of
> the digital resources in the American Memory Collection.

Both the origin of the project as an outgrowth of the American Memory

Collections Fellowships and the project design which places these rare

digitized resources at the center of the project, clearly point to the fact that the

use of electronic resource based curriculum " counts" to the America Dreams

designers. It parallels the pedagogical finding that the use of

" primary source documents" counts to the designers.

It is the power of today's computer based digital storage capacity that

brings the use of primary source documents to such an expanded audience on

the Internet. This technology allows this expanded audience to sift through

these vast quantities of documents and artifacts that are the equivalent of

bringing the museum or archive to the viewer. It also allows them to do so on

their own time schedules in asynchronous or synchronous ways with other

researchers.

Web pages linked by the project, from the Library of Congress, also

emphasize the importance of a digitized resource based curriculum. The

project links to web pages on the use of "Primary Sources," "Citing Electronic

Sources", and "Copyright, Fair Use, and Responsible Use of the American

Memory Collections." These pages all support the central importance of the

"resource based curriculum" designed into the America Dreams project.

In other pages linked by the project, Columbia University's WWW

Constructivist Project Design Guide suggests that, " A constructivist would put

students directly in touch with primary materials, rather than articulate for

them a broader framework and connections to be made ahead of time." Later

on in these web pages, in the section entitled " Concept Formation," the

authors suggest strategies to teachers for utilizing electronic resources with

students.

> Whether you've simply collected and shared student responses or run a
> group investigation of found resources, you now have an idea of what
> your students are responding to and what questions the materials
> suggest to them. You may at this stage want to regroup students by
> interest and form workgroups; or you may wish to do some "frontal
> teaching" to give the class concepts they haven't yet mastered that
> would help them direct their searching more effectively. One excellent
> method for this is Semantic Mapping. The American Archive Inquirer
> provides an example of how semantic mapping, resource digitization,
> and group inquiry can work in tandem.

In other web pages linked to by the project, Bernie Dodge describes the

WebQuest model's "critical attributes" as including:

> A set of informational sources needed to complete the task. Many
> (though not necessarily all) of the resources are embedded in the
> WebQuest itself as anchors pointing to information on the World Wide
> Web. Information sources might include web documents, experts
> available via e-mail or real-time conferencing, searchable databases on
> the net, and books and other documents physically available in the
> learner's setting. Because pointers to the resources are included, the
> learner is not left to wander through webspace completely adrift.

It is clear from e-mail messages with the designers, that the America

Dreams designers sought to create the project with a "resource based

curriculum" at it's foundation. As Leni Donlan states, " America Dreams

began as the lesson required of the American Memory program

fellows.......We were required to choose a collection from the digital library

and create a lesson with it that could be used with students."

Teacher Development

Analysis of each of the three data sources also uncovered the theme of teacher

development as being important to the America Dreams designers. This on-line

project, like others created by the designers and their affiliated organizations,

were created for teachers as well as students. Although the designers are

clearly advocates of student centered, constructivist pedagogy, they

acknowledge the key role of the teacher and the need for teacher's professional

and technological development.

The "Teaching Tips Pages" of the project includes a section entitled

" Entry Level Skills and Knowledge" ask teachers, " What research and multi-

media skills do you and your students bring to the project? A basic

understanding of Internet research, and reasonable facility with multi-media

tools are needed." These basic pre-requisites clearly call for a level of teacher

development that exceeds the skills of many teachers currently in the

profession. The "Teachers' Notes Pages" also ask teachers to go far beyond

working from a "recipe" or "work book." These pages ask teachers to shape

and mold the structure and outline of the project to, " fit the needs of your learners. We all know that one size does not fit all." This type of teacher facilitation and creativity also calls out for teacher development.

Teacher development and support opportunities are built into the project. Mailing lists and on-line sessions help teachers with technological, instructional, and management issues as well as providing teachers with a community of learners among the participating teachers. The designers sought to promote the kinds of thoughtful and reflective thinking and discourse among teachers, that is espoused for students in constructivist educational philosophy. Logs of these professional discussions were archived and posted for teachers to use as resources for more effective implementation of the project.

In the questions of the concluding teacher survey, the designers explicitly point to their interest in using the project as a tool for teacher development. In Question # 2, the designers ask:

As an educator, what have you gained from participation in America Dreams?

Increased proficiency with video conferencing and or IRC

Become more comfortable with technology

Developed new teaching strategies

194

Learned new ways to incorporate technology effectively in curriculum

Ideas for teaching with computer as "contributing" partner

More opportunities to communicate with students and teachers from

other schools

Improved search capabilities using the Library of Congress collections

Strengthened Internet Skills

I haven't gained anything

Web links to the project also suggest that the America Dreams

designers created the project with the intention of developing teacher skills.

Strommen and Lincoln's (1992) web pages on Constructivism, Technology,

and the Future of Classroom Learning suggest that we are currently in great

need of teacher development. The following statement from their pages is

evidence of this fact, " ... the process of teaching has not changed

substantially, even in the past 100 years (David, 1990). Teacher's colleges and

education departments around the country have not seen any wholesale

revisions in their curriculum, and graduates are much more like predecessors

who graduated earlier than they are like today's children." Later in their

section entitled, "Getting there from here," the authors suggest the key role of

teacher development in educational reform and improvement.

195

As we see it, there are two distinct obstacles to implementing dramatic changes our educational system needs. The first is the systemic lack of awareness of the appropriate uses of technology in our schools today. There is a long historical precedent for this lack of knowledge (Collins, 1990). The classroom has traditionally been the last institutional space in our society to be penetrated by any new technology, be it calculators, VCR's, or computers (Soloway, 1991). This is partially the result of limited budgets, and partially the result of limited experience on the part of educators and administrators – it is difficult to conceive of pedagogically sound ways to apply a technology when you are not familiar with it. Similarly, our teacher's colleges and institutions of higher education have not made it a priority to reflect on the pedagogical potential of technology when teachers are trained.........In order to incorporate technology more fully into the classroom, several changes are needed. Teachers must be provided with the time and support to explore technology on their own.....Teacher creativity is a powerful force for positive educational change, but it can only thrive if it is unleashed and supported by strong institutional commitments.

E-mail dialogue with project designers strongly supports the claim that teacher development "counts" in the America Dreams project. As previously noted, e-mail from designer Leni Donlan suggested that teachers participating in online discussions with other teachers were more successful in online projects. Ms. Donlan states, " We are also interested in using this project to gather data about the efficacy of online projects as a change agent in teaching." She also suggests that teachers need to be "reasonably supported...... so that they can make it on their own and bask in the pride of their accomplishment... as true of teachers as it is for students."

These web pages and e-mail excerpts all point to the importance of the development of teachers' ability to integrate technology in the classroom. They also illuminate the concept that the designers created this project for both teachers and students. As designer Laurie Maak describes herself and Leni Donlan (project designers) as, " mothers, educational psychologist, gifted education, researcher, program producer, and designers of staff development that would result in paradigm shifts in teaching and learning." The America Dreams project is clearly an example of their attempt at this form of teacher development.

The web pages, and e-mail previously cited in this chapter on results and the design of the America Dreams project itself, also lead to the conclusion that the students creating multi-media products and publishing on the web "counts" to the designers. These data suggest that the constructivist use of technology in the classroom is important. They also suggest that the flexibility designed into the project and it's "cross disciplinary" or "interdisciplinary" nature "counts" to the designers.

Finally, it is clear that making a dent in the " lack of technology awareness in schools" counts to the designers. Web pages linked by the project and e-mail point to the need for administrators to support the improvement of technology integration in order to transform teaching, learning and schools. In

a telling e-mail, Leni Donlan notes, " educational leadership from our administration is too seldom seen." In another e-mail she suggests that administrators need to make teachers, " feel reasonably supported so that they can have a (safety net) and they need to feel safe enough to risk a bit."

Technology and it's use in the classroom as an educational tool, clearly "counts" in the America Dreams project. Among the technological sub-themes uncovered in the data sources: on-line interaction, integration into the curriculum, resource based curriculum, teacher development, and improving the lack of technology awareness in schools were discovered to be important aspects of the project.

Transforming Teaching and Education

Analysis of the web pages linked by the America Dreams project and e-mail dialogue with project designers clearly points to the idea that the designers feel that teaching, education, and schooling are all in need of a transformation. The America Dreams project stands as an exemplar of the kind of blend of constructivist educational philosophy and integration of technology that is central to the form of transformation they advocate. Strommen and Lincoln's (1992) web pages, which are linked by the project, exemplify this "need for

198

transformation" in education. They suggest that, " In barely 20 years, electronic technology has dramatically penetrated into every area of society, and every aspect of our social and cultural lives." They go on to note that, " The most significant, however, are the changes wrought in our children by the technological revolution." Our children have been raised in a changed world of "instant access to knowledge," with "vivid images that embody and supplement text," and " where they control information flow and access." While they also suggest that, " the technological changes that have swept through society at large have left the educational system largely unchanged." This "dramatic rift" between the " process of learning and teaching in schools and the ways of obtaining information in society at large," is at the heart of the type of constructivist use of classroom technology that the authors call for in the transformation of teaching and schools.

This "rift," suggest Strommen and Lincoln, has resulted in " an estrangement of the schools from society, and from the children who live in them." In their view, " school strikes" many children as " rigid, and ultimately alienating." They propose, " What is needed is a guiding philosophy that suggests principled changes in the curriculum, and effective uses of technology as part of these changes. We think that this philosophy must be constructivism, a theory of cognitive growth and learning that has gained many adherents in

recent years (c.f. Forman & Pufall, 1988; Newman, Griffin, & Cole, 1989; Piaget,1973; Resnick,1989; Vygotsky,1978)." Finally, they summarize the need for reform in the last sentence of their web pages; " Only by revising educational practices in light of how our culture has changed can we close this gap, and reunite our schools and our children and the rest of society."

E-mail dialogue with project designers parallel the conclusions found in Strommen and Lincoln's web pages. They clearly point to the use of America Dreams as a tool for transformative education for teachers and students alike. As previously quoted, e-mail from Leni Donlan states, " I think that modeling this kind of project will help some teachers who are ready to see the possibility in teaching this way." In another e-mail dialogue she discusses the idea that technology has transformative potential, but does not serve as an independent catalyst for change. She states, ".....the very idea that computers should CHANGE classroom cultures is ludicrous....but classroom cultures need to change. Technology use may ignite the fire to allow that." This goal of creating online projects that serve as "change agents" and working in staff development that creates "paradigm shifts in teaching and learning" is clearly embedded in the America Dreams project as it is in other projects created by the designers and other members of the Internet Catalyst organization. Transforming teaching and learning "counts" in the America Dreams project.

200

American History and the American Dream

While technological and pedagogical concerns are often in the forefront of the

designer's comments and activities, the central content of the project is

American history as elucidated by the enduring concept of the American

dream. Analysis of project web pages demonstrate that the designers have

chosen a topic for students to study that is richly supported by the resources

and mission of the Library of Congress.

The "Student Pages" of the project inform students that they are about

to, " Investigate the American dream." They explain that students will,

" Compare how the dream has evolved over the decades," and then later,

compare their own dream to history. The "Teacher Notes pages" of the projects

describe project learning outcomes as " encompassing the development of the

skills of research, comparison and analysis; a deeper understanding of

American History; an objective and more complete knowledge and

appreciation for their own community, and a voiced vision for the future."

During the interactive on-line experience, "Meet the Dreamers,"

Students and teachers held a dialogue with Librarian of Congress Dr.

Billington. The transcript of the dialogue from this session serves to re-enforce

the importance of American history and the American dream to the project

designers. Dr. Billington explains to participants that they will "identify and celebrate hopes and dreams for the future by looking at past hopes and dreams of other Americans." His discussion with participants suggests that he and the project participants believe that the study of the American dream and American history can serve to guide America's youth in the struggle to make America and the world better place to live. This coupling of the study of history with the goals of social, political, and intellectual activism is found to be key the America Dreams project.

In a long excerpt from Dr. Billington's discussion, he expresses his opinions and guidance to students left with the responsibility for doing the project and later in guiding America;

> Well, I think we have big challenge in a world that is becoming a much closer place. The biggest challenge we're going to have is, we're running out of empty space... the frontiers of freedom which is our greatest ideal in America. It's a crowded planet. There are a lot of people and limited resources... The frontiers which is the great American dream of opening a frontier...and we are always talking about frontiers. The real frontiers are of the mind and spirit rather than just physical frontiers. Maybe we will get into outer space, to be sure...... but the frontiers of the imagination... Are we going to be able to get along with different cultures in this world? And much closer- this very Internet, despite the difficulties we have – is bringing us closer together with other schools. Is that going to bring us closer together in a real human sense? Or, are we just going to be engaging in a lot of conflict like what we see around the world. So I think that the great challenges are the frontiers of the human mind, the human spirit, the human imagination and that's going to be the biggest challenge of America. And you kids in school are going to have to meet it.

Later in Dr. Billington's dialogue, he explains to students that,

" People come to America because of it's freedom and it's opportunity." He

suggests that, " The America ideal of freedom is going to be realized in terms

of whether we can get along with each other and then work together with each

other to advance the frontiers of the imagination and the use of knowledge for

human betterment." This excerpt from Dr. Billington clearly describes the

America Dreams project. It links the study of American history and the

American dream with students working together in their student groups, their

classrooms, their local communities, and the greater national online

community. Together, the participating students and teachers work towards the

goal of creating a voiced vision of America that will combine old and

constructed knowledge into hopes and dreams for the future.

Summary

Analysis of project web pages, linked pages, and e-mail suggest that

pedagogy, integration of technology, transforming teaching and education, a

focus on the study of American history and the American dream in order to

prepare students to make a better American future are the key themes that

count to the designers of the America Dreams on-line project.

This analysis, however, also suggested that the project's design had a greater focus on pedagogy than it did on the development of content knowledge in American history. While the links to web pages regarding constructivist pedagogy were consistent with the project's design and goals, they were seemingly secondary in nature. The project's design did not afford teacher's a significantly directed opportunity to use the linked resources or on-line interactions to explore the nature of constructivist teaching and it's departure from more traditional teaching.

While the primary resources utilized in the project were historical in nature, there was little in the project's design to direct teacher's towards the development of their own or their student's understanding of the historical content. The project's design served more prominently as it fostered a personal and group response to the historical ethnographies related to the American dream in the last century. The project presented broad opportunities for teachers and students in this area while focusing more on creating a constructivist pedagogical structure that integrated technology and historical artifacts. The next chapter explores how one sixth grade classroom enacted the America Dreams project.

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Understanding the Construction of Opportunities for Learning Among Student

Groups Working on Collaborative On-line Projects

Part II

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in

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CHAPTER 5

Results of Analysis of What Counts as the America Dreams Project from the

Perspective of Classroom Participants.

This chapter, the second of two results chapters, will examine the

implementation of the project by focusing on the second research question;

What occurred among classroom participants during use of the America

Dreams on-line project? Student, teacher, and participant observer activities

and outputs will be compared and contrasted with what we now know

"counts" to the project designers.

As was described in Chapter 3 on methodology, the researcher

analyzed a variety of data sets related to the activities and output of student,

teacher, and researcher project participants. These data included:

- Responses from (researcher created) survey/interview on the American

  Dream that students administered to family members. (12/98)

- Survey questions (student group created) on their chosen theme related to

  the American dream that students administered to family members (2/99).

- Responses from (student group created) surveys related to the American

  dream that students administered to family members (2/99).

- Wall of Dreams entries (a component of the America Dreams project) (3/99)

- Video transcripts of summary writing sessions of survey results (3/99)

- Summary of results of student group created surveys (student group created) (3/99)

- Culminating student survey responses to (researcher created) on the America Dreams project (4/99),

- Culminating teacher survey responses to (researcher created) on the America Dreams project (4/99),

- Student created America Dream stories (4/99),

- Web pages saved as result of searches on student group themes (2/99-5/99)

- Summaries of information found on search web pages (student group created) (5/99)

- Student journal entries summarizing the America Dream project (6/99)

- Researcher's field notes (9/98-6/99)

The researcher examined closely the conversations of four of the student groups that worked together to write summaries of their survey results. Initial analysis of the videotaped transcripts suggested that issues concerning student's gender, academic and social status, and group dynamics

206

significantly influenced opportunities to learn. As previously discussed in Chapter 3, the researcher chose to examine the "Freedom" group based upon the status and gender make-up of the group. The group was comprised of an equal number of males and females (two males and two females), an equal number of (HAS) high academic status students (one male and one female), and an equal number of (LAS) low academic status students (one male and one female). It also had an uneven number of (HSS) high social status students (two males and one female) with one (LSS) low social status student (Janet). The researcher's choice of the "Freedom" group as a focus of more careful scrutiny was intended to develop an understanding of the complex blend of cultural and group dynamics that influenced opportunities to learn during participation in the project.

As was mentioned in Chapter 4, the researcher's initial reading of the project's purpose and design identified three themes as important to the project designers. These themes, **pedagogy, technology, and the American dream** were represented in the previous chapter along with the theme of **transforming education and teaching** that emerged during the analytic process. This chapter will examine what "counted" to project participants by comparing and contrasting the themes found to be important to the designers with those that were taken up by the participants.

Pedagogy

Pedagogy was important to the America Dreams project designers. As was described in Chapter 4, several pedagogical sub-themes emerged as "counting" in the America Dreams project. These sub-themes included: student centered learning, students as researchers, the use of real life/real time/real world problems, community and a community of learners, collaborative learning and group work, active and engaged learning, and constructivist philosophy. These sub-themes will be used as a framework to examine what actually "counted" when the project moved from the intentions and design of the project creators, to the actual use and participation in the project by a sixth grade class; it's students, families, teacher, and principal.

Table 15 represents the results of analysis of each of the aforementioned data sets and their relationship to each of the sub-themes. The " x " under each sub-theme represents that data were found to support the claim that these sub-themes "counted" to the project participants. Table 15 demonstrates that pedagogy and the pedagogical sub-themes important to project designers also "counted" to the project participants.

Table 15

Correlation of Data Sets and Pedagogical Sub-themes that "Counted " to Project Participants

	Pedagogical Sub Themes						
Data Set	SC	SR	R	C	CLG	AE	CP
Survey responses researcher created (12/98)	x	x	x	x		x	x
Survey questions (2/99) student group created	x	x	x	x	x	x	x
Survey responses (2/99) student group created	x	x	x	x	x	x	x
Wall of Dreams entries (3/99)	x		x	x		x	x
Video transcripts of student summary writing sessions (3/99)	x	x	x	x	x	x	x
Summary of survey results student group created (3/99)	x	x	x	x	x	x	x
Culminating teacher survey (4/99)	x	x		x			
Culminating student survey researcher created (4/99)	x	x	x	x		x	x
Student created Stories (4/99)	x		x	x		x	x
Web pages found during searches saved by students on themes (2/99-5/99)	x	x	x	x	x	x	x
Summaries search findings student created (5/99)	x	x	x	x	x	x	x
Culminating student journal entries (6/99)	x	x	x		x	x	x
Totals	12/12	10/12	11/12	11/12	7/12	11/12	11/12
	100%	83%	92%	92%	58%	92%	92%

Pedagogical Sub-theme Abbreviations
SC= student centered learning, SR= students as researchers, R= real life/real time/real world problems, C= community and community of learners, CLG= collaborative learning and group work, AE= Active and engaged learning, CP= constructivist philosophy

Student Centered Learning

Both the project design and its actual usage placed individual students and

student groups at the center of the learning activities. Table 15 represents the

finding that each of the data sets collected support the claim that the "student centered" nature of the project "counted" to its participants. These data sets will be examined in detail to support this claim. Following this examination, each of the remaining sub-themes will be examined in relation to evidence found that support the claim that they "counted" to the project participants.

The project's design suggested students work as historians. It suggested they gather information from the American Memory Collection and then go on to "define, present, and defend their ideas on the American dream through the decades." The students, teacher, and principal in this study were hampered in their efforts to follow this component of the project. A lack of sufficient numbers of computers in the classroom, a lack of time in the computer lab, and computer malfunctions made this process difficult. These setbacks, however, did not thwart the efforts of the principal and teacher in remaining true to the student centered, inquiry based nature of the project. While the project remained student centered, the aforementioned technological problems prevented students and teachers from taking advantage of the resources available in the American Memory Collection. This resulted in a missed opportunity for the development of disciplinary knowledge related to American history and the American dream. It also steered the project towards the second phase of the project's design, which

focused more on students as social researchers of their own community rather than historians.

Dialogue between the teacher and principal produced decisions which redirected the project towards the second phase of the projects' design that asked students to explore the American dream in their own community. It was from this point in the project that the "student-centered" nature of the project increased in emphasis.

Students began to make the project their own, when in December of 1999 they were asked to administer a survey to their family and/or adult friends which asked the key questions involved in the America Dreams project. The survey included questions that were generated by the America Dreams project designers. The survey questions were as follows:

1.   What do you think the American dream is?

2.   What is your family's idea of the American dream?

3.   How has it changed over the generations, grandparents, parents, children, etc..?

4.   How will opportunities of the 21st century challenge the American dream?

Analysis of the all of the responses from student's family and friends uncovered a variety of themes that were suggested as related to the American dream. The most commonly cited theme was "**freedom.**" It was cited in 11 of the 22 (50%) responses. The second most prevalent theme was the idea of "**owning a house or home.**" It appeared in 5 responses (23%). "**Success**" was another theme found to be present in 4 responses, while "**peace**" was found in 3 responses. A variety of themes were found in 2 responses, these included: "individual choice," "a good job," "money," and "family." Among the themes that were mentioned in only one response were: "a car," "equality," "to be president," "health," "to accomplish goals," "no violence," "luxury," "travel," "rights," "accepting each other," "no prejudice," "no homelessness," and "happiness."

Table 16 represents the distribution of themes that emerged from students' family and friends' responses to the first survey question; What do you think the American dream is? The responses are arranged into three main theme groupings; material resources, personal resources, and social justice issues. Responses related to social justice issues were most prevalent with 20 responses. The themes of material and personal resources occurred in 12 responses each.

Table 16

Distribution of Themes Emergent from Students' Family and Adult Friends' Responses to the First Survey Question; **What do you think the American dream is?**

# of Responses Expressing Main Themes and Sub-themes

Material Resources		Personal Resources		Social Justice	
Owning a Home or House	5	Success	4	Freedom	11
A Good Job	2	Individual Choice	2	Peace	3
Money	2	Family	2	Equality	1
A Car	1	To Be President	1	No Violence	1
Luxury	1	Health	1	Rights	1
Travel	1	To Accomplish Goals	1	Accepting Each Other	1
		Happiness	1	No Prejudice	1
				No Homelessness	1
Total	12	Total	12	Total	20

Students returned with 21 responses to the second question: **What is your family's idea of the American dream is?** Analysis of the all of the responses from student's family and friends uncovered a variety of themes that families suggested were part of "their" American dream. The most commonly cited theme for this second question was "**family.**" It was cited in 6 of the 21 (28%) responses. The second most prevalent theme found was "**freedom.**" It appeared in 4 responses (19%). "Having a good life,"

"happiness," and "health," were each found expressed in 3 responses. Themes that were found in 2 responses included: "owning a home," "no drugs," and "success." Among the themes found in only one response were: "owning a car," "equality," "love and respect," "everything you desire," "college," "a good job," "living with nature," "no less pollution," "human rights," "democracy," "protection from the U.S. Constitution," "prosperity," "remembering the past," "working hard," and "money."

Table 17 represents the distribution of themes that emerged from students' family and friends' responses to the second survey question; What is your family's idea of the American dream?

Table 17

Distribution of Themes Emergent from Students' Family and Adult Friends'
Responses to the Second Survey Question; **What is your family's idea of the
American dream?**

# of Responses Expressing Main Themes and Sub-themes

Material Resources		Personal Resources		Social Justice	
A home	2	Family	6	Freedom	4
A car	1	A good life	3	No drugs	2
Everything you desire	1	Happiness	3	Equality	1
Luxury	1	Health	3	Love and respect	1
Travel	1	Success	2	No violence	1
Money	1	College	1	Rights	1
Prosperity	1	A good job	1	Less pollution	1
		Live with nature	1	Human rights	1
		Working hard	1	Democracy	1
		Remembering past	1	Protection by Constitution	1
Total	8	Total	22	Total	14

Analysis comparing responses from family and friends of "Freedom"

group students with those from the whole classroom suggest that "**Freedom**"

was a prevalent theme in responses to the first question for the whole

classroom and the "Freedom" group. Responses to the first survey question

from "Freedom" group family and friends included 3 of 4 (75%) that cited "freedom" as important to the American dream.

Responses to the first question which appeared once in "Freedom" group surveys and at least once from other groups included: "peace," "owning a home," "a good job," "money," and "success." Responses to the first question that appeared once only and that came from "Freedom" group surveys included: " no violence," " luxury," "travel," and "lifestyle choice."

When asked what their family's American dream was in the second survey question, the "Freedom" group responses included a variety of themes represented by a single response. There were no themes duplicated within the group. Themes found in the "Freedom" group surveys and also among other groups included: "freedom," and "no drugs." Themes found in "Freedom" group surveys only, included: "college," " living with nature," "less pollution," " human rights," "democracy," "protection from the constitution," and "prosperity." Responses to the second question, which focused on the "family's" idea of the American dream, focused more prevalently on the "personal resources" theme that included 22 responses. "Social justice" themes were second in their frequency with 14 responses and the "material resources" was third with 8 responses.

The third survey question asked family and friends; **How has the American dream changed over the generations?** This question brought a great variety of responses. Analysis of the responses found they were divided into two categories: those that believed the dream had changed and those that believed the dream remained the same. Among the 21 responses to the third question, 13 (62%) expressed the belief that the dream had changed while 8 (38%) believed the dream had not changed.

Among those responses describing how the American dream had changed over the generations were the following themes:

1. before people were more desperate

2. before there were more dreams of freedom

3. before there was more worry for housing

4. now there's more focus on jobs and education

5. attaining the dream is harder now

6. society, technology, and attitudes are changing

7. new technology accommodates daily needs

8. more liberal than conservative now

9. now everyone must work

10. now there is more fear in the streets

11. more opportunities now

217

12. children now don't respect adults

Among those responses describing how the American dream had not changed

over the generations were the following themes:

1. connections to loved one's dreams

2. every generation wants to improve

3. the same solid work ethic

Similar to the pattern found in the class as a whole, the "Freedom" group's

surveys included 2 responses that stated a belief that the American dream had

not changed while 1 response believed it had. One student in the group did not

record a response to this question.

The final survey question asked family and friends; **How will**

opportunities of the 21st century challenge the American Dream? Analysis

of the responses to this question were grouped into three categories:

opportunities would be better, attaining the dream would be more difficult,

and other. A total of 20 responses to the fourth question were recorded.

Among the responses were 10 (50%) that said the dream would be harder to

attain, 6 (30%) that said opportunities to attain the dream would be better, and

4 (20%) that had other comments.

Among the 10 responses that said the dream would be harder to attain

were the following themes:

1. harder for families to stay united

2. harder to get jobs

3. population growth makes obtaining the dream harder

4. technology hasn't improved dream though children think it can

5. harder for this generation to buy a house

6. more people, more competition, less opportunities

7. business has become more scarce

Among the 6 responses that said opportunities to attain the dream would be better in the 21st century were the following themes:

1. the dream will be stronger

2. expanded avenues available to achieve the dream

3. new technology so it will have new opportunities

4. technology allows us to reach certain information about things all over

5. exploring more about science and high technology

6. more advantages because of technology and more systematic communication will change

7. people will try to improve to be better than it was

Among the 4 (20%) responses not fitting the first two categories were the following themes:

1. everything will change in the world

2. bigger government

3. easier for some and harder for others

4. everyone will want more electronic things

The responses reported by the "Freedom" group students were divided. They included 1 response that stated that the 21st century would make the dream better, one that said it would be harder to attain, and two that fell into the "other" category.

Analysis of all of the questions in this initial family/friends survey suggests that this particular class was influenced by a variety of values and worldviews. The values of **"freedom," "family," "success,"** and **" owning a home"** appeared in multiple instances in each of the first two survey questions which focused first on the general concept of the American dream and then on their family's specific idea of the dream. Analysis also points to the finding that there were more than 15 themes that were expressed in only one response.

In the collection of these data, students were left with the responsibility of gathering information that was personally relevant to themselves and their family. Each child made their own decisions regarding

how and to whom they would administer the survey. Their decisions were then reflected in the results of their data collection, and in the nature of the information that added to their own knowledge regarding the American dream. It is noted however, that bypassing of the historian phase of the project directed students toward the development of a construction of the concept of the American dream that was based on their family member's personal views rather than on the use of historical documents and artifacts as the designers intended in America dreams. The project became more about their parents and their families and their dreams, than an exploration of the past.

At this point in the project, the teacher and principal were guiding the students in their exploration of the American dream concept by providing the framework of the pre-established survey. As the project unfolded, students assumed more and more control of the content and structure of their exploration. While the co-teacher and teacher guided the students towards more student-centered decisions, they provided limited content knowledge and information related to the group's themes. The project was steered at this point towards the development of construction of opportunities for learning that related to social justice and social science research.

Student choice and self-direction is central to "student-centered" learning. Following the gathering of the initial surveys administered by the

students to their family, students returned to the classroom with their results.

These survey responses were typed and organized by question and

disseminated back to the students during a following class session held in their

classroom. The principal/co-teacher guided a discussion with the students on

the results. Field notes (12/98) recorded following this class session described

the activity in the following manner:

> Excellent discussions of research and group analysis of their survey
> data. From these data students are taught about quantitative and
> qualitative data and surveys and they analyze their data to produce
> themes which emerged from their parent's responses to the America
> Dreams questions. They do excellent work. I meet with Ms. F. later
> and suggest that we take these themes and use them to have students
> explore the role of researcher. I give them the homework of choosing
> among the themes so that their assigned groups could further explore
> these topics through a search of web sites on the Internet.

During this class session, the principal/teacher guided the students in

analyzing the results of the initial survey and creating a chart of themes that

students discovered in the data. Ms. F. (the classroom teacher) described the

formation of the student groups in this quote from one her e-mails,

> I initially gave the students their choice on the topics and then formed
> the groups from there. I always kept in mind, when forming any group
> work, personalities and academic levels. I tried to balance the groups
> in terms of performance levels. Specifically, I tried to balance them
> with differing levels so that the high students would be able to help the
> lower level students.

These themes were then chosen by the student groups as their main topics for further exploration of the American dream.

In summarizing student group choice of themes, the researcher noted that groups had chosen two dominant themes that had emerged from the initial survey: **"freedom"** and **"family."** "Family" had also been a common theme among students' "Wall of Dream" entries. Student groups also chose the themes: "wealth," "peace," and "respect." These themes were also present in the initial survey responses, but with less frequency.

Student groups chose these themes in a "student-centered" manner, and were clearly engaged and responsive to their next task. They were to work together to create a survey they would again administer to family and/or adults friends. These surveys would explore their chosen themes in a manner dictated by the student created questions. Analysis of the survey questions created by the different student groups, as well as the responses they collected, provide us the opportunity to explore what "counts" to the students within these chosen themes.

While this turn towards more student centered choice encouraged and produced an engaging experience, it may also have limited opportunities for learning about American history that might have occurred if the teacher and co-teacher taught more directed lessons using the primary source resources

not utilized in the first phase of the project. The researcher acknowledges that there is a wide spectrum of possibilities for student centered learning in terms of the types and degree of responsibilities and decision making that is left to students rather than teachers. In both the choice of the project and its evolving use, the co-teacher/principal roles at work in the research intended to develop the widest range of student centered learning that was possible. Through the project's development, the wider ranges of student centered learning opportunities were constrained by several factors including: time, comfort of the classroom teacher, and comfort and skill levels of the students.

Initially, there was an intention to move from lesser to greater levels of student centered opportunities. As the co-teacher/principal I envisioned guiding students from an initial stage in which they were given choices and opportunities to make decisions as both individuals and groups. Later, it was hoped that students would be developing multi-media web page projects that took both the form and direction they intended. Ultimately, these projects were intended to be evaluated by students and the co-teachers based on rubrics that were co-developed in class.

Time constrained the movement of the project towards more student-centered opportunities in several ways. The classroom's emphasis on addressing district based curriculum standards and instructional programs and

lessons left little teacher preparation time or student work time for this project. While Ms. F., the classroom teacher, put forth a significant effort in integrating the project into language arts and social studies lessons, the allotted weekly forty-five minute sessions were less than conducive to teaching students both the technological skills and the content information necessary to produce the student created web pages that were initially envisioned. Instead, the co-teacher/researcher and classroom teacher made the decisions that led to broadening the student-centered nature of the project to expanding the choices and options for learning among the groups of student researchers.

Students chose the main themes their groups would explore. They did their own searching on the Internet for related information, and they developed their own surveys to question their family and friends on topics they chose and in ways they chose to explore. While this level of student centered opportunities for learning fell far short of the original intentions for the project, it was clearly the most student centered learning the students had experienced during the school year. In addition, as a principal/co-teacher, it was clearly perceived as the most student centered learning that was taking place in the school and perhaps the school district.

As the project turned towards more student choices and decision making, students create their own surveys to research their family's conceptions of the American dream and the sub-themes that they learned are part of the American dream concept.

Analysis of Student Group Created Surveys

What follows are the survey questions created by each student group:

Student Group Name and Survey Theme: Freedom

1.   On a scale of 1-10, how would you rate "freedom" from being low in importance, to 5 being ok, and 10 being high importance?
2.   How does freedom effect your life?
3.   Who do you think had the biggest impact on freedom and why?
4.   Do people have more freedom now than the past, why?

Student Group Name and Survey Theme: Peace

1.   Do you think peace is important? yes or no
2.   Define peace in your words.
3.   Would you consider peace to be a part of the American dream?
4.   Do you think the world would improve if we focused on Peace?

Student Group Name and Survey Theme: Respect

1.   Do you think respect is a big thing in the world? yes or no
2.   Does respect have to do with YOUR idea of the American dream? yes or no
3.   Do you think that respect has to do with the American dream?
4.   When people think of the American dream, do you think they think of respect? yes or no

Student Group Name and Survey Theme: Wealth I

1.   Does money give you a problem? yes or no
2.   Do you have enough money? yes or no
3.   Do you donate money to charity? yes or no
4.   On a scale from 1-10, one being the best and ten being the worst, rank where money is in your life?

Student Group Name and Survey Theme: Wealth II

1.   Should parents make their children pay for their own purchases? Why or why not?
2.   What does money management have to do with achievement?
3.   Why do people want more money than they already have?
4.   Why do wealthy people treat poor people poorly?

Student Group Name and Survey Theme: Family Love I

1.   On a scale of 1 to 10 (10 being the most and 1 being the least) how much do you think your family loves you?
2.   Explain what you think love is?
3.   In what ways does love impact our future?
4.   What does love have to do with anything in the world to you?

Student Group Name and Survey Theme: Family Love II

1.   On a scale of 1 to 10, (10 being the most and 1 being the least) how important is spending time with your family?
2.   Do you have a big family? yes or no
3.   How do you feel about stepfamily? Why?
4.   Do you have brothers and sisters? If yes, do you enjoy being with them or not? Why?

The researcher noted that student groups had responded to the previous lesson and discussion on types of research and surveys by creating a variety of survey types. Student groups created quantitative, qualitative, and hybrid type surveys. The majority of surveys (4 of 7 or 57%) were hybrid in nature,

followed by 2 that were strictly quantitative, and one that was strictly qualitative. This diversity of question and survey types suggested that the "student-centered" nature of the project clearly "counted" to project participants. Students and student groups were interpreting the lesson on research and survey types in different ways, and making their own decisions regarding research design. They were independently making decisions regarding the types of surveys and questions that would yield the information they wanted to collect concerning their theme. Table 18 represents the distribution of survey types among the seven student groups:

Table 18

Distribution of Types of Surveys Created by Student Groups

Quantitative (28%)	Qualitative (14%)	Hybrid (57%)
Respect Group Wealth I group	Wealth II group	Freedom group Peace group Family Love I group Family Love II group

It was also noted that 4 of 7 (57%) student groups wrote one question using a 1 to 10 scale response format. This format and Likert scales had been discussed during our lesson and discussion. The researcher also found that 4 of 7 (57%) student groups wrote one questions requiring (yes or no responses). The "Respect" group wrote used 4 of 4 (100%) yes/no questions

228

and the "Wealth I" group used 3 of 4 (75%) yes/no questions with their

remaining question asking for a 1 to 10 scale response. Each of these student

groups were clearly asking for responses that they could tally and report in

numeric fashion.

It was noted that 6 of 16 (37%) student group created questions that

were similar to questions that were designed by the project designers and had

been part of the first survey students administered to their family and friends.

The "peace" group wrote one and the "respect" group three questions similar

to the first survey's first question: *What do you think the American dream is?*

The "Family Love I " group wrote one question similar to question 3 of the

survey that asked *how the American dream had changed over the generations.*

Finally, the "Family Love I" group wrote one question similar to the last

question in the first survey that asked how the 21st century would challenge

the American dream.

Given that 37% of the student created survey questions were similar to

the first survey's questions, it was noted that this left 10 of 16 (63%) of their

questions that explored new sub-themes in ways that the student groups had

invented. This majority of student group invented ideas demonstrates the

"student centered" and student "engaged" nature of this component of the

229

project. New sub-themes, which were generated by student groups and found

in their survey questions, are as follow:

Student Group Theme:	**Freedom**
New Sub-themes:	Historical figure's impact on freedom
Student Group Theme:	**Peace**
New Sub-themes:	Improving America with a peace focus
Student Group Theme:	**Wealth I**
New Sub-themes:	Money problems, charitable donations, enough money.
Student Group Theme:	**Wealth II**
New Sub-themes:	Parents or kids paying for purchases, money management and relation to achievement, why people want more money, rich treating poor badly.
Student Group Theme:	**Family Love II**
New Sub-themes:	Spending time with family, big family, stepfamily, spending time with siblings.

Analysis of the "Wall of Dreams" Entries

The "student-centered" nature of the actual usage of the project was once

again revealed when students were asked to read the "Wall of Dreams" entries

of student participants from other schools across the nation. Students from the

sixth grade class studied, went to the computer lab in March of 1999 and read

through the many entries posted on the project's electronic bulletin board.

230

These "Wall of Dreams" entries were the published dreams of elementary to high school age students from across the country. The "Wall of Dreams" was an electronic web-based bulletin board that offered students the opportunity to view the dreams of project participants, as well as writing and posting their own American dreams. Field notes recorded by the researcher during a computer lab session in March 1999 noted: "students are scanning the various wall of dreams entries and commenting to each other about their content... several boys are commenting that entries include dreams of sports achievement and wealth."

The researcher found that students in the specific sixth grade class studied, posted "Wall of Dreams" entries that shared common themes found in their family and friends' survey responses as well as others that were not common. "Freedom" was a dominant theme among family and friend's survey responses regarding the American dream, however, it was not commonly referred to by the class in their "Wall of Dreams" entries. The themes of "Wealth" and "Family Love," on the other hand, were commonly found in both data sources. "Jobs" emerged as the most prevalent theme among student entries. Student entries written by the studied sixth grade class and a significant number of those authored by project participants from other

schools and states, included the "Job" theme as a central component of the student's individually voiced dream.

In comparing student group's choices of themes, with their presence and frequency among data collected from the "Wall of Dream" entries and the first (non-student designed) surveys, the researcher noted that the **"Freedom"** theme was the most prevalent theme found in the first survey's first question and the second most prevalent theme found in the second question. The "Freedom" theme group chose a dominant theme found in the first survey responses, however, it was not an explicitly stated theme in students' "Wall of Dreams" entries.

"Wealth" was a theme chosen by two groups. It appeared in two responses in the initial survey of family and adult friends and was included directly in 5 of the students' "Wall of Dreams" entries. "Peace" was also a theme found in multiple initial survey responses. It was not directly found in "Wall of Dreams" entries. "Respect" was a theme implied by several themes uncovered in the initial survey such as: "rights," "no violence," "accepting each other," and "no prejudice." It was not directly expressed as a theme in student "Wall of Dreams" entries. "Family Love," was the most common theme found in responses to the second question of the initial survey. It also

appeared in responses to the first question and was expressed in 8 of the students' "Wall of Dreams" entries.

Table 19 represents themes that emerged from analysis of student entries in the "Wall of Dreams." Students expressed their personal dreams in the "Wall of Dreams" which included **"jobs"** as the most prevalent theme. Among the 23 students who made entries on the wall, 17 students mentioned a "job" as part of their dream. Following the "job" theme in terms of frequency of occurrence, were the themes of **"fame"**, **"family,"** and **"making the world a better place."** These themes occurred 8 and 7 times respectively. Following these themes were; "going to college," "money", " and owning a home," which occurred 6 and 5 times in "Wall of Dreams" entries. "Being a better person," and "success" were each represented 4 times in entries. A theme that surprised the researcher when it appeared in two student entries, was the desire to "die peacefully in sleep and old age."

Table 19

Distribution of Themes Embedded in Student "Wall of Dreams" Entries

# of Responses Expressing Main Themes and Sub-themes					
Material Resources		Personal Resources		Social Justice	
Money	5	Jobs	17	Make World Better	7
A home	4	Fame	8		
A car	1	Family	8		
		College	6		
		To be a better person	4		
		Success	4		
		Health	3		
		Friends	2		
		Die in sleep	2		
Total	10	Total	52	Total	7

Among the "Wall of Dreams"entries related to students having a "job", Table

20 represents the sub-themes that emerged. A majority of the students writing

about "jobs" suggested that it was their dream to have a professional job

and/or a job with considerable fame. There were three students who suggested

they wanted a "good job" and one student who dreamed of a secretarial job.

The researcher noted that the student population of the school studied, had

less than 5% documented parent professionals and was set in a low to

working-class socio-economic neighborhood. It was clear that students were

using the "Wall of Dreams," at this phase in the project, to express dreams that often surpassed levels of employment, fame, and monetary reward that was normally experienced by adults in their families.

Table 20

Distribution of Sub-themes Within (Job Related) "Wall of Dreams" Entries

Famous Job	Professional Job	Good Job	Secretary Job
10	8	3	1

Among the entries which expressed a desire for "money", 3 of the 5 students expressed a desire to be "rich", while 1 student expressed the desire for "enough money" and another student the desire to "own my own business." Although it could be inferred that the "Wall of Dreams" entries regarding professional or famous jobs implied that students were dreaming of money, the researcher recorded only these 5 entries that spoke explicitly about "money."

Table 21
Distribution of Sub-themes Within (Money Related) "Wall of Dreams" Entries

Rich	Enough Money	Own My Own Business
3	1	1

The idea of "making the world a better place," was also a prevalent theme among "Wall of Dreams" entries. Among the 7 entries expressing such ideas, Table 21 represents the various related sub-themes. Students expressing the dream of "making the world a better place," included ideas about a more peaceful, non-violent, more equitable, clean community, where people helped each other.

Table 22

Distribution of Sub-themes Within (Making the World Better Theme) "Wall of Dreams" Entries

Peace	No Fear/Violence	Equality	Help People	Clean Community
3	3	2	2	1

As previously described, the "Freedom" theme student group was selected for in-depth study. Towards this end, the "Wall of Dreams" entries of the "Freedom" theme group are presented below.

Bryan (High Social Status)(Low Academic Status):

> My dream is to become a pro basketball player. I want to join the N.B.A. I want to be the best of all time just like Michael Jordan. I want to play so well, that I would get the M.V.P. award every season I play. I want to be better than the best. I want to break every record and have them stay in the books forever. I also want to have one child. I would be so rich, that I would buy my family everything they want.

236

Craig (High Social Status) (High Academic Status):

> My dream is to be the richest person there ever lived and ever will be. If that does happen, I would want to be able to support my family and friends. I want to be famous for inventing the world's top selling game system and create the top selling game of all time, or invent something really important that everyone would go crazy over. If that doesn't happen, I would like to be an architect or a computer engineer. I hope to go to the best college there is and get the highest G.P.A. there ever was. I want to get every award possible in college. I want to be the smartest person that ever lived and will ever live and because of that I want to be able to do practically anything. I want to die of old age and not by some sort of disease or unnatural causes. I don't want to live a boring, miserable life, but I want to be able to have a little fun here and there.

Sandy (High Social Status) (High Academic Status):

> My dream is to get married and have one child. I want to keep in touch with my friends from school. I want to be a designer at home. I want a yellow Labrador and a gray cat with green eyes. I want to die of old age in my sleep with my husband.

Janet (Low Social Status) (Low Academic Status):

> My American dream is to succeed with all my goals and dreams, to be a great person and say no to drugs, to be a movie star and a champion skater.

Analysis of the "Wall of Dreams" entries written by the "Freedom" theme group uncovered similarities and differences among students as they relate to their gender and status within the classroom culture. These similarities and differences, as well as many other classroom events,

237

contribute to the cultural and social make-up of the student group. Issues of gender and status that emerged during analysis will be further explored in the section of this chapter that examines the "collaborative learning and group work" aspects of the project.

Themes present in the "Freedom" group student's "Wall of Dreams" entries included and appeared in the following order within each entry:

Bryan (High Social Status, Low Academic Status):

Pro basketball player, best of all time, a child, family, rich.

Craig (High Social Status, High Academic Status):

Rich, family, friends, inventor, architect, computer engineer, best college, smartest person ever, die in old age and sleep, no boring or miserable life, fun.

Sandy (High Social Status, High Academic Status):

Married, child, friends, designer at home, dog and cat, die of old age in sleep

Janet (Low Social Status, Low Academic Status):

Succeed, goals, dreams, be a great person, say no to drugs, movie star, champion skater.

Analysis of the themes present in these entries found that 3 of 4 students dreamed of high profile, famous jobs. It was noted that the (**High Social Status, High Academic Status**) **female,** Sandy, did not express this dream. She chose to express the desire to be a "designer at home." Sandy's

dream was clearly focused on marriage, home, and family, while the other three students expressed far-reaching career aspirations. Both of the female students' entries were considerable shorter in length than those of the male group members.

It was noted that 3 of the 4 students expressed the desire to succeed at great levels of achievement. Once again, Sandy, was the only student who did not follow this trend. Sandy, was also the only student to mention the dream of owning a dog and cat.

It was found that 3 of 4 students mentioned having a child or family. Janet, a **(Low Social Status, Low Academic Status)** female, was the only student not to mention this theme. Both of the boys mentioned being rich, while this theme did not appear explicitly among the female's entries. It was also noted that two themes emerged from both of the **(High Social Status, High Academic Status)** students. These students, (one female and one male) Sandy and Craig, included the theme of "friends" while the other students did not. They also expressed the desire to "die of old age and natural causes." This theme, as previously described, was surprising to the researcher.

Craig, a **(High Social Status, High Academic Status)** male in the group, expressed three themes not found in the entries of other students in the group. These themes included: "the best college" and "highest GPA," "living

239

a life that wasn't boring and miserable," and "having a little fun." Table 23

represents the distribution of themes among the "Freedom" theme student

group.

Table 23

Distribution of Themes found in "Freedom" Theme Student Group "Wall of
Dreams" Entries

"Freedom" Theme Student Group			
Males		Females	
(HSS,HAS) Craig	(HSS,LAS) Bryan	(LAS,LSS) Janet	(HSS,HAS) Sandy
inventor, architect, computer engineer	pro basketball player	movie star champion skater	designer at home
richest ever, top selling game, best college highest GPA smartest person ever	Best of all time	succeed	
family	family child		family child
richest ever friends highest GPA best college	rich		friends
Die of old age			die of old age dog and cat
not boring and miserable life a little fun			

A comparison of the "Freedom" theme student group's "Wall of Dreams" entries to those of the entire classroom, serves to yield a more complete picture of the dreams of the group studied in-depth. The dream of a "job" appeared in 17 of 23 (74%) of the "Wall of Dreams" entries from the entire class. All four (100%) of the "Freedom" group students included the "job" theme. Within this "job" theme, 10 of 23 (43%) of classroom students expressed a desire to have a famous job, as Table 8 previously noted. The "freedom" group included this theme 3 out of 4 times (75%). Students from the classroom expressed the dream of a "professional" job in 8 of 23 (35%) of the "Wall of Dreams" entries. Students in the "Freedom" group expressed this theme 3 out of 4 times (75%). The theme of "family" appeared in 8 of 23 (35%) classroom entries. The "Freedom" group students included the theme in 3 of the 4 (75%) entries. "Making the world a better place," appeared as a theme in 7 of 23 (30%) classroom entries, while it did not appear in the "Freedom" group's entries.

Finally, in comparing the "Freedom" group's entries to those of the entire classroom, it was noted that the themes of "friends" and "dying of old age and natural causes" appeared in 2 "freedom" group student entries. These themes did not appear in any other student entry. While the "Wall of Dreams" entries were written independently, it is unknown and unobserved whether the

two students communicated together regarding this unusual theme. Table 24

represents a comparison of "Wall of Dreams" entries between the "Freedom"

student group and the classroom as a whole.

Table 24

Comparison of "Wall of Dreams" Entry Themes Among the "Freedom"
Student Group and the Entire Classroom

Theme	Classroom Entries		Freedom Group Entries	
	# of entries	% of entries	# of entries	% of entries
Job	17 of 23	74 %	3 of 4	75%
Famous Job	10 of 23	43%	3 of 4	75%
Professional Job	8 of 23	35%	3 of 4	75%
Family	8 of 23	35%	3 of 4	75%
Making the World a Better Place	7 of 23	30%	0 of 4	0%
Friends	2 of 23	9%	2 of 4	50%
Dying of Old Age	2 of 23	9%	2 of 4	50%

The researcher noted that the "Wall of Dreams" student entries

included many themes that were directly expressed by their parents in their

responses to the first survey administered by students' which contained

questions written by the project designers. The entries also contained many

themes that appeared originally in the student created texts. The data on "Wall

of Dream" themes suggests that student participants were actively gathering

information and ideas regarding the American dream from their parents

classmates, teacher, and principal. They added this information to their own

construction of the personal dreams that were then voiced when they wrote

entries on the electronic bulletin board. This process places the student at the

center of this "voicing process" and asks them to be the constructor of their

own dream while coming to understand the dreams of others.

Analysis of Survey Results Summaries Written by Student Groups

The process of student groups writing summaries of their survey results was

also very "student centered." Students were gathered together in a room

adjacent to the principal's office, and given the task of reading and

synthesizing their survey results into a summary that would be published on

the project web pages. Students were videotaped as they worked together to

complete this task. They were responsible for making decisions about the

entire process of the task including the logistics of how the survey data would

be analyzed and synthesized into a summary, and what the content of the

summary would ultimately say.

The survey results summaries written by student groups are as follow:

Student Group Name and Theme: Freedom

Student Group Survey Results Summary:

According to our survey, the most common answer for our question
was that most people think that freedom is very important today.
People think they can do almost anything they want because of
freedom of choices. Martin Luther King Jr. and Abraham Lincoln had
the most impact on freedom according to our surveys. In the past,
different races other than whites, didn't get freedom because of their
skin color. The whites treated them with no respect, therefore that's
why we did not have any freedom in the past.

Student Group Name and Theme: Peace

Student Group Survey Results Summary:

As a result, most people think that peace is in fact important. To the
people who took our survey, peace is to have people agreeing on
things, and to live in harmony. All of our surveys said that peace was a
part of the American Dream. They also thought the world would
improve if we focused on peace.

Student Group Name and Theme: Respect

Student Group Survey Results Summary:

The "respect" group summarized their findings in the following table and

sentence:

Yes	No
86	8

The results of our project were 86 responses that people said YES and
8 responses that people said NO.

Student Group Name and Theme: Wealth I

Student Group Survey Results Summary:

The "wealth I "group summarized their findings in the following table:

Does money give you problems?

Yes	No
3	9

Do you have enough money to live on?

Yes	No
2	10

Do you donate money to the needy?

Yes	No
11	1

On a scale from 1 to 10, one being the best, ten being the worst, rank where money is in your life?

Scale	1	2	3	4	5	6	7	8	9	10
Responses	1	0	1	2	4	1	0	2	9	0

We learned that a lot of people have and don't have a lot of money. Some people give some money to the needy more than others. Some people have problems with money. Some people have more money than others.

Student Group Name and Theme: Wealth II

Student Group Survey Results Summary:

>   Question 1: We got a lot of responses to the questions in our survey. Most parents responded that they feel kids should pay for their own purchases because it will teach them responsibility and the value of money.

>   Question 2: People didn't really understand the question, but parents felt that it had a lot to do with careers that they have later on.

>   Question 3: Most adults responded that the more money you have the more you can afford to buy.

>   Question 4: People responded that the rich think they are better than them. There was one adult who responded that the rich are sometimes very generous to poor people. Our surveys had people thinking for a little bit. Our surveys turned out well.

Student Group Name and Theme: Family Love I

Student Group Survey Results Summary:

> We think that everyone had the same answers if you look closely. People felt that love was understanding and trust and that if you don't have that in a relationship, where is love is to be found. In conclusion, you have to give love to get it.

Student Group Name and Theme: Family Love II

Student Group Survey Results Summary:

> Our survey asked questions about family. It proved to us that most people enjoy being with their family. Even though they are from a step-family they think they should be treated equally. About half of those surveyed, thought that spending time with your family is important. Some people thought it was less important and we should be more independent. A lot of people that have brothers and sisters do enjoy being with them but say that they can annoy them and get on

their nerves. They think it's important to have a strong relationship and bond with their families. Some families have bigger families and some smaller.

The diversity of content and format found in the summaries clearly suggests that each group created their own unique process of accomplishing the task. In a manner similar to the way student groups chose a theme and created their survey questions, each group summary's unique format and content begin to explore and express the particular path of knowledge construction that was created by the students taking responsibility for their own learning.

Analysis of Videotaped Transcripts of Student Groups Writing Survey Results Summaries

Exploration of the message units produced during the student group's video taped session of summary writing, provides clear examples of students working on a "student centered project." It is during these non-mediated group interactions, that students put out, take up, negate, or ask questions concerning each other's ideas. Students did all the talking in these sessions. Table 25 explores the distribution, elapsed time, and lines per minute spoken during 4 group's summary writing sessions. It is clear that these dialogue intensive

sessions provided students with an abundance of opportunities to speak, listen, and react to each other's ideas. This type of group work clearly constitutes "student-centered" learning.

The unequal distribution of speech lines that occurred on the basis of student's gender, social and academic status raises issues concerning which students the activities "centered" more on. These issues will be explored further in the examination of what "counted" to participants relative to the sub-theme: Collaborative Learning and Group Work.

Table 25

Distribution of Speech Lines, Elapsed Time, and Lines Per Minute for Students and Student Groups.

Unit of Analysis	Status	Total Speech Lines	Elapsed Time	Lines Per Minute
Freedom Group		617	46.43	12.8
Sandy (w)	HSS,-	165 (27%)		3.5
Janet	LSS,LAS	59 (10%)		1.3
·Bryan	HSS,-	198 (32%)		4.2
Craig	HAS,HSS	195 (32%)		4.1
Females		224 (36%)		4.8
Males		393 (64%)		8.4
Family Love I		207	24:30	8.3
Irma	HAS,HSS	107 (52%)		4.3
Francis (w)	LAS,LSS	37 (18%)		1.5
Steve	HAS,LSS	63 (30%)		2.5
Females		144 (70%)		5.8
Male		63 (30%)		2.5
Wealth I Group		350	28:35	12.5
Donna	-,-	107 (31%)		3.8
Terri (w)	HAS,HSS	63 (18%)		2.3
Joseph	LAS,HSS	114 (33%)		4.1
Bill	LAS,LSS	66 (9%)		2.4
Females		170 (49%)		6.1
Males		180 (51%)		6.4
Wealth II Group		413	26:42	15
Teresa (w)	-,-	112 (27%)		4.1
Anna	LAS,LSS	39 (9%)		1.4
Alan	HAS,HSS	162 (39%)		6.0
Jaime	LAS,LSS	70 (17%)		2.6
Cliff	LAS,LSS	30 (7%)		1.1
Females		151 (37%)		5.6
Males		262 (63%)		9.7

(w) denotes that the student did the majority of writing on the summary paper
Status represents the teacher's perception of the students

Types of Speech found in the videotaped sessions of student summary

writing included:

Negotiating Task Speech lines: which included:

> Put out (originated speech lines)
> Take up (affirmed or added to speech lines)
> Contradict/negate

Task Related Speech Lines: lines related to completing the task that were
not identified as directly negotiating and that
included:

> Put out (originated speech lines),
> Take up (affirmed or added to speech lines),
> Contradict/negate
> Questions

Theme/Content Idea Related Speech Lines: which included:

> Put out (originated speech lines),
> Take up (affirmed or added to speech lines),
> Contradict/negate

Off-Task Speech Lines: Speech lines not concerned with content or task.

Inaudible Speech Lines:

Table 26 represents a comparison of the quantities of types of speech

lines within and across three student groups. The data represented demonstrate

high levels of dialogue that are concerned with the ideas or content of the

summaries as well speech lines related to negotiating the task. Although

students are monitored only by the video camera during these sessions, the

numbers of (off-task) lines is relatively low for each of the three groups represented.

The "Freedom" group produced only 9% of their total speech lines that were "off-task." It should be noted that the "Freedom" group was allowed nearly twice the elapsed time of all the other groups to accomplish the summary writing. This double session was the first of all the groups recorded and was used by the researcher to determine a standard session of 25 minutes that was given the rest of the groups.

The " Family I" group was represented in Table 26 as it was the only group that did not produce an off-task speech line. This group was noted to have an imbalance of female to male student ration (2:1) in favor of the females. It also included a (HSS,HAS) female (Irma) who led the group and kept it on task the entire session. The "Wealth I" group was found to have the greatest percentage of "off-task" lines among all the groups. This amounted to 30% of the total speech lines. The researcher noted that this higher level of "off-task" lines was comprised of 79 of the 106 lines produced by the two males in the group. They were observed to be holding a distracting conversation while two females were carrying out the summary writing task.

Table 26

Comparative Analysis of Types of Speech Lines within Student Groups'
America Dreams Summary Creating Sessions

Group Theme	Status	Total Speech Lines	Idea Theme Lines	Task Line Negotiated + related	Time Lines	Off Task Lines
Freedom		617	216 (35%)	305 (49%)	16 (3%)	56 (9%)
Sandy (w)	HSS,-	165 (27%)	43 (20%)	91 (30%)	7 (44%)	20 (36%)
Janet	LSS,LAS	59 (10%)	33 (15%)	17 (6%)	4 (25%)	4 (7%)
Bryan	HSS,-	198 (32%)	70 (32%)	107 (35%)	1 (6%)	19 (34%)
Craig	HAS,HSS	195 (32%)	71 (33%)	106 (35%)	4 (25%)	13 (23%)
Female		224 (36%)	76 (35%)	108 (35%)	11 69%)	24 (43%)
Male		393 (67%)	142 (66%)	199 (65%)	5 (31%)	32 (57%)
Family I		207	137 (65%)	87 (42%)	5 (2%)	0
Irma	HAS,HSS	107 (52%)	57 (42%)	48 (55%)	2 (40%)	0
Francis (w)	LAS,LSS	37 (18%)	15 (11%)	17 (20%)	3 (60%)	0
Steve	HAS,LSS	63 (30%)	48 (35%)	22 (25%)	0	0
Female		144 (70%)	72 (65%)	65 (75%)	5 (100%)	0
Male		63 (30%)	48 (35%)	22 (25%)	0	0
Wealth I		350	68 (19%)	158 (45%)	10 (3 %)	106 (30%)
Donna	-,-	107 (31%)	22 (32%)	60 (38%)	4 (40%)	20 (19%)
Terri (w)	HAS,HSS	63 (18%)	19 (28%)	34 (22%)	3 (30%)	7 (7%)
Joseph	HSS,LAS	114 (33%)	23 (34%)	37 (23%)	3 (30%)	44 (42%)
Bill	LAS,LSS	66 (19%)	4 (6%)	23 (15%)	0	35 (33%)
Females		170 (49%)	41 (60%)	94 (59%)	7 (70%)	27 (25%)
Males		180 (51%)	27 (40%)	64 (41%)	3 (30%)	79 (75%)

The high levels of dialogue that are concerned with the ideas/content

and negotiating the task of writing the survey summary suggest that students

were actively engaged in this "student centered" activity and that this

"counted" to them as participants.

252

<u>Analysis of the Culminating Student Survey</u>

Analysis of a sample student response to the survey, which was one of the

culminating activities involved in the project, demonstrates one student

relating many of the experiences and activities of the yearlong project back to

his own dream of becoming a major league baseball player. Mark's (the

sample student) responses were as follow:

1. **How does the Internet work?**

   There is micro chips in the computer that let you go online and search for stuff, make web pages and stuff like that. (Mark)

2. **What do you need to do to search effectively on the Internet?**

   First, you need to know what you are researching for. When your search results come up you should read the captions under it to make sure it is what you want. (Mark)

3. **Would your personal dreams differ if you were living in another country? (How, Why, Why Not)**

   Yes, because I could play baseball in another country. Other countries don't have MLB (Major League Baseball) that I could join. (Mark)

4. **Please describe what research is?**

   Research is information about someone or something that you want to know about or know little about and want to know more about. (Mark)

5. **What is the most significant thing you have learned so far as we have studied the "American Dream"?**

   I learned that you can do anything If you put your mind to it. (Mark)

Table 27 represents the distribution of themes found in student

responses to Question # 5 of the Culminating Student Survey which asked

students: **What is the most significant thing you have learned so far as we**

have studied the American dream? The data in Table 27 clearly point to the

finding that the majority of students learned that people have a diversity of

dreams for the future. This finding points to the "student centered" nature of

the activity by suggesting that the unique dreams of individual students, their

families, and others, served as a main resource for student learning.

Table 27

Distribution of Themes and Sub-themes Found in Student Responses to
Question # 5 of the Culminating Student Survey

Theme	Sub-theme	# of student responses
American dream		25
	Different people have different dreams	13
	Specific group name themes (i.e. freedom)	6
	What American dream is	3
	Personal motivation can achieve dream	2
	Dreams about a career	1
Technology		3
	To use technology (Internet)	2
	What educational web sites exist	1
Research		2
	Research is fun	1
	How to do surveys	1
Group work	Working in groups	2
American History	About America	1

Analysis of Student Stories

In April of 1999, students were asked to write a story after being given the

following prompt:

> Write a two page/double spaced fictional story whose main character
> grows from child to adult and achieves the American Dream (whatever
> that means to you). The story should include descriptions of the
> character, setting, and also include a conflict which the main character
> overcomes.

The task's directions clearly point to the emphasis placed on students

developing their own concept of the American dream. The "student-centered"

intent of the activity was reflected in the results of analysis of the stories.

Themes that emerged from the student's stories were as diverse as the students

themselves, and reflected themes that were found in "Wall of Dreams"

entries, and survey responses from adult family members and friends. Table

28 represents the distribution of themes that were found in student stories.

Table 28

Distribution of Themes Found in Student Stories

# of Responses Expressing Main Themes and Sub-themes					
Material Resources		Personal Resources		Social Justice	
Money	14	Family	21	American dream	8
House/Home	13	College	16	Disability	6
Car/Truck	6	Marriage	12	Race	6
Wealth	2	School	12	Slavery	4
		Job/work	11	Teasing	4
		Dreams	10	Freedom	4
		Friends	9	Prejudice	4
		Fame	6	Laws	3
		Sports achievement	6	Fairness	2
		Educational achievement	5	Heroism	2
		Romance	4	Hunger	2
		Esteem	3	Poverty	2
		Achievement	2	Standing up for rights	2
		Fun	2	Teaching	2
		Goals	2		
		Good life	2		
		Hard Labor Illness	2		
		Old Age death	2		
		Technology	2		
Total	35	Total	129	Total	51

"Family" was the most prevalent theme found in student stories. It was followed in order of frequency of appearance by "college," "money," "marriage," "school," and "jobs." It was noted that "jobs," "family," "college," and "money," were also among the most prevalent themes when students wrote about their dreams in the "Wall of Dreams" bulletin board entries.

As previously noted, "Freedom" emerged as the most prevalent theme when students asked their parents what they think the American dream is? in the first survey they administered. Yet, "freedom" was a main theme in only 4 of the 25 student stories.

As students blended their development of the understanding of the concept of the American dream through the study of other people's conceptualizations and values, with the development and voicing of their own dreams, the themes found in these two processes were found to converge and diverge in different activities. This taking up of ideas relating to the American dream as well as the reconstructing of personal dreams, places the student at the center of decision-making learning processes. Among the themes found in the student stories, themes related to personal resources were most common (129 found). Social justice themes appeared in 51 instances and material resource themes appeared in 35 instances.

257

The themes of main conflict found in each story were also analyzed. Table 29 represents the distribution of these conflict themes.

Table 29

Distribution of Main Conflict Themes Found in Student Stories

Conflict Main Themes	Main Conflict in Story	# of stories including conflict
Material Resources		
	Money	5
Total = 5		
Personal Resources		
	Young birth	1
	Parents	1
	Romance	1
	School	1
	Separation	1
	Time travel	1
Total = 6		
Social Justice		
	Disability	6
	Race/Prejudice	5
	Bad behavior	2
	Violence	1
	Work	1
	Drugs	1
	Freedom	1
	Slavery	1
Total = 18		
	None	2

The data from Table 29 also demonstrate that students are responding to the task by bringing a diversity of perspectives to the conceptualization of the American dream. "Disability" appeared as the most common conflict theme while it was not a prevalent theme in other activities. "Money," the second

258

most prevalent conflict theme, however, is a theme found in all of the data

sets. Story conflicts were most commonly related to the "social justice"

theme. These conflicts occurred in 18 instances.

The researcher noted that 13 of 25 (52%) students included themes in

their stories that were directly related to their chosen student group theme and

name. All 4 of the students in the "Freedom" group wrote stories whose

characters were dealing with issues of race and prejudice. It was noted that 3

of the 4 students came from families with at least one ethnic minority parent.

In 2 of the 3 cases, these students came from families with one minority and

one Caucasian parent. The racial themes present in these stories were found to

be directly related to the student group's chosen theme: freedom.

Among the students who were part of the "Family Love I," and Family

Love II," groups, 7 of 8 (88%) students included "family" themes in their

stories. While these students seemed to be threading the themes found in their

group activities into their independent voicing of their dreams, only 2 of 12

students in the "Peace," "Respect," "Wealth I," and "Wealth II" groups

included their group's theme in their American dream stories.

Analysis of Internet Searches and Summaries on Student Group Themes

As student groups delved further into explorations of their chosen themes,

they used the Internet to perform searches on their topics that were intended to

add to their understanding of the theme's place in the American dream. This

process was clearly "student centered" in the sense that students were

directing the searches, gathering information, and making their own sense of it

when they compiled the gathered information into search summaries. Once

again, the diversity of themes that emerged from these searches is evidence of

individual and student group research which is being directed and developed

by the students in unique and diverse directions. Table 30 represents the

themes that emerged from these student group searches.

Table 30

Emergent Themes Found in Student Group Internet Searches

Student Group	Themes Found in Searched Links
Peace	nonviolence justice (people's court) stopping riots/civil wars nonviolent economy families pacifists
Respect	racial respect immigration aboriginal people education religion self respect disabilities sexual harassment diversity values identification people issues
Family Love I	one human family changing the world
Family Love II	parents and peer influence on children loving each child equally appreciation Littleton, Colorado tragedy childbirth process high school shootings mother's day
Wealth I	richest people personal wealth true wealth
Wealth II	war and wealth creation financial resources allowance money and achievement

Freedom   Colorado tragedy
                   civil liberties
                   guns
                   academic freedom
                   human rights
                   women's rights
                   religious freedom
                   slavery/underground railroad
                   media communications

A closer look at the "Freedom" group's searches and subsequent

summary of searches, reveals students gathering information from current

events and relating it to their conception of the American dream. In these

"student centered" efforts, students were connecting events happening in their

national community, with their own feelings and conception of freedom as it

relates to guns and gun control. What follows is a listing of the web sites they

discovered in their searches and their summary:

Web sites found by "Freedom" group:

Title: The Colorado Freedom Report A Libertarian journal of politics and
        culture in the Colorado region
Title: A Colorado Tragedy
URL: www.co-freedom.com
Title: The assault on civil liberties
URL: www.co-freedom.com
Title: The Truth about guns
URL: www.co-freedom.com
Title: Academic Freedom and Human Rights
URL: not recorded (this web page talks about academic freedom under the
        32 year rule of President Soeharto in Indonesia)
Title: In defense of women's rights
URL: not recorded (this page is published by a group of Muslim women
        who have been prevented from entering places of education in Turkey
        because of their wearing of religious headscarves.)

Title: National Underground Railroad Freedom Center
URL: not recorded
Title: Freedom Communications: the multi-faceted media communications corporation
URL: not recorded

The group's summary is as follows:

> The tragedy at Columbine High School was foremost horrendous incident that has ever occurred so far this year. It shocked the whole nation with fear. Some people that went to school are afraid to go back knowing that the shooting and bomb threats could happen again. We think the shooting would have never have happened if one another would treat others with the right to be free.
> The truth about guns!!!
> This web page talks about why guns are bad and why people aren't trying hard enough to stop gun ownership. From one point of view, we think that people should not use guns to kill themselves and endanger the lives of other people. Many kids think that guns are cool to own. That is how so many kids get killed by guns in life. If an adult owns a gun it would be safe to put it out of a child's reach.

Analysis of Student Journal Entries at the Culmination of the Project

In June of 1999, as the student's school year and participation in the America Dreams project winded to a conclusion, students were asked to briefly write in their daily journals. They were asked: **How would you explain the America Dreams project to someone? Be specific.** Their diversity of responses, once again reflects the "student centered" nature of the project as each student chose to explain the project from their own particular perspective. Each

263

student had participated in guiding their own learning and the learning of their group by gathering information from a variety of sources, and reconstructing their own concept of the American dream. Table 32 represents the themes that emerged from these culminating journal entries:

Table 31

Themes Found in Student Journal Entries

Theme	# of entries including theme
American Dream	17
Research	17
Pedagogy	16
Technology	12
American History	1

Among the entries that described the America Dreams project in pedagogical terms, there were 5 that described the "student centered" process of "choosing a topic." Among the themes identified as "research" related, there were entries that described " exploring topics, "collecting information," working in groups," and "writing survey questions" that all point to research related "student-centered" activities.

The following sample journal entries support the claim that the "student-centered" nature of the project "counted" to the student participants:

I would explain the American Dream Project as a fun, Internet experience. It really helps you to think about how hard other people's lives can be. It also shows your study work. It is important to be thinking of the American Dream, your Dream a lot.

The American Dream is a project that involves a group of people and a topic. If you pick freedom, your group writes about freedom or things that relate to freedom. We did a lot to things that relate to freedom. We wrote stories and answered questions and more. But in the end, it turned out great.

I would say that The American Dream was a project to research on the different views of the American Dream. The American Dream is basically by a dream that ones self hopes to accomplish, in the present or future. We would look up different web sites on the Internet about different subjects, like love, family, wealth, peace and freedom. Then eventually our research would come together and form the American Dream.

Analysis of the final data source, the culminating teacher survey, included a brief reference to the "student-centered" nature of the project when the classroom teacher suggested that " Internet activities have significant value for upper grade students. It promotes independent learning and helps them improve their research skills." She also implies the value of the "student centered" nature of the project when she states, "This project has had a tremendous value for both the students and parents. It has provided a venue for scholastic interaction at home which, sadly, does not occur often enough."

It was clear in Chapter 4 that "pedagogy," and it's sub-theme " student centered" learning, "counted" to the designers of the project. In the preceding

analysis of the data collected on actual use of the project it is also clear that the project was carried out in a very "student-centered" manner. What follows next in this chapter will be the exploration of the other pedagogical sub-themes as well as an examination of the themes of technology, transforming education and teaching, and the American dream itself as they relate to what "counted" to the project participants.

Students as Researchers

As was stated previously in Chapter 4, the designers of the America Dreams project clearly intended that project participants work as researchers. The project design asked students to do historical research using data found in the American Memory Digital Collection. It also asked them to conduct social research on their local community's conception of the American dream. As was discussed in the previous section on the "student centered " nature of the project, the sixth grade class involved in this study did not carry out the historical research component of the project in the same depth as they researched their local community.

The project asked students to do "comparison and analysis." It asked them to " interpret 20th century social life; and relate this knowledge to their own life." The "story teller" phase of the project asked students to work as

social researchers as they " focused studies that begin with families and expand to include communities, and classrooms across the nation.."

As Table 15 represented at the beginning of this section on pedagogy, 10 of 12 (83%) of the data sets collected included evidence that supports the claim that "students as researchers" "counted" to the project participants. The initial data set analyzed was the first survey that students administered to their family and adult friends. This survey, with questions designed by the America Dreams project creators, was the student's first step in working as researchers. While they did not design the survey, they were charged with choosing the respondents and with the administration and recording of responses. The diversity, quality, and quantity of the responses gathered supports the claim that "research" mattered to the project participants.

As has been previously described, the collected responses to the first survey was analyzed by the whole class in a session guided by the principal/co-teacher that also explored types of research and survey questions. The student's analysis of the responses uncovered themes that emerged as important to the student's families and friends as they relate to the American dream. At this point students broke into small groups and chose one of these emergent themes to explore in greater detail. As has been represented previously, student groups assumed responsibility for choice of theme, survey

format, and the creation of the survey questions. They carried out these tasks by creating a diversity of survey formats that built upon the knowledge of surveys and research gleaned from the administration of the first survey and associated lesson, and expanded upon this knowledge by creating surveys unique to their student groups. In addition, the survey responses demonstrated the production of new sub-themes that were found to be important to the families and friends of the class studied.

As researchers, the students designed and administered the instrument, collected the data, and then analyzed the data in order to create a summary of their findings. This stage of the project was clearly focused on the pedagogical concern of students learning to work as researchers.

Excerpts of conversation maps from the "Freedom" group's summary writing session provide further support for the claim that "student as researchers" counted to the project participants. In the first excerpt, students begin the session by quickly initiating the analysis task:

Figure 2

Excerpt from "Freedom" group's Summary Writing Session Conversation Map

Line IU	Message Units Transcripts of Text
015	Craig: Ok alright, who,
016	Ok first question
017	Bryan: Only one of my persons like

	put seven down.
018	Sandy: The rest put ten and Janet put ten and Craig's put ten and mine put ten.
	So the common thing would be.
019	Craig: (talking while she's talking): the question for the reading would be ten.
020	Alright Sandy, prepare to write. Write neat do not mess it up
021	Sandy: I'm going to write with pretty.. (holds up marker)
022	Craig: I'll go over it (holds up marker)

In the next excerpt found in Figure 3, the "freedom" group is

represented as they work as researchers analyzing the responses to the survey

they created. The analytic process, central to the role of researcher, is clearly

demonstrated as students are found to be comparing and contrasting different

responses and raising key sub-themes such as the role of the 1960's and civil

rights as well as women's rights in other countries.

Figure 3

Excerpt from "Freedom" group's Summary Writing Session Conversation Map

Line IU	Message Units Transcripts of Text
085	Craig: Alright, this one right here says that in the 1960's had the biggest impact on freedom.
086	This right here said that we did have more freedom now than we did before.
087	Bryan: This one said a lot.
088	Sandy: this one said, No, we have less...

089	Bryan: I think this one is like too much like to say
090	Craig: (Points at a survey) Look how much he wrote man
091	(Bryan and Sandy talk at same time) Bryan: my mom..
092	Sandy: (inaudible)
093	Craig: Ok in a lot of other countries woman
094	Bryan (at same time): Dude we're supposed to be...
	Craig: can't even work or go anywhere.
095	They are just supposed to stay home and
096	raise a family.

In the excerpt found in Figure 4, the students in the "Freedom" group

negotiate the analytic and semantic processes involved in summarizing the

survey responses. They were observed to be struggling with the process of

representing contrasting data and finding the proper wording to explain their

results to project summary readers. These decisions and negotiating processes

are clearly embedded in the "students as researchers" role.

Figure 4

Excerpt from "Freedom" group's Summary Writing Session Conversation
Map

Line IU	Message Units Transcripts of Text
142	Janet: How about according to our survey.
143	Sandy: Well after we read all of our surveys lets see which ones have the most of yes or no.
144	Craig: the most common
145	Bryan: nope

| 146 | Craig: answer was that there was that there was a lot of freedom. |
| 147 | Janet: But what about the average, answer? |

The survey administered to the students towards the culmination of the America Dreams project also provides evidence to support the claim that "students as researchers" "counted" to the project participants. The fourth question of the survey asks students; **Please describe what research is?** Student responses to these questions were coded as falling into the following three categories:

Level I: Limited, inaccurate, or no knowledge expressed

Level II: Some knowledge that may have inaccuracy

Level III: Significant knowledge with little inaccuracy

Among the survey responses to question 4, Table 32 represents the results.

Table 32
Distribution of Levels of Responses to Question 4 of Culminating Student Survey

Level	Level Description	# of Responses
Level I	Limited, inaccurate, or no knowledge expressed	9
Level II	Some knowledge that may have inaccuracy	15
Level III	Significant knowledge with little inaccuracy	3

While it is clear that students were actively participating in work as "researchers," these data represent their ability to express their understanding of "what research is." Table 32 demonstrates that 18 of 27 (67%) students demonstrated "some or significant knowledge" of research in their survey responses. Among the responses identified as a Level III response was the following:

> Research is a method that you find what you are looking for and then read it over and maybe turn it into your own words.

Among the responses identified as a Level II response was the following:

> "Research is when you look information on the Internet or in books."

Among the responses identified as a Level I response was the following:

> "Research is when you are really learning about somebody."

> In the last question on this culminating survey, students were asked; **What is the most significant thing you have learned so far as we have studied the American dream.** The most prevalent themes found in responses to this question were clearly related to student's knowledge of the American dream. Two students, however, did include "research" in their responses. These responses were as follow:

> I learned about what our theme is. Our group is about respect and looking things up for your theme. How we did the survey about respect.

272

I learned that research is fun because you can go to the Internet a lot of times.

The culminating teacher survey also included evidence that suggests that "students as researchers" "counted" to the project participants. In a quote from Ms. F's survey response, she points out the importance of the use of the Internet for research; " It is my feeling that Internet activities have significant value for upper grade students. it promotes independent learning and helps them improve their research skills."

Results of student Internet searches on their selected themes are also evidence that "students as researchers" counted during project participation. Although students had technical difficulties searching the American Memory Collections, which resulted in a limited review and search of the historical artifacts, students had better luck when they used the lab and classroom computers to search the open web for documents related to their theme. Their search results demonstrate a diversity of themes and sub-themes that explore current events and issues not found in any of the other sources students examined. What follows is a list of the URL's and web page titles that student groups discovered:

Peace Group:

Title: The King of Kindness: Mark Shepard's Non-violence Page

URL: www.markshep.com/nonviolence

273

Title: World Peace 2000 Webring

URL: http://www.tyler.net/byard/worldpeace.htm

Respect group

Title: Racial Respect

URL: http://home.vicnet.au/~respect/homepage.htm

Title: Respect for Belief

URL: not recorded

Title: Finding the Road to Self Respect

URL: not recorded

Title: Respect of Florida: Respect Story

URL: unrecorded

Title: Project Respect

URL: www.projectrespect.org

Title: Respect Incorporated

URL: unrecorded

Family Love I Group

Title: One Human Family. Not just another logo, we change the world

URL: http://www.christianity.net/7m3/7m3019.html

Family Love II Group

Title: Child and Family Resource, Inc

URL: http://www.childfamilyresources.org

Title: The Nurture assumption by Judith Rich Harris "Why children turn out the way they do"

(Parents matter less than you think and peers matter more)

URL: www.yahoo.com/promotions/yourchild/nurture.html

274

Title: Loving each child best by Kathleen Upton Finch

URL: http://family.go.com/categories/Parentin../family_1997_02/dony/dony199702_quality/

Title: ParenthoodWeb

Sub pages: Appreciation a learned concept

                Littleton, Colorado, It could happen here

                What is childbirth really like?

                Comforting your child after tragedies such as the Colorado

                High School Shootings

                What do you REALLY want for Mother's Day?

URL: http://www.parenthoodweb.com

Wealth I Group

Title: The American Experience: America in the Gilded Age

URL: unrecorded

Title: Richest people in America Listed

URL: www.sddt.com/files/librarywire/96...ines/07_96/DN96_07_01/DN96_07_01fi.html

Title: Bill Gates Personal Wealth Clock

URL: http://www.webho.com/WealthClock

Title: True Wealth: Sound Economic Solutions with Craig R. Smith

URL: www.true-wealth.com/content/index.htm

Wealth II group

Title: The magic of war – it boosts the economy by creating a labor "shortage" that

centrifuges wealth

URL: www.channel1.com/users/timesize/2warscat.htm

Title: Boise family magazine : Financial resources

URL: www.family.com

Title: Family Fun Magazine : Allowance

URL: www.family.com

Title: Money and Achievement

URL: www.family.com

Freedom Group

Title: The Colorado Freedom Report A Libertarian journal of politics and culture in the

Colorado region

Title: A Colorado Tragedy

URL: www.co-freedom.com

Title: The assault on civil liberties

URL: www.co-freedom.com

Title: The Truth about guns

URL: www.co-freedom.com

Title: Academic Freedom and Human Rights

URL: not recorded

Title: In defense of women's rights

URL: not recorded

Title: National Underground Railroad Freedom Center

URL: not recorded

Title: Freedom Communications: the multi-faceted media communications corporation

URL: not recorded

The final data set that supports the claim that "students as researchers" "counted" to the project participants, is the collection of journal entries written by students in June of 1999 at the culmination of the project. When students were asked how they would explain the America Dreams project to someone, 17 of the 27 (63%) entries included themes related to research. There were 5 entries that described "writing summaries" of collected information. There were 3 entries that discussed information collection. There were 2 entries that discussed exploring and finding research topics, while another 4 entries discussed designing and administering surveys. There were 2 entries that raised the topic of research directly.

Among the journal entries that demonstrate that "students as researchers" "counted" to the project participants are the following examples:

I would tell them to go to the Internet to do research.

I would say that the American dream was a project to research on the different views of the American Dream. The American Dream is basically by a dream that ones self hopes to accomplish, in the present or future. We would look up different web sites on the Internet about different subjects, like love, family, wealth, peace and freedom. Then eventually our research would come together and form the American Dream.

Well, we start by giving our parents the same survey that we had. Then we get things repeated more than once. These become topics and then we choose one. From there, we go to the web and look on our topic and print that out. Then we make a survey recorded on a camera with a summary.

Real-life/Real-time/Real-world Problems and Contexts

As was discussed in Chapter 4, the designers of the America Dreams project describe their work as creating " a timely forum for citizens to consider dreams of our past, the realities of the present, and our hopes for the future." Table 15 demonstrated that 11 of the 12 (92%) data sets collected included evidence that suggested this "real-life/real-world/real-time/real problems and contexts" aspect of the project also "counted" during the actual use of the project.

As has been noted in previous sections in this chapter, however, the component of the project that asked students to investigate "real world" primary source documents and artifacts from the historical record was not carried out in a thorough manner. While students made initial forays into these electronic artifacts in the "scavenger hunt" stage of the project, the technical difficulties that occurred when computers malfunctioned, slowed, or froze contributed to the teachers' decision to bypass this phase of the project.

Once redirected towards the second phase of the project, in which students explored their families' and community's dreams and conceptions of the American dream, the student participants were clearly immersed in "real-world/real-time/real problem" issues. Students began exploring the real-world

278

issues related to the American dream when they administered the first survey

to the adult family members and friends. Tables 33 and 34, which represent

the themes that emerged from survey responses, clearly indicate that students

and their families are exploring "real-world" issues.

Table 33

Distribution of Themes Emergent From Students' Family and Adult Friends'
Responses to the First Survey Question; What do you think the American
Dream is?

Theme	# of Responses Expressing Theme
Freedom	11
Owning a Home or House	5
Success	4
Peace	3
Individual Choice	2
A Good Job	2
Money	2
Family	2
A Car	1
Equality	1
To Be President	1
Health	1
To Accomplish Goals	1
No Violence	1
Luxury	1
Travel	1
Rights	1
Accepting Each Other	1
No Prejudice	1
No Homelessness	1
Happiness	1

Table 34

Distribution of Themes Emergent From Students' Family and Adult Friends' Responses to the Second Survey Question; **What is your family's idea of the American dream?**

Theme	# of Responses Expressing Theme
Family	6
Freedom	4
A Good Life	3
Happiness	3
Health	3
A Home	2
No Drugs	2
Success	2
A Car	1
Equality	1
Everything you desire	1
Love and Respect	1
College	1
A good Job	1
No Violence	1
Luxury	1
Travel	1
Rights	1
Live with Nature	1
Less Pollution	1
Human Rights	1
Democracy	1
Protection by Constitution	1
Working Hard	1
Money	1
Prosperity	1
Remembering Past	1

After students analyzed the responses to the first survey and chose

emergent themes to explore further, they once again examined "real world"

issues in the surveys the created. Their "student group" created surveys

explored new sub-themes that included the following:

Student Group Name and Survey Theme: Wealth I

1.   Does money give you a problem? yes or no
2.   Do you have enough money? yes or no
3.   Do you donate money to charity? yes or no
4.   On a scale from 1-10, one being the best and ten being the worst, rank
        where money is in your life?

Student Group Name and Survey Theme: Family Love II

1.   On a scale of 1 to 10, (10 being the most and 1 being the least) how
        important is spending time with your family?
2.   Do you have a big family? yes or no
3.   How do you feel about stepfamily? Why?
4.   Do you have brothers and sisters? If yes, do you enjoy being with them
        or not? Why?

Analysis of the student entries in the "Wall of Dreams" bulletin board

also suggests that students were dealing with "real-world" issues when they

explored their own dreams. Table 35 represents the themes that were found in

the entries.

Table 35

Distribution of Themes Embedded in Student "Wall of Dreams" Entries

Dream Theme	# of Students Writing on Theme
Jobs	17
Fame	8
Family	8
Make World Better	7
College	6
Money	5
A Home	4
To be Better Person	4
Success	4
Health	3
Friends	2
Die in Sleep	2
Car	1

Excerpts of the "Freedom" group's conversation maps are another source of evidence supporting the claim that the "real world/real problems" nature of the project "counted" to the project participants. The following excerpts represent students in the "Freedom" group as they discuss and negotiate "real world" issues that they or their parents bring to the activity.

Figure 5

Excerpts from "Freedom" Group's Conversation Map

Line IU	Message Units Transcripts of Text
085	Craig: Alright, this one right here says that in the 1960's had the biggest impact on freedom.
086	This right here said that we did have more freedom now than we did before.
087	Bryan: This one said a lot.
088	Sandy: this one said, No, we have less...

This excerpt represents the "real world" issue of "freedom" and civil liberties as they relate to changing times. Students weighed through various points of view in order to understand how their own "time" compared to the past.

Figure 6

Excerpts from "Freedom" Group's Conversation Map

Line IU	Message Units Transcripts of Text
665	Janet: the blacks and the Hispanics,
666	they had no freedoms back then.
667	Bryan: The Hispanics did the blacks didn't
	Janet: That's only one race.
668	Sandy: But it still separated everything into
669	different parts.
	Craig: Yeah but its still a different race.
670	Bryan: I know, its one race and you put
671	races.
	Craig: but still but the were still separated..
672	you get it.
	Janet: we had, we should put we had no
673	freedom because...

674	Craig: You people had freedom because your.
675	
676	Bryan: We only have eight minutes.
677	Sandy: You have had freedom too.
678	Craig: No I was .. Asian boy
	(All talking...)
679	Black
	(All talk...
680	Sandy says something to Bryan inaudible).
	Bryan: Because like you've never seen my
681	dad. (who is black)
	Janet: Ooooh lets put we had no um back the
682	in the past.
	The white..back in the past we had not a big
683	impact (she holds her head)
684	Bryan: stop if it hurts. (Craig laughs)
685	Craig: I know huh.
686	Janet: According to question four then we did not have that much freedom
40:34	(Bryan says something inaudible and (Sandy laughs)
687	Janet: um I'm sorry but um

In the excerpt represented by Figure 6, the students deal with the "real world" problems of race relation, segregation, and prejudice that existed in the past and connect their own family's racial background to the dialogue. The issue of "race," and it's relationship to freedom in yesterday and today's America, is clearly a "real world" focus for the "freedom" group. It was noted that 3 of the 4 students in the group had parents or step-parents that were ethnic minorities.

The culminating student survey created by the researcher, was also a source of data which supported assertion that the "real world" nature of the project "counted" to the participants. Question # 3 in the survey asked students: **Would you personal dreams differ if you were living in another country? (How , why, Why not)** In asking this question towards the end of the project, the researcher was exploring students' perceptions of the importance of America in their American dream. Their responses reflect a class that is dealing with their own "real world" dreams and problems while considering the impact and influence of non-American "real world contexts." Among the 27 responses to question # 3, there were 17 students who believed their dreams would differ in another country, 8 students who believed their dreams would not differ, and 2 students who responded with both (yes/no) answers.

Among the responses that suggested that their dreams would differ in another country and that highlighted "real world" issues were the following:

> Yes it would, because in different countries it might be harder to get an education. Maybe also hard to get a job.

> Yes, It would because it would depend on what was going on in that place. Like, if I were living in Kosovo, I would just want to get out of there.

Yes, because out of the United States there may not be the same laws or cultures that we have here. My American Dream might not be legal elsewhere.

Among the responses that suggested that their dreams would be the same, were the following that included "real world" issues:

I don't think they would because lots of people have dreams about peace, wealth, health etc.

No, because wherever you go you're going to have to work hard. So wherever I go it won't be different.

No, because in every country there is violence. There is not Peace.

Student created stories written towards the end of the project in April of 1999, are another source of evidence of the "real world" nature of the actual use of the project. As has been previously represented in Table 31, the most prevalent themes emerging from the stories were "real world" ones that included; family, college, money, marriage, school, and work. The stories also contained "real world" conflicts that included; disability, money, and racial prejudice. As has been previously noted, all 4 students in the "Freedom" group wrote stories whose characters dealt with issues concerning race. It is clear that the "real" issue of race and prejudice in America is one that matters to the students and families of students in the "Freedom" group.

In an excerpt from Craig's story (an Asian student), it can be observed that he is dealing with the "race issue" as it matters to his character and perhaps himself.

> Even while growing up and moving to the next grade he got rejected. Still he never did anything to alarm anyone. In the third grade he notices that his nationality was different from all of the others. He would later find out that would have a great impact on his life.

Students' Internet searches were also clearly centered on "real-world" issues. Themes that emerged from theses searches included such "real world" issues as: non-violence, justice, riots, civil war, immigration, education, religion, disabilities, sexual harassment, child rearing, the Littleton, Colorado high school shooting tragedy, wealth, money, guns, family, and women's rights. Student group summaries also highlight the "real world" nature of these searches. The "Family Love II" group's summary of search findings emphasizes the importance of family in contemporary life. Their summary reads as follows:

> Appreciation – A learned concept
> Basically what the people are trying to say on the Internet is about the gift of family. being able to take part of the family activities that take hold between your family. They're saying it's important to take family trips, and do chores around the house. To respect your elders, and your siblings. Appreciate what your parents do for you. They take the time to look after you and make sure you have what you need. They're asking you to take part in one of the most important things in your life. And listen to what other people have to say about their families.

The final data set analyzed for it's "real world" content, was the

student journal entries written in June of 1999 at the end of the project. The

entries responded to a prompt that asked them to explain the America Dreams

project. Themes that emerged from these entries highlighted issues including:

the American dream, research, pedagogy, and technology. One entry

described the project comprehensively and alluded to the "real world" nature

of project's central content; the American dream. The entry reads as follows:

> First of all, Mr. Puglisi wanted us to do a project with him and we
> concurred. He said it was called the "American Dream". Then he
> brought out this big poster and it was labeled "The American Dream".
> He asked us what we thought the American Dream was, and after
> awhile people started to raise their hands. After no one had anymore
> ideas, the chart was filled. It had: love, peace, money, car, being with
> your family, having a home, and many more things. Then after that he
> said that our American Dream group was to pick one of those topics
> and think of four questions each and then go on the internet to find the
> answers. After that was over, we had to think of our own separate
> American Dream and submit it on the Internet. That's about it.

While it is clear that analysis of 11 of 12 data sets supported the

finding that the "real world" nature of the project "counted" to the

participants, it should be noted that the technology based "real time" aspects

of the project were not utilized thoroughly by this particular class. Problems

of scheduling, technological implementation, and usage resulted in aborted

efforts to participate in the project's IRC chat, and CUSeeMe video

conferencing sessions.

288

Community and Community of Learners

As was discussed in Chapter 4, the designers of America Dreams structured

the project so that participants would work together in their schools, classes,

and collectively as a community of learners. In doing so, the second phase of

the project also focused on the study of participant's local community. Table

15 demonstrated that 11 of the 12 (92%) data sets collected included evidence

that suggested that "community and a community of learners" also "counted"

during the actual use of the project.

It has been noted that the synchronous technological components of

the project that intended to bring students and teachers together in a

community of learners, were not implemented. As this section reviews the

data sets that support that "community and community of learners" "counted"

to the participants, however, it will include technological components that did

matter.

The first survey students administered to their parents and adult

friends, was intended to begin the process of exploring the local community's

conception of the American dream. As each student gathered responses to the

project designer's essential questions; they added to their own knowledge of

the dream and the class' collection of responses. This activity was both an

exploration of their local community and the creation of a community of

learners. As has been previously described, once these responses were gathered, they were analyzed together by the class. This analysis produced a list of themes that student groups chose to explore further. This collective airing of all of their family's ideas of the American dream and subsequent analysis, forged the class into a community of learners that was comprised of several key units. These units included the individual student and their family, the student group, and the class as a whole. When the results of these surveys were published on their web pages, each of these units became part of a larger community of learners comprised of all of the project participants that were exploring the American dream and their local communities in their own unique way.

Later, when student groups created their own surveys, they further explored their community's conception of the American dream by asking family and friends questions on sub-themes they felt were important. Here again, the students gathered knowledge of their community while creating and adding to their own community of learners. It should also be recognized, that student's families and friends were also participants in this community of learners. Through their interactions with their children, and the questions they and their classmates were posing, they had the opportunity to learn more about their child's thought processes and grasp of social and historical issues.

290

Those parents that had access to the Internet and who chose to review the web

site's pages, also had the opportunity to read and interpret the responses of

other participating parents and friends as well as the projects of participants in

the broader national community of learners.

Results of each of the student administered surveys suggest that the

local community's conception of the American dream was tied together by

such prevalent emergent themes as "freedom," "family," and " owning a

home." It was also evident, however, that the community was comprised of a

diversity of opinions, interests, values, and hopes for the future. The

researcher noted that the Ms. F's response to the culminating teacher survey

included a reference to the way this project had drawn parents and students

together into a community of learners. Her response included the following

statement:

> This project has had a tremendous value for both the students and
> parents. It has provided a venue for scholastic interaction at home
> which, sadly, does not occur often enough.

The "Wall of Dreams" provided student participants the opportunity to

share their personal dreams with a larger community of learners while reading

the dreams of others and becoming part of the same community. As students

first read the dreams of students from across the nation and then made their

own entries, their personal hopes and dreams converged with the dreams of

others. As was previously noted, student entries from the class studied included prevalent emergent themes such as "jobs," "fame," "family," making the world better," "college," and "money." These themes were often found present in the "Wall of Dreams" entries of student participants from across the nation. While these prevalent themes emerged among class participant's entries, it was also noted that there was a great diversity of themes present. This suggested a community and community of learners, who were sharing commonalties in culture, needs, and interests, while also expressing unique and individualized hopes and dreams for the future.

Analysis of the conversation map of the "Freedom" group working to create a summary of findings of their survey results, also provides evidence of students exploring their community's conception of the American dream and represents the students wrestling with the task of finding commonalties among a diversity of responses. Figure 7 represents an incidence when students endeavored to summarize a majority response.

Figure 7

Excerpt from "Freedom" groups Conversation Map

Line IU	Message Units Transcripts of Text
15	Craig: Ok alright, who,
016	Ok first question
017	Bryan: Only one of my persons like put seven down.
018	Sandy: The rest put ten and Janet put ten and Craig's put ten and mine put ten.
019	So the common thing would be. Craig: (talking while she's talking): the question for the reading would be ten.

In another excerpt, the student's acknowledge each other's parent's responses,

and in doing so connect individual family's conceptions of the American

dream into a larger community fabric.

Figure 8

Excerpt from "Freedom" groups Conversation Map

Line IU	Message Units Transcripts of Text
080	Bryan: Craig, your mom said this?
081	(Then he reads): You can express the way you feel, write or your life:
082	William: Yup. (Group is reading at the same time(inaudible)

Each of the student group's summary of survey findings also represent

the student's efforts to capture the community response to questions related to

the American dream. In sharing and web-publishing these summaries, the

groups participated in a local community as well as a national community of

learners that utilized the information to help construct their own conceptions

and understandings of the American dream. Excerpts from the "Freedom"

group's conversation map have illustrated the process that groups were

involved in as they gathered a diversity of responses from the community and

summarized them. As has been alluded to in previous sections, it is clear that

"Freedom" group students and their families considered "race" as an essential

issue related to the American dream. Their summary reads as follows:

> According to our survey, the most common answer for our first
> question was that most people think that freedom is very important
> today. People think they can do almost anything they want because of
> freedom and choices. Martin Luther King Jr., and Abraham Lincoln
> had the most impact on freedom according to our surveys. Different
> races, other than the whites, didn't get freedom, because of their skin
> color, and also the whites treated them with no respect. Therefore,
> that's why we did no have any freedom in the past.

As has been previously noted, the researcher suggests that there is a

connection between the prevalence of "race" as a theme, and the family ethnic

make-ups and general demographics of the school studied. While "race" is a

likely theme to emerge from discussions of the American dream in any

community, it is clear that this particular community's construction of the concept includes a significant consideration of race-related issues.

Question # 5 of the culminating student survey also provides evidence of students exploring and learning from their local community and their participation in a community of learners. The question asked students: **What is the most significant thing you have learned so far as we have studied the American dream?** The most commonly stated response to the question suggested that student participants felt they had learned that there was a diversity of American dreams among those they had been exposed to during the duration of the project. Among these responses were the following:

> I have learned about other American Dreams and what they mean to other people that read them.

> I have learned that the American Dream is important in everyone's life and that the American Dream is not just one, but many different dreams.

> There are many different kinds of dreams.

> That there are all kinds of different dreams that people have in the world today.

> That everyone else has something different to say.

> I learned that people have different opinions on the American dream and not all people think the same about it.

> I learned that different people have different dreams. You learn about your country and you get to go on the Internet.

I learned that there are a lot of kids that have dreams. Not only one, but, a lot.

I learned that there are many different types of American dreams. I learned what the American dream is up until now, I didn't know what it was!

I learned about other peoples Dreams.

The most significant thing I have learned so far about the American dream is that everybody has a different dream and it is up to them to make it happen.

Student created stories that were published on project web pages also added to the resources for the local and national community of learners. They gave web site readers the opportunity to take in the student's personal expressions of their dreams through the medium of fiction. The themes that emerged in these stories were found to be connected to those expressed by significant number of sources drawing from the greater community. Themes found to be prevalent in the stories as well as in survey responses included: family, college, money, marriage and family, school, and jobs. Analysis of the common main conflicts found in the stories also revealed two themes, money and racial prejudice, that were found to be prevalent in other data sets originating in the community. It was noted, however, that the most common conflict found in the stories involved the main character and his or her disability. The researcher noted that this class, as a local community of

learners, included one student with a significant physical disability. This theme was not found commonly in the other data sets.

Craig's story, a student in the "freedom" group, is once again representative of the student's consideration of the influence that the "community of learners" has on individuals. It considers the impact of racial prejudice as a component of the "community of learners." While the term "community of learners" often implies the positive benefits of working together collaboratively among other diverse individual learners, Craig's character, Pete, and perhaps Craig himself, discover that the racial prejudice existent in the local community of learners has a powerful influence on their development and social adjustment. What follows is an excerpt from Craig's story that illustrates this point:

> Even while growing up and moving to the next grade he got rejected. Still he never did anything to alarm anyone. In the third grade he notices that his nationality was different from all the others. He would later find out that would have a great impact on his life. As he grew, so did the world around him even some of his friends started to neglect him. He didn't know why until he reached the third grade and his teacher talked to the class about treating people fairly. He felt weird. He was noticed sometimes, but not all the time. Everyone was acting this way, but he just didn't care. He still had many friends though, that didn't care.
> He was very energetic and if he wasn't being judged, very fun to be around. In his fifth and sixth grade years of school, it sort of died down at the time and that's when Pete felt happy. His friends didn't care anymore and since they were used to him nothing happened.
> In the years of junior high and high school, the racism was at it's peak.

297

Since Pete was in a new school with new people around the once happy kid, he became a depressed child. His parents did all they could, but it just went on. Even though this was going on, he was still at the top of his classes, and he was happy for that. Some of his friends would congratulate him for a job well done.

Analysis of student group Internet searches and their summary of findings also suggests that "community" and a "community of learners" "counted" to the project participants. As participants in a local and national community of learners, each group added to the pool of resources concerning the American dream by publishing and sharing their searches and search summaries with other project participants. Their searches focused on the sub-themes chosen by their groups. While their previous exploration of the topics was limited by their surveys of members of their local community, the Internet searches uncovered information from communities across the nation and world-wide.

Explorations of communities beyond the participant's locality included the following URL's and titles:

URL: www.markshep.com/nonviolence

Title: The King of Kindness: Mark Shepard's Non-violence Page

This page included a description of three communities in India. In sub-pages entitled Justice That Unites (People's Court), Soldiers of Peace, and Island of Peace, three communities in India were described in which non-violent

practices were being implemented towards the goal of creating more just and

humane communities.

URL: www.parenthoodweb.com

Title: Littleton, Colorado. It could happen here

This page included a description of the tragedy that occurred in Littleton,

Colorado and it's impact on the local communities. It also looked at the causal

factors that are potentially present in many communities.

The "freedom" group's summary of search findings illustrates how

students considered local and national community issues and related them to

their chosen theme; "Freedom." Their summary is as follows:

> The tragedy at Columbine High School was foremost horrendous
> incident that has ever occurred so far this year. It shocked the whole
> nation with fear. Some people that went to school are afraid to go back
> knowing that the shooting and bomb threats could happen again. We
> think the shooting would have never have happened if one another
> would treat others with the right to be free.

> The truth about guns!!!

> This web page talks about why guns are bad and why people aren't
> trying hard enough to stop gun ownership. From one point of view, we
> think that people should not use guns to kill themselves and endanger
> the lives of other people. Many kids think that guns are cool to own.
> That is how so many kids get killed by guns in life. If an adult owns a
> gun it would be safe to put it out of a child's reach.

As has been discussed previously, review of 11 of 12 data sets

collected during participation in the America Dreams project suggest that

299

"community and a community of learners" "counted" to the project

participants. Students explored their local community and in doing so,

participated in a student group, class, and nation wide community of learners

that sought to develop and express their conception of the American dream.

While the designers of the project intended that students participate in

technologically assisted community building activities that were not

implemented, it is clear that the web-based aspects of the project contributed

to both the exploration of community and the building of a local and national

community of learners.

Active and Engaged Learning

Chapter 4 discussed the data that suggested the designers of the America

Dreams intended that students be actively engaged in hands-on, problem-

based learning. The project was designed to involve students in creating multi-

media projects, researching, problem solving, discussions, using the Internet,

interviewing, and relating the information they gathered to their own lives and

dreams. Chapter 4 also mentioned that the designers intended to place students

in non-traditional learner roles in which their engagement with information

300

sources, the community, and each other is directly linked to their construction

of new understandings of the American dream.

The previous review of data sets generated during the actual usage of

the project, have clearly demonstrated that this class of students were actively

engaged in these terms. Strommen and Lincoln's (1992) web pages that were

cited earlier in Chapter 4, clearly describe the usage of the America Dreams

project by the particular sixth grade class involved in this study. Strommen

and Lincoln suggest,

> One foundational premise is that children actively construct
> knowledge. Rather than simply absorbing ideas spoken at them by
> teachers, or somewhat internalizing them through endless, repeated
> rote practice, constructivism posits that children actually invent their
> ideas. They assimilate new information to simple, pre-existing notions,
> and modify their understanding in light of the new data. In the process,
> their ideas gain in complexity and power, and with appropriate support
> children develop critical insight into how they think and what they
> know about the world as their understanding increases in depth and
> detail.

It is clear that this project involved students in a limited amount of "absorbing

ideas spoken to them by teachers." It should be noted, however, that there

were three specific lessons in which the co-teacher/principal/researcher acted

in a more traditional teacher role. These lessons included dissemination of

information and facilitation of question and answer sessions concerning three

301

topics; the American dream concept, the structure and workings of the Internet, and the process and types of social research.

As Strommen and Lincoln (1992) suggest, students were "actually inventing their ideas" when they were summarizing the results of the first survey, creating, analyzing, and summarizing their second surveys, writing their entries in the "Wall of Dreams," and writing their student stories. It is noted , however, that students assimilating new ideas about the American dream that sprang from their family's personal views rather than historical knowledge gleaned from the missed historian phase of the project. Strommen and Lincoln also suggest that active and engaged learning asks students to "assimilate new information to simple, pre-existing notions, and modify their understanding in light of the new data." Evidence of this type of learning is illustrated by Lacey's response to the final question of the culminating student survey. In response to the question: **What is the most significant thing you have learned so far as we have studied the American dream?** she wrote,

What is it, I didn't know there was even one. Even so, I kind of recognized it when I learned more.

As Strommen and Lincoln (1992) suggest, students who are actively engaged in learning have ideas that "gain in complexity and power, and with appropriate support, children develop critical insight into how they think and

what they know about the world as their understanding increases in depth and detail." Review of the previously described initial survey utilizing the project designer's questions and the second survey created by students that explored sub-themes in greater depth, the outcomes of these processes have clearly demonstrated students actively engaged in learning processes so described.

Chapter 4 also described web pages written by Bernie Dodge, the creator of the WebQuest, the design structure used by the America Dreams project. These web pages suggested that WebQuests include active and engaging processes such as: " synthesizing conflicting opinions, putting multiple sources of data together to discover the non-obvious, and creating something new within the constraints of a problem definition." It is clear that during the analysis of both surveys administered to parents and friends, students were "synthesizing conflicting opinions" and then writing summaries of their findings. It is also clear that students used "multiple data sources" including survey results, Internet searches, "Wall of Dreams" entries by other participants, and multi-media projects by other participants. Finally, it is clear that students were actively engaged in "creating something new" as they published the totality of their work on the project in web pages linked by the Library of Congress' sponsored America Dreams web site.

Several of the student journal entries at the culmination of the project also allude to the "active" and "engaged" nature of the learning that took place during the America Dreams project. The entries read as follow:

> I would say that it's a lot of work and you have to think a lot. You have to be quick.

> I would take them to the web sites that we went to. Then I would show them what I learned. But, before all of that I would tell them what the American dream is. Then I would ask them what their dream is.

> I think it was a good experience. I think that more people should be involved in this project. It taught me a lot about other people and how they live. It made me think about all the good things I have. Now I know that I should be thankful for all the things I have.

Constructivist Philosophy

As Chapter 4 represented, analysis of the three data sources uncovered a variety of pedagogical sub-themes that were important to the America Dreams designers. It described and documented the sub-themes: student centered learning, students as researchers, real world-real life problems and contexts, community and community of learners, collaborative learning, and active or engaged learning as "counting" to the designers and suggested that these sub-themes fits comfortably into a "constructivist" educational philosophy.

The previous sections of this chapter have documented that these sub-themes also "counted" to the project participants. In addition, minor sub-themes surfaced in Chapter 4 that were also consistent with constructivist philosophy and were found to have "counted" to project participants. Among these minor themes were; teachers as guides, inquiry based learning, guided investigations, interdisciplinary units and lessons, teaching thinking and content skills, and establishing and refining knowledge bases.

As was described in Chapter 4, the teacher's role in constructivist lessons is that of the guide and facilitator rather than the central source of information. As has been previously described in this chapter, the actual usage of the project was consistent with this "constructivist" description. While the teacher/co-teacher/principal's roles were more directive at the outset of the project, their roles quickly moved towards guidance and facilitation of a student centered process that focused the learning on the student's ability to gather, synthesize, and understand information in order to produce documents that represented their understanding and voicing of the American dream.

The project was also clearly utilized as "inquiry based learning, guided investigations, interdisciplinary units and lessons," in that students were asked to inquire into their community's conception of the American dream and were guided in this investigation that was based on the use social

research surveys. The project was clearly interdisciplinary as students blended tasks and lessons traditionally found in the social studies, reading, language, and math content areas. As students worked to administer, create, and synthesize the results of two surveys, they explored social studies content areas through writing, calculating, and creating graphs. It was particularly evident that students and teachers were focusing on "thinking and content skills" as they analyzed survey results in order to discover the sub-themes and trends that were embedded in their family and friend's responses to survey questions.

Finally, it is clear that students were "establishing and refining knowledge bases" about the American dream concept as they worked on successive activities throughout the school year. As was acknowledged previously, students began the project with little or no direct understanding of the American dream concept and culminated the project by refining their understanding of the concept and it's sub-themes through research, Internet searches, and story writing. Their understanding of the America dream was broadened in terms of their knowledge of the beliefs of their family's and fellow student's families as they relate to the American dream in both the past and present. These family and community-based beliefs and understandings of the American dream formed the knowledge base the students drew from in the

construction of their own opportunities for learning. While they did not

necessarily lead to the construction of knowledge about American history,

they offered students opportunities to express their personal opinions about

important social issues such as race, equality, justice, and freedom. In this

sense, as has been evidenced in each of the data sets, students and the class

project as a whole was guided towards of social justice.

Collaborative Learning and Group Work

As was described in Chapter 4, collaboration and student group interaction are

at the core of what "counted" in the America dreams project from the

perspective of the designers. Earlier in this chapter, Table 15 noted that 7 of

12 (58%) of the data sets analyzed included evidence that supported that

collaborative learning and group work also "counted" to the project

participants. As the designers intended, class participants were divided into

student groups of four or five students. These groups did not, however,

participate in the tasks and specifically designed group member roles that

were part of the first phase of the project design. Nor did they make use of the

designer's intention to have students and teachers collaboratively work

through online interaction. The collaborative learning and group work that

307

project participants were involved in began, as previously mentioned, when student groups chose sub-themes for further exploration. It was at this point that they worked together to create a second survey, analyze and summarize the results, and search the Internet and summarize their findings on their chosen sub-themes which included: freedom, wealth, peace, respect, and family love.

While students were involved in the aforementioned collaborative group work activities, they also participated in activities that focused specifically on the process of voicing their own American dream. These individualized activities included administering surveys to their own family and friends, writing entries about their own dream into the "Wall of Dreams," writing an American dream story, responding to a culminating student survey, and writing a journal entry at the culmination of the project. Given this blend of group and individual activities, the researcher suggests that the "collaborative and group work" nature of the project did "count" to the participants, but perhaps not in the comprehensive manner that was apparently designed into the project by it's creators.

As was noted in Chapter 4, research (Johnson, Maruyama, Johnson, Nelson, & Skon, 1981; Rysavy & Sales, 1991) suggests that when children collaborate, they share the process of constructing their ideas, instead of

simply laboring individually. The advantages of this collective effort are that children are able to reflect on and elaborate not just their own ideas, but those of their peers as well. An excerpt from the "Freedom" group's conversation map illustrates this process as group members' dialogue served to highlight and clarify the understandings and misunderstandings students' previously held about civil rights, slavery, segregation, and their seminal historical figures.

Figure 9

Excerpt from "Freedom" Group's Conversation Map

Line IU	Message Units Transcripts of Text
604	Bryan: Just put this. Just put this,
605	We had more, we didn't not have no freedom in the past because
606	Craig: We didn't not have no freedom (to Sandy) Bryan: We didn't have no freedom in the past.
607	Sandy: We didn't have any freedom in the past. Bryan: because of all the riots.
608	(Craig laughs) Bryan: Yeah
609	Janet: It was slavery, slavery was the main thing why. Bryan: Slavery wasn't in the nineteen sixties.
610	Sandy: Yes it was.
611	Craig: That was segregation. Janet: they had black that were slaves and that wasn't
612	a long time ago. Craig: It was along time ago.
613	That was along time ago.
614	(others talking)
615	It was like seventeen something dude Bryan: Yeah when England was going.

616 617	Janet: Martin Luther King was alive when there were slaves? Sandy: there were still slaves. Bryan: segregation is like saying. Sandy: They were still like prejudiced Craig: No blacks allowed. Bryan: Oh like that.
618	
619	
620	
626	Janet: Lets put down our opinion
627	Bryan: That wasn't like slavery though
628	Sandy: We have like five minutes.
629	Bryan: There was no freedom, see there was no freedom dude.
630	Janet: How about this,
631	in our experience in our questions. (others not listening to her)...
632	we had no freedom back then.
633	Bryan: What?
634	Sandy: We didn't have, we didn't have because of the segregation
635	Janet: Now because of the bigger government
636	Sandy: I got an idea..
637	the segregation and like along time ago in the past made it so certain races split up into separate groups or whatever
638	Craig: ummm
639	Bryan: Come on Craig.
640	Craig: Different races didn't have that much freedom. Sandy: Yeah
641	Craig: That's a good way to sum it up.
642	Sandy: oh
643	Bryan: Different races
644	Sandy: In the past, In the past, In the past
645	Bryan: races in the past did not have no freedom. Sandy: In the
646	Craig: In the past Sandy: Different, different races in the past.
647	Craig: In the past different
648	Sandy: writes..Different
649	(Craig bothers Sandy Writing) Sandy (Laughs):.stop.

653	Bryan: Dude, she put it wrong.
654	Different, at the beginning.
655	Craig: diff er eent
656	Sandy: It isn't that its different (regarding what she wrote.)
657	Bryan: That F looks like a t.
658	Sandy: which one?
659	Bryan: Ok that's different
660	Craig: Race..R A C E
661	Sandy: different....well I didn't..
662	Craig: spell races dude.
663	Janet: Wait there was only one race or that did not really have
664	Bryan to Sandy: how do you spell it? R A C A
665	Janet: the blacks and the hispanics,
666	they had no freedoms back then.
667	Bryan: The hispanics did the blacks didn't
	Janet: That's only one race.
668	Sandy: But it still separated everything into different
669	parts.
	Craig: Yeah but its still a different race.
670	Bryan: I know, its one race and you put races.
671	Craig: but still but the were still separated..
	you get it.
672	Janet: we had, we should put we had no freedom
	because...
673	Craig: You people had freedom because your.
676	Bryan: We only have eight minutes.
677	Sandy: You have had freedom too.
678	Craig: No I was .. Asian boy
	(All talking...)
679	Black
	(All talk...
680	Sandy says something to Bryan inaudible).
	Bryan: Because like you've never seen my dad. (who
681	is black)
	Janet: Oo lets put we had no um back the in the past.
682	The white..back in the past we had not a big impact (she holds her head)
684	Bryan: stop if it hurts. (Craig laughs)

685	Craig: I know huh.
686 40:34	Janet: According to question four then we did not have that much freedom (Bryan says something inaudible and Sandy laughs) Janet: um I'm sorry but um
688 689 690 691 692 693 694 695 696 41:29	Sandy: Ok.. Craig: different races Sandy:how do you spell races cause this is a different one. Bryan: R A S E S (Craig laughs) Bryan: resses (Janet is notably mad or frustrated.) Sandy: Come on Craig you're the genius. Bryan: R a s s e s , races or R A C E S, races. Craig: Ok Lets leave it like that. Bryan: Or R A... Craig: we're not supposed to know how to spell everything.
698 699 700 701 702 703 704 705 706 707 708 709 710 711 712	Craig: Other races other than the watchamacallit.. the white peoples. Other. Bryan: The people Sandy writes and speaks: other than. Craig: than the wrong Sandy: I don't care. Craig : Than the white Bryan: the whities Craig: The whites, the whites Sandy: why do you say whites? Bryan: because Craig: the white people Sandy: the whites, different races other than the whites. Bryan: didn't Craig: didn't get the ...because of prejudice Sandy: because of segregation..didn't Bryan: Because of yeah segregation
715	Janet: Did not have a big impact on freedom. Sandy: No

312

716	Craig: They had a really big impact on..
717	Janet: I mean when they were slaves
718	Sandy: They were like what made..
719	Janet: It was because of..I know but it was
720	because...of Abraham Lincoln that they were.
	Bryan (at same time): But,But,But,but,but,but
	Sandy: Um they didn't get the same..Freedom!
721	Craig: get the same free o dom.
	Bryan: you didn't spell freedom right.
722	Sandy: Yes I did, freedom..
723	Sandy: Um they didn't get the same..Freedom!
724	Craig: get the same free o dom.
725	Bryan: you didn't spell freedom right.
726	Sandy: what about the segregation?
727	Craig: But were not just talking about the segregation...
728	we could be talking about a hundred years ago.
729	Sandy: Because of the slaves..
730	Craig: Color
731	Sandy: Yeah
732	Bryan: Because of the color of
733	Craig: Because color of skin.
734	William: skin
735	Bryan: Because... that doesn't make sense.
43:30	Janet: Slaves didn't have freedom back then.
736	Craig: Well some were let go so they did have freedom.
737	Janet: If they paid off their debts.
	Craig: No some were let go.
738	Janet: they escaped and got to..
739	Bryan: No not necessarily.. they were like the
740	underground railroad.
741	Craig: their masters would let them have like a little land a little..
742	Sandy: Freedom because
	Craig: of their skin color
743	Sandy:of
744	Bryan: The
745	Sandy: their
746	Bryan: the

313

747	Sandy: their
748	(All laugh at writing.).
749	Sandy: Oh no
	Bryan: because of the skin color

Student journal entries written at the culmination of the project also suggest that the "collaborative learning and group work" aspects of the project "counted" to the participants. Among the 27 journal entries, 17 students described the project by focusing on the research aspects of the project that took place during student group activities. In addition, there were four entries that specifically addressed the "group work" aspects of the project. Among those entries were the following:

> My American dream group would do it together, because without them, it would not work that well. Because we are really good at everything and we work very hard.

> The American dream is a project that involves a group of people and a topic. If you pick freedom, your group writes about freedom or things that relate to freedom. We did a lot to things that relate to freedom. We wrote stories and answered questions and more. But in the end, it turned out great.

> It's a project for a group of kids in room 4. They would look in the Internet and find web sites on their topic. Then they would write a summary statement according to what the web site said.

Chapter 4 also noted that web pages linked by the America Dreams project and authored by Stephen Balkcom (Office of Educational Research and Improvement, U.S. Department of Education), suggested that research on

cooperative learning provided documented results that included: improved academic achievement, improved behavior and attendance, increased self-confidence and motivation, and increased liking of school and classmates. Cooperative learning is also relatively easy to implement and is inexpensive. Analysis of the student group work involved in this project demonstrated an active involvement by student participants, and a quality of student work that equaled or exceeded student work during non-collaborative activities (as documented by field notes of teacher/researcher weekly interviews and general year long observations). It was noted, however, that issues of gender, academic and social status during group work sessions, contributed to potential inequalities in opportunities to learn. These potential inequalities suggest that the "increased self-confidence and motivation," that are often seen as outcomes of cooperative learning are left unclear in this particular case.

In this final section of results, the researcher examines the ways that "gender and status "counted" during the group work aspects of the project. Analysis of the comparison of four of the student group's dialogue during these video taped summary writing sessions examines several issues as they relate to student gender, academic and social status. Table 36 represents this comparative analysis which was influenced by Nuthall (1995).

315

Table 36

Distribution of Speech Lines, Elapsed Time, and Lines Per Minute for Students and Student Groups.

Unit of Analysis	Status	Total Speech Lines	Elapsed Time	Lines Per Minute
Freedom Group		617	46.43	12.8
Sandy (w)	HSS,-	165 (27%)		3.5
Janet	LSS,LAS	59 (10%)		1.3
Bryan	HSS,-	198 (32%)		4.2
Craig	HAS,HSS	195 (32%)		4.1
Females		224 (36%)		4.8
Males		393 (64%)		8.4
Family Love I		207	24:30	8.3
Irma	HAS,HSS	107 (52%)		4.3
Francis (w)	LAS,LSS	37 (18%)		1.5
Steve	HAS,LSS	63 (30%)		2.5
Females		144 (70%)		5.8
Male		63 (30%)		2.5
Wealth I Group		350	28:35	12.5
Donna	-,-	107 (31%)		3.8
Terri (w)	HAS,HSS	63 (18%)		2.3
Joseph	LAS,HSS	114 (33%)		4.1
Bill	LAS,LSS	66 (9%)		2.4
Females		170 (49%)		6.1
Males		180 (51%)		6.4
Wealth II Group		413	26:42	15
Teresa (w)	-,-	112 (27%)		4.1
Anna	LAS,LSS	39 (9%)		1.4
Alan	HAS,HSS	162 (39%)		6.0
Jaime	LAS,LSS	70 (17%)		2.6
Cliff	LAS,LSS	30 (7%)		1.1
Females		151 (37%)		5.6
Males		262 (63%)		9.7

(w) denotes that the student did the majority of writing on the summary paper
Status represents the teacher's perception of the students

As previously described, the researcher noted that student gender played a significant role in student group dynamics. The findings represented in Table 36 support this result. Total speech lines and lines per minute were

counted as student opportunities to speak and participate in discourse are tied

to opportunities to learn. The researcher found that female students were

chosen to be the writers of the summaries in all of the groups. These students

were represented in the table by a (w) next to their pseudonym. These female

writers spoke in 27%, 18%, 18%, and 27% of their respective group's speech

lines. Other students in all of the groups spoke more often than the female

writers. Francis (the writer in the Family Love group) spoke the least in her

group.

Female group members were found to have less speech lines in 3 of 4

groups. The "Family Love I" group, which had two females and one male

member, was the only group to have more female speech lines. Table 37

represents the distribution of speech lines in lines per minute as they relate to

gender within the student groups.

Table 37

Distribution of Speech Lines within Student Groups by Gender

Group Theme	Male		Female	
	N= Students	Lines per Minute (LPM)	N= Students	Lines per Minute (LPM)
Freedom	2	8.4	2	4.8
Family	1	2.5	2	5.9
Wealth I	2	6.3	2	5.9
Wealth II	3	9.7	2	5.6
Total Average	2	6.7	2	5.5

The only student with more than 4.4 (LPM) was Alan in the "Wealth II" group. He was recorded to speak at 6.0 (LPM). The students with the lowest (LPM) in 3 of the 4 groups were female. These students had (1.4), (1.5), and (1.3) lines per minute in their respective groups.

The frequency of speech lines by students was also examined as they related to social status in conjunction with gender. Low social status (LSS) females were found to have the 3 of the 4 lowest (LPM) for all of the students. Cliff, a (LSS) male, spoke at a rate of 1.1 (LPM) which was the lowest recorded. The highest (LPM) recorded was for Alan, the only High Social Status, High Academic Status (HSS, HAS) student in the Wealth II group. Alan had the highest (LPM)(6.0) in his group and among all student groups recorded.

Analysis of the comparison of (LPM) for high status males and females is consistent with the findings that males spoke most often during these summarizing sessions. Table 38 compares the (LPM) for high social status (HSS) males and females in each of four student groups. Two of the groups have only one (HSS) student. These students had the highest (LPM) for their group. As was previously described, the "Wealth I" group was the only group with more females than males. This group had one (HSS) female who was found to have the highest (LPM) for her group. Each of the other

318

three groups found the (HSS) male with the highest (LPM). The "Wealth II" group's (HSS) male was not opposed by a female (HSS) student and was found to have the highest (LPM) of all students in all groups. In the two groups that had one (HSS) male and one (HSS) female, the male had higher (LPM).

Table 38

Distribution of Lines per Minute for High Social Status (HSS) Students

Group Theme	(HSS) Female (LPM)	(HSS) Male (LPM)
Freedom	3.5	4.2
Family	4.4	-
Wealth I	2.2	3.9
Wealth II	-	6.0

Analysis of the data that compares frequency of speech among students working in student groups, clearly demonstrates that student gender, academic, and social status had a significant impact on opportunities to learn created by speaking in student groups. Males spoke most often in student groups. High social status (HSS) students spoke most often in student groups. Females were found to speak most often in only one group which was comprised of two females and one male. This group had only one (HSS) student; a female.

319

Frequency of speech within collaborative learning groups is clearly not the sole source for the creation of opportunities to learn. It is, however, an important factor. In line with this thought, the researcher also examined the quality and content of the dialogue to further explore issues of gender, academic, and social status as they relate to the construction of opportunities to learn within student groups. In order to explore the content and quality of dialogue among students working to write their survey results summaries, the researcher closely examined the video transcripts of the "Freedom" group.

The "freedom" group's dialogue was examined for types of emergent speech. The researcher found the following categories of speech to characterize the dialogue of the "freedom" group. The dialogue of three other groups was also examined in this manner and their dialogue was found to fit these codings.

Types of Speech found in video taped sessions of student summary writing:

Negotiating Task Speech lines: which included:

> Put out (originated speech lines)
> Take up (affirmed or added to speech lines)
> Contradict/negate

Task Related Speech Lines: lines related to completing the task that were not identified as directly negotiating and that included:

Put out (originated speech lines),
Take up (affirmed or added to speech lines),
Contradict/negate
Questions

Theme/Content Idea Related Speech Lines: which included:

Put out (originated speech lines),
Take up (affirmed or added to speech lines),
Contradict/negate

Off -Task Speech Lines: Speech lines not concerned with content or task.

Inaudible Speech Lines:

Tables 39 and 40 represent the distribution of types of speech lines among student members of the "freedom" student group. The group was recorded as having 617 speech lines during the 46 minutes and 43 seconds elapsed time of the video taped session. Theme or idea related speech lines were the most common type recorded. The "freedom" group had 217 (35%) theme or idea related speech lines. Following in order of highest to lowest percentage of types of speech lines were; 192 (31%) task related lines, 129 (21%) task negotiated lines, 56 (9%) off task lines, 16 (3%) negotiating "time" lines, and 7 (1%) inaudible lines. It was noted that combining negotiating task. task related, and negotiating time speech lines resulted in 337 (55%) of the total speech lines.

321

Table 39

Distribution of Types of Speech Lines Among Male and Female Student Members in "Freedom" Group During Video Taped Summary Writing Session

Types of Speech Lines	Total		Females		Males	
	#	%	#	%	#	%
Total	617	-	224	36	393	64
Theme or Idea Related	217	35	76	35	142	65
Task Related	192	31	67	35	125	65
Negotiating Task	129	21	41	32	88	68
Off Task	56	9	24	43	32	47
Negotiating Time	16	3	11	69	5	31
Inaudible	7	1	5	71	2	29

Table 40

Distribution of Types of Speech Lines Among Student Members in "Freedom" Group During Video Taped Summary Writing Session

Types of Speech Lines	Total		Sandy		Janet		Bryan		Craig	
	#	%	#	%	#	%	#	%	#	%
Total	617	-	165	27	59	10	198	32	195	32
Theme or Idea Related	217	35	43	20	33	15	70	32	71	33
Task Related	192	31	59	31	8	4	66	34	59	31
Negotiating Task	129	21	32	25	9	7	41	32	47	36
Off Task	56	9	20	36	4	7	19	34	13	23
Negotiating Time	16	3	7	44	4	25	1	6	4	25
Inaudible	7	1	4	57	1		1	14	1	14

% represents percentage of group total
Shaded numbers represent highest #,% among group members

As was found to be the case for 3 of the 4 groups studied in-depth, male students in the "freedom" group produced more speech lines in the majority of types of speech lines. Males, as a sub-group within the "freedom" group, had a majority of speech lines in the following categories: theme/idea

related, task related, negotiating task, and off task. Females, as a sub-group

within the "freedom" group, had a majority of speech lines that "negotiated

time" and those that were "inaudible." It should be noted that Sandy, the

writer in the group, was also the student who was in possession of the time

keeping watch.

Table 41, which represents the distribution of types of speech lines for

the members of the "freedom group," demonstrates that each of the two males

in the group had 32% and 33% of the theme/idea related speech lines. These

speech lines, which talk about the content of the project rather than carrying

out the task, are clearly related to the construction of opportunities to learn in

the project. They are the most common types of speech lines for the group,

and are most frequently produced by both males in the group.

Bryan (HSS,-) and Craig (HSS,HAS) each produced 32% of the total

speech lines for the "freedom" group. Bryan had the most task related lines

while Craig had the most negotiating task lines. Sandy (HSS,-) had the most

speech lines in the following speech types: off task, negotiating time, and

inaudible. Janet (LSS,LAS) had the least amount of speech lines in all speech

type categories except "negotiating time" lines.

Academic and social status of students, was clearly tied to the

frequency of different types of speech. Craig, high academic and social status

323

(HSS,HAS), had the most speech lines in two categories of speech clearly tied to the construction of opportunities to learn; theme/idea related lines and negotiating task lines. As previously noted, Janet (the lowest status student) spoke considerably less than the other students. It was noted, however, that among her 59 speech lines recorded, 33 were related to the content-based ideas and themes of the project. These lines amount to 60% of her own speech, while it was only 15% of the groups theme/idea related lines. When Janet did speak, it was most often about the content and ideas of the summary writing task.

Tables 41 and 42 explore the sub-types of speech within theme/idea related, task related, and negotiating task speech lines among members of the "freedom" group. Once again, males in the "freedom" group were found to dominate the frequency of sub-types of speech lines. The males in the group had more speech lines in 11 of the 13 speech types. Females had more speech lines in only 2 of 13 speech types. They were found to have more "task related questions," and more speech lines which "negotiated tasks" by "taking up (affirming or adding to)" the speech lines of other students.

Higher academic and social status within the group also continues to result in higher frequency of speech for sub-types of speech lines. Craig (HSS, HAS) was found to have the most speech lines in 7 of the 13 types of speech

represented in Table 42, while Janet (LSS,LAS) had the least amount of speech lines in 12 of the 13 speech types represented. The researcher noted that Janet produced 21 theme/idea related lines that were "put out (originated)." This represents 18% of the group's speech lines for this type and although it was still lower than both males in the group, it was higher than the other (HSS,-) female in the group. Sandy, the other female in the group who did the majority of the writing for the group, had the highest number of task related questions and the highest number of negotiations of task that affirmed or added to what other students originated.

Bryan (HSS,-) "put out (originated) the highest number of theme/idea speech lines. He produced the highest number of task related lines that "affirmed or added" to other students' lines while also producing the highest number of lines that that "contradicted or negated" the speech of others. Bryan led the group in speech lines for 5 of the 13 types of speech represented in Table 42.

Table 41

Distribution of Types of Speech Lines Among Male and Female Student Members in "Freedom" Group During Video Taped Summary Writing Session

Types of Speech Lines	Total		Females		Males	
	#	%	#	%	#	%
Theme or Idea Related	217	35	76	35	142	65
Put out (originated)	114	53	39	34	75	66
Take up (affirmed or added)	67	31	29	43	40	57
Contradict/Negate	35	16	8	23	27	77
Task Related	192	31	67	35	125	65
Put out (originated)	60	36	18	30	42	70
Take up (affirmed or added)	95	57	34	36	61	64
Contradict/Negate	12	7	2	17	10	83
Questions	25	15	13	52	12	48
Negotiating Task	129	21	41	32	88	68
Put out (originated)	56	43	16	29	40	71
Take up (affirmed or added)	35	26	18	51	17	49
Contradict/Negate	38	28	7	18	31	72

Table 42

Distribution of Types of Speech Lines Among Student Members in "Freedom" Group During Video Taped Summary Writing Session

Types of Speech Lines	Sandy		Janet		Bryan		Craig	
	#	%	#	%	#	%	#	%
Theme or Idea Related	43	20	33	15	70	32	71	33
Put out (originated)	18	16	21	18	41	36	33	29
Take up (affirmed or added)	19	28	10	15	16	24	24	36
Contradict/Negate	6	17	2	6	13	37	14	40
Task Related	59	31	8	4	66	34	59	31
Put out (originated)	18	60	0	0	20	33	22	37
Take up (affirmed or added)	29	31	5	5	32	34	29	31
Contradict/Negate	2	17	0	0	5	42	5	42
Questions	10	40	3	12	9	36	3	12
Negotiating Task	32	25	9	7	41	32	47	36
Put out (originated)	8	14	8	14	29	52	11	20
Take up (affirmed or added)	17	49	1	29	7	20	10	29
Contradict/Negate	7	18	0	0	5	13	26	68

% represents percentage of group total,

Analysis of the group's sub-types of speech lines finds that "put out

(originated)" lines were most frequent in theme/idea related and negotiating

task speech lines. Speech lines which "take up (affirmed or added to)" the

speech of other students were most frequent in task related lines. Combining

the sub-types of speech for the three types of speech represented in Tables 41

and 42, the researcher found the following totals:

- Put out (originated) speech lines: 230

- Take up (affirmed or added to) speech lines: 197

- Contradict or negate speech lines: 85

While speech lines that contradicted or negated other students' speech

were least frequent as a sub-type, their usage was noted as more common than

that observed in regular classroom group activities that are mediated by the

teacher. Students in the "freedom" group appeared to be less inhibited in

producing this type of speech during the non-mediated sessions. This

sometimes resulted in less than positive interactions between group members.

The researcher examined the message units that involved the member

of the "Freedom" group called Janet, in order to explore issues of gender and

status with a finer lens. This analysis includes an examination of several

exchanges that involved the negation or contradiction of Janet's ideas or

suggestions. As has been previously described, Janet (a Low Academic and

327

Low Social Status Student) had the least number of speech lines among members of the "Freedom" group. She produced 15% of the group's theme or idea related speech lines, 7% of the speech lines that negotiated the task, and 4% of the speech lines that were task related. While Janet spoke less often then the other members of her group, the researcher noted that her verbal participation in the group activities was considerably more active than the researcher's observations of her whole class participation.

When Janet did talk in her group, the majority of her speech lines concerned the ideas and content of the dialogue. Analysis of her message units reveals that Janet put-out (originated) several key concepts during the discussion that led to the group's clarification of historical concepts of race, slavery, and segregation. The ideas that Janet raised were often negated or contradicted, sometimes taken-up (affirmed), while others were completely ignored by other members of the group.

Among Janet's message units were the following passages in which other members of the "Freedom" group negated or contradicted Janet's ideas:

328

Figure 10

Conversation Map of "Freedom" Group Video Taped Summary
Writing Highlighting Janet's Message Units that Were Negated or
Contradicted

Line IU	Message Units Transcripts of Text	Janet's MU
171 172	Bryan: hey, whose going to read this? Janet: the president.	5th
173 174 175 176 177	Craig and Bryan at the same time Bryan: This isn't going to be put in some place Craig (inaudible) Bryan:The president won't be able to.... Janet: I know that Bryan: But we haven't even put any smart words in there.	6th
224 225 226 227 228 229 230 231 232 233	Janet: People now think that we can, uh, people now are. Bryan interrupts: We're not talking about the people we're talking about the economy. (Sandy and Craig and William write on.) Janet: How about people now think that. Sandy: (writing and reading) They. (Ignoring Elizabeth.) Janet: people now are not afraid to (Bryan makes a loud bird like sound.) Craig: Ok, say, write what Janet just said. People now. Janet: People now Sandy: I'm only on people think the (They all laugh)	11th 12th 13th 14th 15th
313	Craig: he abolished segregation	

329

314	Sandy: Yeah	
315	Bryan: But he died.	
316	Craig:So did Abraham Lincoln	
317	Bryan: He didn't get assassinated?	
318	Bryan and Craig: Yes he did, he got shot.	
319	Sandy:In the back	
320	Craig: In the theater.	
321	Janet: When he was making a speech he got shot.	24th
322	Craig: No when he was watching a play	
337	Janet: What about Rosa Parks	25th
338	Craig: Rosa Parks got arrested.	
339	Janet: I know but she had freedom because	26th
340	Craig: She didn't have..	
341	freedom because she got arrested.	
499	Sandy: had the most impact..on freedom. According.	
500	Janet: According to question four.	34th
501	Bryan: According to question three.	
502	Sandy: its four...oh yeah according to.	
609	Bryan: because of all the riots. (Craig laughs)	
610	Bryan: Yeah	
611	Janet: It was slavery, slavery was the main thing why.	45th
612	Bryan: Slavery wasn't in the nineteen sixties.	
613	Sandy: Yes it was.	
614	Craig: That was segregation.	
615	Janet: they had black that were slaves and that wasn't a long time	46th
616	ago.	
617	Craig: It was along time ago. That was along time ago.	
618	(others talking)	
619	It was like seventeen something	

	dude Bryan: Yeah when England was going.	
665 666 667 668 669 670 671 672 673	Janet: the blacks and the hispanics, they had no freedoms back then. Bryan: The hispanics did the blacks didn't Janet: That's only one race. Sandy: But it still separated everything into different parts. Craig: Yeah but its still a different race. Bryan: I know, its one race and you put races. Craig: but still but the were still separated.. you get it.	54th 55th 56th
735 43:30 736 737 738 739 740 741 742	Bryan: Because... that doesn't make sense. Janet: Slaves didn't have freedom back then. Craig: Well some were let go so they did have freedom. Janet: If they paid off their debts. Craig: No some were let go. Janet: they escaped and got to.. Bryan: No not necessarily.. they were like the underground railroad. Craig: their masters would let them have like a little land a little..	 65th 66th 67th

In the first case of Janet being contradicted by her peers, message unit

172 represents Janet's response to Bryan's question regarding the audience for

their web pages. Janet suggests that the president of the United States might

be a reader. In response, Bryan and Craig simultaneously contradict her

331

suggestion. Janet responds by trying to defend her basic knowledge of the issue. Ironically, later in the dialogue, the boys make comments that recognize that their work is important and that they should be attending to it's quality. Given that that teacher/researcher had clearly explained that the project was part of a Library of Congress initiative, and that the subject matter was of contemporary importance, Janet's suggestion that the president may be among the audience readers was not out of the realm of possibility or wishful thinking. The boys, however, were not able to support Janet's idea, and negated her assertion outright. This interaction was only Janet's fifth message unit and was preceded by 4 message units in which Janet suggested the wording or rewording of a phrase in the group's summary and was summarily ignored by the group.

In message unit 224 Janet attempts unsuccessfully to reword another summary sentence when Bryan interrupts and contradicts her. After being ignored a bit later in the dialogue, Janet tries again to reword the sentence and Bryan rejects her suggestion by making a loud bird-call sound. It was noted, however, that Craig follows up by ordering Sandy to write what Janet had suggested. Sandy does so, and Janet's words and ideas were taken up by the group. While each member of the group negated or contradicted Janet's ideas

at least once, Bryan (a low academic status, high social status student) did so with the highest frequency.

When Craig corrects Bryan by suggesting that Abraham Lincoln was assassinated, message unit 321 represents Janet as she attempts to clarify the setting of the incident by suggesting that he was killed while making a speech. Craig rejects her idea and explains that he was watching a play at the time of the assassination. Later in the conversation in message unit 337, Janet suggests that the group consider Rosa Parks as one of the most influential persons concerning American freedom. Craig immediately rejects her suggestion by stating that Rosa Parks was arrested. Janet defends her point in message unit 339, only to be contradicted again by Craig who asserts that Rosa Parks didn't have freedom because "she got arrested." In this semantic and logical twist, he changes the issue of Janet's assertion from the most influential people impacting American freedom to people that "had freedom."

Later in the conversation map at message unit 500, Janet suggests a wording for their summary sentence. Bryan contradicts her by suggesting they are working on question three rather than four. Still later in the dialogue in message unit 611, Janet suggests that " slavery was the main thing." Bryan contradicts her again by explaining that "slavery wasn't in the nineteen sixties." Sandy supports Janet's claim by saying, "Yes it was." Craig corrects

both of them by explaining that it was segregation; not slavery, that occurred

in the sixties. In message unit 615, Janet defends her assertion and defends

herself by suggesting that blacks were slaves and "that wasn't a long time

ago." Craig contradicts her again when he explains "it was a long time ago...it

was like seventeen something dude." Bryan adds, "Yeah when England was

going on." The researcher noted that Sandy, the other female in the group, had

supported Janet's erroneous assertion regarding slavery, segregation, and the

sixties. Sandy's support of Janet's idea came after a set of message units

between 385 and 400 in which Sandy talks to Janet socially in off-task

message units. Sandy compliments Janet's shirt during these MU's and then

goes on to talk about her own clothes. This set of message units is followed by

a period in which Janet is more incorporated into the dialogue. This period

ends with the aforementioned suggestion by Janet and the boys' contradiction.

In message unit 665, Janet suggests that both Blacks and Hispanics

had no freedom in the sixties. Bryan contradicts her point by suggesting that

"Hispanics did but blacks didn't." Sandy responds again in this instance, by

defending Janet's point. Finally, in message unit 736, Janet re-asserts the idea

that " slaves didn't have freedom back then." Craig contradicts Janet in this

instance, by suggesting that "some slaves were let go" rather than arguing that

slavery didn't occur in the sixties. Janet responds by taking up Craig's idea

and demonstrates her own knowledge of the time of slavery when she suggests that slaves were freed when they paid off their debts. Craig negates her idea by explaining, " no some were let go." Janet again defends her knowledge base by suggesting that " they escaped and got....," when Bryan interrupts and contradicts her again by saying, " no not necessarily.. they were like the underground railroad."

These excerpts involving Janet and the "Freedom" group clearly combine with data collected from the other groups' conversations in suggesting that while group work "counted" to the participants; issues of gender, social and academic status played an influential role on opportunities to learn. The previously described message units involving Janet and the other members of the "Freedom" group raise issues regarding female and male patterns of speech that will be discussed in the next chapter. The researcher noted that the boy's apparent tag-team negation of Janet's ideas, while clearly frustrating to her at several points in the video taped session, did not completely squash her attempts at making key points for the group's summary writing. In some instances following a friendly interaction between the girls, Sandy appeared to support her female colleague. At other times, Craig, who seemed to dominate the intellectual aspects of the dialogue, appropriated

Janet's ideas or contradicted her by explaining her erroneous conceptions of American history as it relates to race, segregation, and slavery.

Technology

Technology was found to "count" to the America Dreams project designers. As was described in Chapter 4, several technological sub-themes emerged as important in the America Dreams project. These sub-themes included: on-line interaction, integrating technology with curriculum, resource based-curriculum, teacher development, and improving lack of awareness of technology in schools. These sub-themes will be used as a framework to examine what actually "counted" technologically to the participants involved in the study.

On-line Interaction

As was described in Chapter 4, the designers of the America Dreams project intended on-line interactions and on-line forums to be an important part of the project. They noted, however, that the project could be completed without participating in these on-line interactions. Such was the case for the classroom

studied. While the researcher and co-teacher initially intended for teachers and students to participate in the scheduled IRC chat and CuSeeMe video conferencing sessions, technical and temporal conflicts prevented their effective usage until they were ultimately abandoned.

Software and hardware was purchased and installed at the onset of the project to support the use of these components of the project. In addition, technical support was purchased from an outside vendor to work through the technical bugs associated with making these processes work. In the end, their failing efforts to stabilize these processes as well as the pace of both the national and local project, contributed to the joint decision among researcher and co-teacher that directed the local project away from these on-line interactions.

The researcher did, however, communicate with the project designers to procure transcripts of the chat and video conferencing sessions. This led to the researcher's analysis of the nationwide participation of these online interactions. In fact, the researcher collaborated with the project designers by offering and completing an editing and analysis of these logs for publishing on the America Dreams web site. This analysis suggested that, while the on-line interactions were potentially stimulating for students and supportive for teachers, many nationwide participants found that time, scheduling, and/or

337

technical problems prevented them from getting the type of impact that was intended by designers.

While the chat and video sessions were not successfully implemented, it must be said that on-line interaction of two other types clearly "counted" to the participants. The first on-line interaction that "counted" to students and teachers was the use of the "Wall of Dreams" bulletin board and web page publishing. They served as an asynchronous exchange of dreams and learning experiences among students and teachers across the country. By reading, listening, and viewing the multi-media projects and entries on the "Wall of Dreams," students and teachers considered and reconsidered their own work and concepts of the dream in light of the input from this greater educational community. In this sense, on-line publishing clearly "counted" to the participants.

A second form of on-line interaction, e-mail, was found to be essential to the researcher's understanding and participation in the project. As was described in Chapter 4, the designers stated in their e-mail conversations that they have found that teachers who participate in online discussions with other participants are generally more successful in on-line projects. E-mail dialogue with the project creators throughout the duration of the project, was an essential element in motivating and educating the researcher towards the

338

successful use of the project. As has been described previously, the researcher

and project creators and participants participated in more than 100 e-mail

dialogues during the course of the school year. These dialogues and memos,

as such, served to illuminate the origin and intent of the project's design in a

manner that motivated and supported the researcher in making the project fit

the needs and context of the local school and classroom.

Integrating Technology with Curriculum

As was described in Chapter 4, the designers of America Dreams created a

project with "inherent flexibility" so teachers could adapt it to their classroom

needs. In the case of the particular sixth grade class involved in this study, the

researcher/co-teacher and classroom teacher blended the use of computers and

the Internet with social studies, American history, and language arts

curriculum.

The two uses of technology that were integrated most significantly into

the study of the American dream, were the use of the computer for web page

publishing and searching for information. These two technological project

elements have been previously described and represented. By publishing the

outcomes of all of the project's student activities, the web publishing aspect of

339

the technological integration served to " support the deeper, more reflective self-directed activity" that Strommen and Lincoln (1992) speak of when describing the effective integration of technology. Student dialogue previously described in the "Freedom" group's conversation map suggests that students were considering a much wider world audience for their writing and idea making when they published their work on the Internet. As e-mail conversations with project designers described, the "bigger than just us" feeling can occur when students consider a broader audience for their writing. Web publishing extended the audience beyond their teacher, classmates, parents, and school and reached out to the world and perhaps, as Janet suggested, to the president of the United States himself.

During the student's use of the Internet to do searches and explore the "Wall of Dreams" entries and multi-media projects of other participants, students clearly used technology as a tool to explore social studies and American history content. There was an initial direct lesson on the workings of the Internet, and minor guidance and facilitation by teachers as it regards the use of the Internet for searching information. While it is clear that the co-teachers involved in the project were integrating the technology into the curriculum, culminating journal entries of 12 of 27 students suggested that they viewed the project as predominantly technological. As has been

described previously, data sets comprised of student output suggest that the majority of students viewed the project as learning about the American dream through the integrated use of technology and collaborative groups.

While the use of technology that did occur during the project, was clearly integrated with the curriculum, it has been noted that other attempts to integrate on-line interactions were not implemented. In the culminating teacher survey, Ms. F suggests that she found several impediments to the intended full integration of the technology with an on-line project. They included an insufficient quantity of classroom computers, lack of time, and lack of teacher comfort with "more varied" classroom activities. Ms. F found the use of the computer lab to be a more "fragmented" and less "focused" learning environment for her students.

Resource Based Curriculum

As was described in Chapter 4, the designers of the project intended that students use the American Memory Collection of the National Digital Library (a wing of the Library of Congress) as the core resource for the project. As has been mentioned, student participants involved in the study, made only initial forays into this element of the project's design. The technical, as well

as, logistical problems suggested in the teacher survey redirected the project towards the second phase involving students in researching their community.

While the students did not utilize the National Digital Library collections in a significant way, the second phase of the project focused students on other web based resources. These resources included; their own web pages, "Wall of Dream" entries from students across the country, and multi-media projects created by other classes from schools across the country. These student created resources, while not the "primary source documents" intended for use by the designers, merged with web pages found during Internet searches to comprise the basic resources that students drew from in order to develop and voice their own understanding and conception of the American dream.

Teacher Development

Chapter 4 also described the finding that teacher development counted to the America Dreams project designers. The designers acknowledge the key role of the teacher and the need for teachers' professional and technological development. While the project suggests that teachers have "entry level skills and knowledge," the WebQuest model employed in the activities offers a

highly structured opportunity for teachers at all levels of technological expertise to develop their abilities to integrate technology into their classrooms.

In order to support professional growth along these lines, the project provided development and support opportunitie^ that included mailing lists, chat sessions, and e-mail dialogues that focused on technological, instructional, and management issues. Logs of these professional discussions were also posted as on-going resources.

In looking at the actual teacher development that occurred as a result of participation in the America Dreams project, there are three potential focal points; Ms. F (the classroom teacher), the researcher as principal/co-teacher, and the entire school staff. In the project's concluding teacher survey, they ask a series of questions that point to their intention to provide teacher development through participation in the project. Table 43 represents the results of survey responses from the Ms. F. (the classroom teacher) and the researcher/principal/co-teacher. The survey asks respondents to affirm outcomes related to the following question: **As an educator, what have you gained from participation in America Dreams?**

Table 43

Responses to America Dreams Project Concluding Teacher Survey

Survey Question	Classroom Teacher	Principal/ Co-Teacher
Increased proficiency with video conferencing and or IRC Chat	NO	Yes
Become more comfortable with technology	Yes	Yes
Developed new teaching strategies	NO	Yes
Learned new ways to incorporate technology effectively in curriculum	Yes	Yes
Ideas for teaching with computer as "contributing partner"	Yes	Yes
More opportunities to communicate with students and teachers from other schools	NO	NO
Improved search capabilities using the LOC collections	NO	NO
Strengthened Internet Skills	NO	Yes

Analysis of these survey results, the previously described culminating teacher survey response, and researcher's field notes suggest that teacher development as a result of project participation was more pedagogical than technological in nature. Increased proficiency with video conferencing and or IRC Chat did not occur for the classroom teacher, as these components of the project were not effectively implemented.

While the researcher did respond "yes" to this gain, the degree of increased proficiency in video conferencing and IRC chat was not sufficient to

overwhelm technical and logistical barriers to effective implementation. The researcher managed to follow the instructions and assistance provided by the project in setting up software and hardware necessary for these online interactions, however, technical problems associated with the CuSeeMe implementation continued to cause "crashing" and stalling problems. The researcher chose not to implement this project component due to these problems. Time constraints and the lack of available computers, also impeded the use of IRC chat sessions in a meaningful and manageable way. The principal/co-teacher buffered the classroom teacher from these technical problems in an effort to maintain a momentum towards the ongoing use of the project by avoiding unnecessary frustrations or impediments.

Results of the concluding survey do indicate, however, that both the classroom teacher and principal/co-teacher became more comfortable with technology, developed new teaching strategies, learned new ways to incorporate technology effectively in curriculum, and developed ideas for teaching with the computer as "contributing partner." While the researcher and the classroom teacher began the school year at different points on the technological skills and knowledge continuum, each developed their teaching skills and pedagogical knowledge as a result of participation.

Ms. F's response to the culminating teacher survey suggests, " It is my feeling that Internet activities have a significant value for upper grade students. It promotes independent learning and helps them improve their research skills." This positive response towards computers and the Internet came after a year's participation in the America Dreams project in which Ms. F. used the three classroom computers and the thirty computer lab computers on a weekly basis. This level of technology usage was preceded by the teacher's first year of teaching that included minimal and irregular use of two classroom computers.

A follow up dialogue with Ms. F. during the 1999-2000 school year in which she had moved to a part-time kindergarten position, resulted in the finding that the "two computers" in her classroom were used by students "to work on reading and math CD-software." Ms. F. reiterated a response found in her culminating teacher survey when she suggested that she "needs four computers rather than the two she had, in order to use the computers during her center time." Her survey response from the America Dreams project echoed this sentiment when she wrote, " I think if schools are really going to focus on online projects, then maybe they should consider doing away with computer labs and outfitting each classroom with an appropriate number of

computers so that it becomes part of their daily system and is more manageable."

Results of the project survey represented in Table 43 also suggest neither the classroom teacher nor the researcher/co-teacher benefited significantly from teacher to teacher on-line interaction or use of the Library of Congress' Digital Library collections. In this sense, project participation fell short of the designer's intentions to provide quality teacher development opportunities.

Finally, the researcher noted that while Ms. F. was not using online projects in her new assignment as a part-time kindergarten teacher, there was increased interest in the use of on-line projects by three teachers on the school staff. This led to the initiation of three on-line projects involving teachers and principal/co-teacher in the proceeding school year. The use of on-line projects was also included in the agendas of several staff development days during the 1998-1999 and 1999-2000 school years.

As was described in Chapter 4, Collins (1990) has suggested that there exists, " a systemic lack of awareness of the appropriate uses of technology in our schools today." Collins goes on to suggest that this is a result of limited budgets and limited experiences on the part of educators and administrators and adds, "It is difficult to conceive of pedagogically sound ways to apply a

technology when you are not familiar with it." Results of the findings of the online project involved in this study, clearly indicate that teacher, principal/co-teacher, students, families, and school staff all experienced an increased awareness of the appropriate and meaningful use of computers and the Internet as they were integrated into the sixth grade curriculum.

The America Dreams project did not initiate a technology-based revolution of teaching or learning. It was added to, or absorbed into an ongoing plan and implementation process aimed at using computer technology to improve and enhance teaching and learning. While it has added to the awareness levels of the entire staff; the technical, cultural, and educational barriers that prevent more effective technology integration in schools (Cuban, 1993) continue to confront the researcher as principal and staff developer.

Transforming Teaching and Education

The researcher also found that the project designers feel that teaching, education, and schooling are in need of transformation. The results found in Chapter 4 suggest that the project designers created America Dreams in part, as an attempt to use technology to bridge the "dramatic rift" between a

technologically changed society and "rigid and ultimately alienating" school system. They adhere to the belief (Strommen and Lincoln, 1992) that a blend of constructivist pedagogy and the use of educational technology in on-line projects can create "change agents" that facilitate "paradigm shifts in teaching and learning."

Assessing the results of participation in the project and its transformative impact on teaching and education is a difficult proposition. From the researcher's point of view, the opportunity to co-teach this student centered, on-line project added to my continuing efforts to look for opportunities to make learning and teaching more meaningful and effective for teachers and students alike. Results of the student surveys, and researcher observations suggests that the project succeeded in terms of its ability to transform learning from an isolated, traditional one-way information dissemination process to a student centered, student as researcher and technology user process.

Ms. F and other teachers at the school involved in the study continue to utilize traditional "one-way learning," as well "student centered," and group work oriented learning activities. The America Dreams project stands out, however, as an example of the greatest level of risk-taking and technological experimentation observed during the researcher's tenure at the school. While

349

the designers of the project intended America Dreams to continue for several

years, it has not been repeated since it's initial implementation year.

The researcher, made an attempt to continue the project locally with

the new sixth grade teacher who replaced Ms. F in the 1999-2000 school year.

These efforts included some initial planning and participation by the teacher

and his class. The efforts were not sustained, however, due to the researcher's

workloads and prioritization of time and resources as principal of the school.

As has been discussed in the previous section, the America Dreams project

spawned no teaching revolution at the school studied. It added to the

experiences, and repertoire of the classroom teacher, principal and staff.

While it stands as an example of what technology and constructivist learning

can be, it has yet to be linked to dramatic changes in either Ms. F's

kindergarten class or the school at large.

An excerpt from a recent e-mail conversation with Ms. F., is useful in

demonstrating the short term impacts of project participation on her

development as a teacher and technology integrator;

> I think that if I were still teaching sixth grade I would probably include
> this activity in my plans because I think kids excel and enjoy open-
> ended questions. But honestly I think the activity can be done with or
> without the computer. I think using the computer in Kinder is hard for
> many reasons. One of which is the fact that something is always going
> wrong with them . Kinder students are not known for their patience- so
> you would have to double plan and have a back up activity ready to go
> at all times. Another big problem I see is that Kinder students need a

lot of instruction- they need to see, hear, and practice the directions several times to be successful and sometimes that still isn't enough!! So I think students being pulled, from the regular lesson, back to one or two computers would be distracting and frustrating for students especially when we only have them for 3 1/2 hours and they are expected to know so much just in terms of the standards. I just feel that students would be missing bits and pieces each day and we would be playing catch up over and over. On the other hand, I think it would work better if we were able to go to the computer lab altogether. That way no one would be missing out on anything. To be honest, I guess my basic belief is that a lot of kids have access to a computer at home. I am a teacher I should by definition be modeling, demonstrating, giving practice time with feedback not sitting a kid in front of a computer which they can do at home with little supervision. I guess I don't feel like I am earning my paycheck when kids are at the computer. But at the same time I know that there are some kids who receive nothing at home and need the experience on the computer and enjoy it. It is just really hard to fit everything in as always!

Understanding American History and the American Dream

The core content of the project relates to American history, American social studies and the American dream concept. While Chapter 4 suggested that pedagogical and technological concerns were at the forefront of the project, these American topics clearly "counted" to the designers as well as their sponsor; the Library of Congress. Chapter 4 noted that the coupling of the study of American history with the goals of social, political, and intellectual activism was found to be key to the America Dreams project.

The previously represented data sets of student outcomes have clearly

pointed to the central significance of American historical and social content.

Among the 27 student journal entries collected at the culmination of the

project, 17 explained the nature of the project in terms of its focus on the

American dream. This finding is exemplified by the following journal entry:

" The America Dreams project is a project finding out what the people of

America think about America."

The culminating student survey results also supports the claim that

American history and social life "counted" to the project participants. When

asked what the most significant thing students learned during the project, 25

students responded by describing the American dream or the sub-themes

explored by their student groups. As has been described previously, Lacey

responded to the question by talking about the American dream concept,

" What is it, I didn't know there was one. Even so, I kind of recognized it

when I learned more."

Student participants collected opinions and knowledge about the

American dream from their families, friends, fellow students, local

communities, teachers, other project participants, and Internet web sites. They

gathered this information and added it to their prior experience and knowledge

in order to construct a more complex vision of their own American dream.

These visions were expressed in the previously described "Wall of Dreams" entries and student authored stories.

The students did not participate, however, in the designer created "historian" phase of the project. They were not able to utilize the ethnographic documents and multi-media artifacts stored in the American Memory Collections of the Library of Congress. By moving to the second phase of the project that involved them in social research of their families and communities, they explored their personal views and the views of their families rather than a historically compiled knowledge base. This missing project element had the potential to develop student knowledge and intellectual arguments regarding issues such as slavery and segregation that have been previously represented in the data sets as emphasized and highlighted while not thoroughly understood.

Summary

The themes, **pedagogy, technology,** the study of **American history** and the **American dream,** and **transforming education and teaching** were represented in the previous chapter as clearly "counting" to the designers of the America Dreams project. This chapter has described these themes as they

353

relate to what "counted" to actual participants in the project. While the

comprehensively expressed intentions of the designers were not fulfilled in

their entirety, analysis of the data sets associated with use of the project

suggest that pedagogy, technology, and the study of the American dream and

social life clearly "counted" to the project participants. It is also clear that the

actual usage of the project served to transform teaching and learning for

students and teachers towards a more student-centered and constructivist

inspired activity.

While the findings suggest that the student centered nature of the

project counted to both designers and participants, the project was limited to a

guided questioning approach in which students and student groups made

choices and decisions about what topics to explore and how to explore them

on the Internet and among their families. In addition, though the study of the

American dream clearly counted to both designers and participants, as

students and teachers bypassed the designed "historian" phase of the project,

they missed opportunities to develop an historical knowledge base regarding

the American dream and exchanged it for further developing their

understanding of the concept as expressed in the opinions of their families and

peers. The impact of this decision will be explored further in Chapter 6.

CHAPTER 6

Discussion

The present study was conducted to analyze the use of on-line collaborative

learning, inquiry-based projects by comparing the design and intentions of

project creators with the actual usage of project participants to see what

opportunities to learn developed over time as a result of project participation.

On-line collaborative learning, inquiry-based projects, many structured as

WebQuests, are being used in schools throughout the United States with an

increasing frequency since the advent of the Internet.

While the number and diversity of on-line projects created for and by

educators is increasing, there is a similar increase in the growing acceptance

and advocacy of these projects by politicians and the general public. The

amount and diversity of classroom research on on-line projects, however, is

clearly disproportionately low in relation to this growth (Windschitl, 1998).

As the development of computer mediated communication (CMC) progresses

and with it opportunities for the development of new educational contexts, it

is essential that researchers and educators develop a greater understanding of

what is happening in these on-line educational contexts. In depth descriptive

and interpretive studies of these on-line educational contexts serves educators in several important ways. The knowledge gleaned from these studies serves on-line educational project designers in their efforts to create more effective and efficient on-line educational experiences. It also expands our understanding of classroom, school, and virtual communities of practice, while affording us the opportunity to examine other associated research domains such as collaborative learning, group work, student-centered learning in a context other than the face to face (contiguous) settings previously explored.

The data analyzed in this study were gathered using ethnographic methods: face-to face encountering of social processes, limited disruption of the social system being studied, and the allowance for the evolving nature of the methodology. Once the data were gathered, a text analysis approach was utilized to compare the project's designed documents with those created as participant outcomes. A discourse analysis approach for socio-linguistic ethnography was also used so that the descriptions of the interactive conversations and social and linguistic aspects of the setting could be analyzed. Using ethnographic methods, a comparison of the nature of what "counted" to the designers and project participants became the central focus of

the study as it exposed opportunities to learn constructed by student's individual and group-work activities.

The results of the study indicate that project participants in the America Dreams project were fully engaged in the pedagogical aspects of the project which focused on student centered, engaging, real world inquiry that called on students to work as researchers. These pedagogical aspects of the project were found to be more influential in the construction of opportunities to learn than were the technologically driven elements of the project. While the project use clearly focused on the pedagogical aspects of the project's design, the participants did not utilize the first phase of the project which asked them to work as historians utilizing the American memory Collections of the Library of Congress' Digital Library. The bypassing of this phase of the project resulted in a loss of potential opportunities for learning as they relate to the development of a content knowledge base concerning American history.

In addition, student group work was found to be central to the project's use, however, issues regarding student's status and gender were found to impact access and equity in the construction of opportunities for learning. These conclusions and their implications are explained in further depth in this chapter.

357

Conclusions and Implications

Pedagogy

Constructivist-Based Learning: Active and Engaged, Student-centered, Real-world Issues, Community and Community of Learners

- **Constructivist theory informed the pedagogical design of the project studied and its actual use was clearly grounded in active and engaged, student-centered learning which involved participants in real-world issues and joined them together in communities of learners. The local community and community of learners were fully engaged by participants. The global community of learners was limited to asynchronous web publishing activities.**

As the data from Chapter 4 illustrated, the design and practice of the America Dreams on-line project was consistent with many of the principles of constructivist theory. Constructivist theory emerges from the work of several psychologists, educators, and theorists including Jean Piaget, Jerome Bruner, Lev Vygotsky, John Dewey, and Seymour Papert. It is sometimes divided into two main strands by the research community, cognitive and social

358

constructivism. While the various perspectives on constructivism share

differences in emphasis, they are tied by common general characteristics of

the learning environment.

Jonassen (1994) proposed that there are eight characteristics that

differentiate constructivist learning environments:

1. Constructivist learning environments provide multiple representations of reality.

2. Multiple representations avoid oversimplification and represent the complexity of the real world.

3. Constructivist learning environments emphasize knowledge construction instead of knowledge reproduction.

4. Constructivist learning environments emphasize authentic tasks in a meaningful context rather than abstract instruction out of context.

5. Constructivist learning environments provide learning environments such as real-world settings or case-based learning instead of predetermined sequences of instruction.

6. Constructivist learning environments encourage thoughtful reflection on experience.

7. Constructivist learning environments "enable context- and content-dependent knowledge construction."

8. Constructivist learning environments support "collaborative construction of knowledge through social negotiation, not competition among learners for recognition."

Both social and cognitive constructivists would support Jonassen's eight characteristics. There is, however, a difference in the emphasis these two strands on constructivism place on each of those characteristics.

It is significant that this project's design and actual use share many of the characteristics Jonassen describes while traditional learning activities, at odds with the philosophical principles and worldviews of constructivism, continue to dominate the instructional milieus of the school studied and other schools with students of similar demographics.

If one considers the project as a constructivist learning environment, it is clear that students are engaged in creating and responding to multiple representations of the abstract concept the American dream. The written, oral, and multi-media based expressions of the dream, were offered by students, teachers, families, friends, community members, a national community of learners, and web site authors. These multiple-representations avoided oversimplification of the American dream concept and produced a diversity of opportunities to connect their existing knowledge about America, their community, and themselves, with new perspectives and pertinent information.

This type of learning activity is in sharp contrast to more traditional text book-based lessons on American history, which emphasize knowledge reception rather than construction. The project asked students to learn through

an authentic researching process that was centered in the local community, family, class, and group contexts rather than abstracting instruction from little or no context. Rather than relying on the unitary and depersonalized text book source, students depended on the ideas salient among the social groups that construct their world's knowledge.

Project participants found the American dream to be a multi-faceted and complex conception. Student participants took from their own knowledge, the knowledge of others, and the conversation of collaborative groups in order to construct a new understanding of the American dream. Research and ongoing theoretical examination of constructivism continues to search for the best description of the location of the mind as well as where this understanding takes place. Whether it occurs within the individual from a cognitive constructivist perspective (Piaget, 1932), is distributed among social events (from a social constructivist perspective (Vygotsky, 1987), or is mediated by culture and cultural artifacts (Cole & Wertsch, 1994), it is clear that the students involved in this study began the project with a limited ability to express their understanding of the American dream, given the opportunity to engage in thoughtful reflection of their own experiences and the experiences of others, they were able to develop "context and content" knowledge construction.

They constructed knowledge through engagement in an active process.

They confronted their understanding in light of what they encountered in new

individualized and collaborative learning situations. When students

encountered something inconsistent with their current understanding, they

were challenged to accommodate these new experiences (SEDL, 1996).

The SEDL authors of the web-site entitled "The practical implications

of constructivism" suggest the following implications for teaching:

> First, teaching cannot be viewed as the transmission of knowledge
> from enlightened to unenlightened; constructivist teachers do not take
> the role of the "sage on the stage." Rather, teachers act as "guides on
> the side" who provide students with opportunities to test the adequacy
> of their current understandings. (p.3)

This teacher role was clearly intended and indicated throughout the

participation in America Dreams.

> Second, if students must apply their current understandings in new
> situations in order to build new knowledge, then teachers must engage
> students in learning, bringing students' current understandings to the
> forefront. Teachers can ensure that learning experiences incorporate
> problems that are important to students, not those that are primarily
> important to teachers and schools. Teachers can also encourage group
> interaction, where the interplay among participants helps individual
> students become explicit about their own understanding by comparing
> it to that of their peers. (p. 3)

It is also clear that students used the opportunities to express their own ideas

and support their claims for the importance of the information they sought

when making individual and group decisions regarding research topics. The

group-work involved in the project, and the web publishing of individual

dreams and stories encouraged the social interplay between fellow students.

> Fourth, if new knowledge is actively built, then time is needed to build
> it. Ample time facilitates student reflection about new experiences,
> how those experiences line up against current understandings, and how
> a different understanding might provide students with an improved
> (not "correct") view of the world. (p.4)

The project was carried out over the duration of the school year and across

several content area curriculums, which was sufficient to be consistent with

this parameter. Journal entries and culminating student surveys suggest that

students were able to develop diverse conceptions on the America dream

while developing an awareness for the commonalties among concept of peers,

family, friends and participants from across the nation.

> The authors go on to ask an important question that resonates with the

researcher who also serves as a school principal.

> If learning is a constructive process, and instruction must be designed
> to provide opportunities for such construction, then what professional
> development practices can bring teachers to teach in student-centered
> ways? (p. 5)

They suggest that professional development for teachers should itself be a

constructivist process that allows teachers to make explicit their own

understandings of learning and teaching.

> It is clear that this project was designed and used in a constructivist

manner that was consistent with elements of social, cognitive, and culturally

mediated constructivist theory. As the authors from the Southwest Educational

Development Laboratory (1996) suggest,

> Constructivism represents one of the big ideas in education. Its
> implications for how teachers teach and learn to teach are enormous. If
> our efforts in reforming education for all students are to succeed, then
> we must focus on students. To date, a focus on student-centered learning
> may well be the most important contribution of constructivism. (p. 5)

While it is clear that the project's use and design focused on a

constructivist-based pedagogy, the bypassing of the initial "historian" phase of

the project resulted in a loss of access to the development of a knowledge base

concerning American history. Analysis of the dialogue among student groups

reveals that students were clearly engaged in elaborating and expressing their

opinions and the opinions of their families and peers s they related to the

American dream. However, there was little evidence that project had furthered

their understanding of such critical timelines and key events in American

history such as slavery and segregation.

Thus, while on-line projects, such as America Dreams, may be student-

centered and pedagogically constructivist by design, this does not ensure that

students will develop opportunities for learning that are concerned with

developing and refining content area knowledge. In the case of the class

studied in this research, students developed opportunities for learning that

focused on their family's and peer's concepts of the American dream and used

these ideas gleaned from surveys as their knowledge base. In addition,

however, they used the results of Internet searches on American dream sub-

themes to develop and expand their understanding of the concept as social

science researchers rather than historians.

Students As Researchers

- **The role of students as researchers was clearly defined and**
  emphasized by project designers and project participants. The
  project's design asked learners to work as social, face to face,
  researchers. Ultimately, the "role of student as researcher" resonated
  with the constructivist principles of the project's design and usage
  and contributed to the successful completion of all project activities by
  a motivated and engaged classroom of students.

Project participants in America Dreams served as data producers creating

student stories, Wall of Dreams entries, student survey responses, and journal

entries. They also worked as data collectors and analyzers as they created, and

conducted surveys and Internet searches and summarized and published their

findings. The researcher transcribed conversations of the interactions of

students as they worked in groups to summarize survey findings. The findings

of this study suggest that the role of student as researcher clearly "counted" to

project participants. These findings are confirmed by Oldfather's (1993) study

" When students do not feel motivated for literacy learning: how a responsive

classroom culture helps" which suggests that engaging students as co-

researchers creates significant opportunities for students to experience

increases in motivation as they relate to literacy activities.

From the outset of the America Dreams project, students, teachers,

principal, and families were informed and invited to join a collaborative

research process that placed their individual and collective voices and visions

at the core of research process. Oldfather (1993) suggests that engaging

students as co-researchers instead of viewing the student participants as

subjects, is consistent with social constructivist epistemology (Gergen, 1985;

Guba & Lincoln, 1989; Wertsch, 1991). As in Oldfather's study, the co-

teachers described the project to students as a joint effort in which they would

also participate as learners in developing a collective understanding of the

classroom and local community's conceptions of the America dream

> As students worked as researchers, gleaning various conceptions of the
> American dream from their family, friends, and the Internet, the project
> clearly became directed by these data. The student centered nature of
> this research process and the fact that their own families were helping to
> shape their constructions of the American dream concept was found to
> be empowering and engaging. In addition to student engagement and

empowerment, the study's findings confirmed that the co-teachers and parents involved in the research aspects of the study, shared in this engagement and empowerment. The researcher agrees with Oldfather (1993) when she points out "the values of the process for students engaged as co-researchers are much the same as those for teachers engaged in research. They gain voice and ownership of their agendas, and are enriched and empowered by the new knowledge constructed in the process (Oldfather, 1991, 1993b; Duckworth, 1987; Goswami & Stillman, 1987; Kincheloe, 1991)."

The results found in the present study are consistent with Oldfather (1993) and suggest significant implications for classroom practice. Learning activities which engage students as researchers and co-researchers have the potential to increase the motivation of students to become involved in literacy development and the expression of deeper and more reflective understanding of complex issues and subject matter. These research-based activities joined the teacher and all participants in a unmapped voyage of exploration and of inquiry into content and context. They challenge students of all skill levels to engage in higher level thinking and the comparison and analysis involved in the research process.

Collaborative Learning and Group Work

- **Collaborative learning and group work were central to the design and actual participation in the on-line project. While project participants were actively engaged in both individualized and collaborative group work, the data suggest issues of gender and status clearly influenced opportunities to learn during group work.**

The America Dreams project was designed as a collaborative learning activity. Its design followed the WebQuest instructional model and included clearly defined roles for each member of the student groups. The project suggested that teachers and classrooms develop their own rubrics for group and individual accountability.

It was the intention of the designers that students work together in groups to do research in the first phase of the project, and then later work together to create a multi-media product that represents their findings. While the initial phase of historical research was not carried out, students worked together as researchers to develop, administer, and analyze surveys that culled information regarding the American dream from their families and friends.

They also worked together to synthesize and analyze the results of their Internet searches on their chosen themes.

The actual group work took several forms during the year-long duration of the project. In each group work event, students worked together to create or analyze documents they had created or discovered, and synthesize the results. The model presented to students by the co-teacher/researcher, was that of a team of collaborative researchers. The actual usage of the project did not include the project's specifically designed roles, but called upon students to work collaboratively in a less structured setting. The pre-defined roles were closely connected with the initial phase of the original project's design. As this phase of the project was not utilized by project participants, the roles associated with it were also not used. Collaborative group and pair work activities were commonly employed in the studied classroom during other curricular activities, however, with varying levels of task structure, group and individual accountability, group process, and teacher mediation and facilitation.

The collaborative group work of the America Dreams project was unique in the class culture in several ways. First, the groups worked together for the duration of the year, rather than the classroom teacher's normal practice of changing and adapting group compositions for different activities.

369

Second, the project involved students in a series of phases that asked individuals to conduct or carry out research tasks among their family and friends, and then return to the group in order to analyze and synthesize the group findings. Finally, the outcomes of the group work were being published and celebrated within an expanded set of communities that included the class, the school, the family, the local community, the community of participants in the project, and the vast audience of the world wide web. In these ways, as evidenced by student survey and journal responses, this was special "collaborative, group work" that was being done. So special in fact, that Janet (one of the students in the "Freedom" group) suggested their web pages might be read by the President of the United States.

Student participants were found in several of the data sets to express a positive connection with the collaborative group work involved in the America Dreams project. Slavin (1995) suggests that while there is a growing consensus among researchers on its positive effect on student achievement, "there is still a great deal of confusion and disagreement regarding "why" and "how" it works. This study helps to contribute to the needed knowledge base as it relates to the specific group work of students working on an on-line project.

Slavin notes his work (see Slavin, 1977, 1983a, 1995) on motivational perspectives and concludes that group and individual accountability and rewards lead to improved achievement. He also acknowledges the social cohesion perspective and its conclusions that group process, team-building, and self-evaluation component lead to greater student achievement. He highlights the cognitive perspective that includes a diversity of conclusions springing from the views of Piaget, Vygotsky, and others. These perspectives often conclude that student interaction itself leads to greater achievement. Slavin suggests that there is "little evidence from classroom experiments done over meaningful time periods, that pure cooperative methods, which depend solely on interaction, produce higher achievement, will do so." In the case of the America Dreams project, student groups nor individuals within the groups were rewarded with little more than teacher and co-teacher praise as well as additions to the individual language arts, social studies and homework grades as they student work products. Various levels of group cohesion and positive affective tones were found to occur among student groups, however, it was also noted that there were several instances (as highlighted by the Freedom group) in which argumentative discourse led to opportunities for clarification of concepts and learning.

While these findings may be viewed as contradicting Slavin's (1995) findings in support of group and individual reward and accountability, Slavin also highlights the cognitive elaboration perspective (Wittrock, 1986; Devin-Sheehan, Feldman, & Allen, 1976) that suggests learners need to cognitively restructure material through elaboration in order to retain information. These cognitive elaborations were found among "freedom" groups discussions of race, slavery, and segregation.

As has been previously described, the collaborative group work involved in the America Dreams project did not include formalized group rewards. Individualized accountability in the project rested in each student's requirement to administer surveys, do Internet searches, or other independent activities that were necessary components of the group work or were graded individually by the classroom teacher. High levels of engagement and motivation in the activities was observed and recorded by the teacher and co-teacher/researcher. The classroom teacher and co-teacher/researcher also found that 100% of all tasks were completed by participating students. In addition, field notes from classroom teacher interviews, noted that in several cases, low performing students who often failed to complete writing tasks or turned in poor quality work, completed assignments that exceeded previously observed achievements.

Phil, a student in the "Family Love II" group, was observed to have worked for a week with his mother at home in order to complete his American dream story entitled, The Cave. The classroom teacher and his mother noted that this was the longest and most labored piece of writing he had ever written. The researcher's analysis of his daily journal supported this finding as it was found to include a majority of pages with one, two or no complete sentences as responses to the classroom practice's activity of daily morning journal writing. Classroom norms were found to range from one to several paragraphs for the 15 to 20 minute periods normally assigned for the task.

In trying to understand why or whether America Dreams seemed to work for the complete range of students in the class, it is useful to look at Slavin's follow-up question: Are there conditions under which cooperative learning groups produce achievement gains without motivating students with rewards, goals and individual accountability? Slavin's paper suggest one scenario that seems to parallel the America Dreams project and meet these conditions. He suggests that student groups working on "controversial tasks without single answers" might find greater achievement through a Vygotskian process involving students in making overt their private speech, giving peers working on lower levels a stepping stone to understanding, and incorporating higher quality solutions in their own private speech (Bershon, 1992). Slavin goes on

to suggest that tasks at a high level of complexity may provide benefits "when students hear each other's thinking processes even if co-teaching does not take place."

Finally, Slavin calls for more research on the conditions under which group goals and individual accountability may not be necessary. He suggests a related need and research concern that hits at the heart of the America Dreams project when he calls for expanded research to understand the conditions necessary for success in project-based learning, and to develop more theory and rationale to support project-based learning.

When Slavin suggests, "there is a need for both development and research at the intersection of cooperative learning and curriculum," he echoes the purpose and intention of this study. The researcher intended this study to add to the knowledge base of work focusing on the intersections of technology, project-based, and collaborative learning.

Gender and Group Work

While it is clear from project outcomes, that the collaborative learning-group work aspects of the project "counted" to both designers and participants in America Dreams, gender and status issues emerged as significantly

influencing opportunities to learn. Boys talked more often during all of the recorded summary writing sessions except the group in which the sole boy was outnumbered 2 to 1 by females. In this one exceptional group, a high academic and social status female led the group with the highest lines per minute ratio was noted that this group was the only group recorded to have no "off-task" speech lines.

High status students also talked more often than low status students. Among the high status inter-group counterparts, males spoke more often than high status females.

The researcher also found that males dominated the frequency of the majority of types of speech. Males led in all categories of speech except negotiation of time and inaudible speech. In speech regarding the content of the task or task negotiation, males led in all categories except task questions and speech lines that "take-up" (affirmed or added to) the "put out" negotiated task lines of other students.

Compelling gender-based research by Michelle Rodino (1997) in her study entitled, " Breaking out of binaries: reconceptualizing gender and its relationship to language in computer-mediated communication" provide a groundbreaking lens on matters concerning the meaning and make-up of gender as it is expressed in language. Her study of IRC chat dialogue, and her

375

analysis of transgender based research (Bornstein, 1995) and other CMC

based research (Reid, 1993, Curtis, 1992, Bruckman, 1993) suggests that the

binary perspectives of facilitative/controlling (Fishman, 1978,1983),

rapport/report (Tannen, 1990,1991) and personal/authoritative (Herring, 1993)

and the dichotomies of women and men's speech they represent are less than

an accurate linguistic analysis.

Rodino's (1997) resistance to the notion that gender is pre-formed is

supported in this study. She prefers to view gender as performance and an on-

going construction. While she does not ignore the concept that a given woman

or man's speech may be grounded in "men's or women's" speaking styles she

suggests that looking at gender as pre-formed neglects the pursuit and

discovery of "similarities and subtle differences in speech." She calls on

researchers to consider the exceptions to dichotomous conceptualization found

in the study of IRC chat and to rethink "gender as a series of performances."

In doing so she believes that researchers can "abandon binding binaries"

without disregarding previous findings about gender and language. She also

suggests that thinking about gender as a constant construction does not

contradict studies that suggest that men dominate computer mediated

communication (CMC) or other dialogue.

376

The researcher raises Rodino's (1997) insightful analysis in an attempt to make clear that the emergent gender related issues discovered in "America Dreams" student group dialogue, was not intended to perpetuate a lens of gender performances as grounded in biology. Rodino (1997) suggests this produces the "cultural demands that we view the world through gendered glasses." The researcher concurs with the author when she suggests that "these spectacles are key to male domination's reproduction because the ability to oppress women depends on society's ability to mark women."

The findings of this study, in particular the results found from analysis of the dialogue of the "Freedom" group's summary writing conversations, can easily be interpreted as males dominating females in terms of quantity and quality of speech. In fact, the dialogue and dynamics of the speech of Janet and Sandy appear at first blush, to be indicative of a social and gender based dynamic within the group that harkens back to a pre-feminist movement period. The researcher concurs with Rodino (1997), when she suggests that "the present binary gender system has effects; it oppresses. In this sense, gender is real. On the other hand, gender is performed and is culturally constructed. In this sense, gender is tangible and is thus virtual." The researcher suggests that the understanding of the static, fluid, constructed, or virtual nature of gender in speech should clearly be pursued among

377

researchers. In applying this notion of fluid, virtual, and constructed gender, the researcher attempts to look at Sandy and Janet's discourse first, rather than their biology. This attempt is intended to remove this study from the ranks of research that explores gender in a binary fashion and in doing so helps to perpetuate gender oppression in the greater society.

In the following discussion of dialogue occurring in the America Dreams student groups, the researcher intends to illuminate the need for teachers, as mediators and facilitators of collaborative learning, to develop complex understandings of the frequencies and types of speech utilized by their students during group work. This knowledge can inform the teacher's practice as they wrestle with the special case issues of gender and status in their classroom and student group cultures. It is the researcher's hope that the discussion will "destabilize" rather than stabilize or perpetuate the "binary marking system on which patriarchy rests."

The present study looked closely at the dialogue of Janet. Janet is a female, Caucasian student identified by her teacher as low in academic and social status. Janet lived with her grandparents. Apart from school, Janet participated avidly in competitive roller skating where she displayed high levels of achievement, social and competitive status. She and her family also

participated in developing Janet in a career in the television and motion picture industry.

These activities involved her in a high frequency of school absences in which this pursuit took her to locations around southern California. The classroom teacher's concern regarding the impact of these absences resulted in the principal/co-teacher and the classroom teacher meeting with the grandparents to attempt to improve the quality and quantity of Janet's class work and homework. While Janet's performance, competence and status in the her worlds away from school included significant levels of achievement and self-confidence, this was not the case for status in the school world.

Janet, a member of the "Freedom" group, was observed to participate infrequently in whole class discussions. While she also produced the least lines of speech per minute in her group, it was noted that among her types of speech, the majority was concerned with the content and themes of the task.

Janet did not enter into the "Freedom groups" dialogue until message unit 35 (Janet: "Average, It would be average."). She then proceeded her entry waiting until message unit 135 (Janet: "How about according to our survey"). After an initial slow start, she seemed to begin to speak more often and freely in her group than was her norm in the regular classroom. When she did speak, she most often raised issues concerning the content and wording of the

group's summary writing. Her "put out" message units, however, were often negated, frustrated, or ignored.

Janet responded to these reactions in several ways. She often defended her assertions. She sometimes ignored the negations, while other times repeating her suggestions or key points. Although the researcher noted several instances of emotional frustration on Janet's part, she persisted in her attempts to communicate her ideas or respond to the ideas of other group members. Her ideas were more often negated by the males in the group; sometimes simultaneously. While her suggestions and ideas were rarely taken up by the low academic status male in the group, the high academic and social status male several times directed the group to "write what Janet said." Janet's ideas clearly penetrated the discussion during the summary writing. They were often the topic for argumentative discussions in which Janet defended and attempted to support her suggestions. These instances sometimes led to dialogue which exposed her misconception of historical timelines as they related to slavery, segregation and racial issues in America. These instances, however, were clearly opportunities for Janet and the members of the group to construct a more accurate and complex understanding of American history and related issues.

The researcher's focus on Janet, while initially emergent from questions on gender and its role in mediated and non-mediated group work, evolved into questions regarding power, types of speech, and general group dynamics. The researcher suggests that the "Freedom" group's non-mediated group session offers a window into latent power, status, and gender issues that may be less visible when the teacher is intervening and closely monitoring. This suggests a variety of questions for teachers as they work with collaborative groups. These questions include:

How and when to monitor?

How and when to intervene?

Whether and how to mediate issues as they relate to gender or power?

What roles group composition and length of time groups work together play in student achievement and equity of achievement?

Ultimately, the researcher suggests that the use of cooperative/collaborative group work in project-based or other types of instructional settings, requires that educators take the time and care to consider gender, social and academic status, ethnicity, and other issues of power and diversity and their impact and influence on equity and opportunities to learn.

Students need more opportunities to experience the kinds of speech that include clarifying, extending, elaborating, and raising issues. They need these opportunities to occur in social and cultural settings that build bridges and positive interdependence. They need bridges to be constructed between their home and school lives such that their competencies and confidence translates into student achievement and development.

The results of this and the majority of studies looking at children working collaboratively suggest that the teacher plays a key role in positive outcomes. They must learn to teach students how to do group work. They must model their idea of what it looks like and adapt their vision according to their developing knowledge of the many issues it raises such as gender, status, and power. They must structure it or let it be structured by students. They choose to reward or not reward. They set goals for groups, individuals, or both.

The teacher and the classroom constructs they create validate the non-school worlds of their students. They set the tone for gender and status interactions. They structure dialogue, set up learning contexts, control rewards and define what learning is. They also define what success is in their classroom. Together with students, they construct a classroom universe.

In short, teachers must add the teaching of collaborative groups to their repertoire and recognize that like any other instructional practice, it is mediated and shaped and continually developed according to the specific needs, abilities, cultural, and linguistic dynamics of their students and classroom. It should also be noted that teachers who employ student-centered collaborative group work in their classrooms, must also learn to surrender some of their power. While they remain central to the classroom's dynamic, they enter into a co-construction mode in which they define learning, success, and knowledge together with their students. The teacher is then called upon to guide students as they navigate in both internal and externally created definitions of success.

Deering and Meloth (1999) suggest that there is " substantial empirical evidence to support the common sense notion that student groups' discussions have a great impact on their learning, with cognitive discussion content being associated with greater cognitive and metacognitive gains (Meloth & Deering, 1992, 1994: Webb, 1989)." They suggest that these types of discussions are not necessarily "natural" to collaborative groups but can be cultivated by teachers as they directly teach skills as well as monitor and intervene among groups. They go on to suggest that research in the teacher's role in facilitating these gains "is in its infancy." In addition to their call for further research on

the direct teaching and monitoring of collaborative discussion such as the ones represented by Janet and the "Freedom" groups' conversation map, they suggest that teacher's belief systems about collaborative learning and group work also significantly impact student achievement.

Finally, they identify the need for research on the relation of teacher beliefs and collaborative learning. They also suggest the need for teacher training and staff development to address the issues surrounding collaborative learning in a more complex and deep manner, especially if they are to address issues of status and gender.

Technology

On-line Interaction

- **The on-line interaction designed into the project was significantly de-emphasized by project participants due to technological problems, time and logistical constraints.**

As was been previously described, the project designers structured America Dreams with several opportunities for participants to interact on-line with other participants, experts, and the designers of the project themselves. Real-time interactions were structured to occur as IRC chat sessions, and CuSeeMe

video conferencing sessions. Asynchronous two-way interactions were structured to occur as e-mail and bulletin board postings. In addition to these two-way interactions that allow participants to receive and send communications on-line, the project also included one way communication structures which allowed for web based publishing and viewing.

The project participants studied did not utilize the IRC chats, interactive bulletin boards, or CuSeeMe video conferencing sessions. Technical problems, time constraints, and other logistics related to "fitting the project into the classroom context and its other activities," prevented their successful implementation.

The co-teacher/principal/researcher also served as the project's technology support. While efforts and resources were employed to set up and trial-run the IRC and CuSeeMe components of the project, the complexity and unstable nature of the two software contexts led to the conclusion that an attempt to employ these on-line components of the project would contribute to the frustration and further technology-related alienation of the classroom teacher rather than building a bridge towards the potentials of technology integration in the classroom. Arriving at this conclusion, the researcher adapted the project's direction to focus on the technological integration of web-based publishing and Internet searches.

Although the classroom teacher and student participants did not utilize two-way on-line interaction, it should be noted that the co-teacher/researcher utilized e-mail dialogue communicating with the project's designers on a regular and continual basis throughout the duration of the project. These e-mail dialogues served the researcher both as a project participant and a researcher of the project. These two roles were clearly intermingled in a manner suggested by Schrum and Berenfeld (1997). They suggest an intersection of research intended to improve practice while adding to the general knowledge base is necessary. They note that teachers are often consumers rather than producers of research and often perceive research as removed from their classroom realities.

In this study, it was the classroom and school realities that prevented the on-line interaction from taking on a significant role for the classroom teacher and students. The researcher suggests, however, that this omission of certain technological elements of the project led the teachers and students to the more significant aspects of the project which were grounded in the pedagogical concerns of "student-centered," "authentic," and "resource based" student research. The researcher finds some irony in the fact that among the project's great flexibility and adaptability as a constructivist based

learning activity, the scheduled and synchronous online chat and video sessions were the most restrictive.

While it is the character of the researcher/educator to look positively at all educational experiences, the failure of the participants to implement the on-line interactions structured into the project is also viewed as a missed opportunity to involve learners and educators in a new and developing educational milieu. At the onset of this iterative research process, on-line interactions were intended to be the central focus. By the study's end, it has come to be viewed as both a missing element and relative catalyst for the exploration of classroom use of on-line projects.

Further research and practice need to explore the questions raised by Collis (1996) that include:

- "Is real-time interactivity necessary for successful on-line learning?
- If so, how much interactivity is best?"

Research should also further explore issues concerning on-line interaction that are centered in the proposed claims of on-line interaction. These claims, while as yet unsubstantiated by research, include on-line interactions' impact on work efficiency, improvement of cross-cultural communication, and the strengthening or development of learning communities.

The technical, logistical, and time constraint issues that occurred among participants in this study should be recognized when resources, planning, and teacher development concerns are considered by educators and researchers involved in on-line projects. They also suggest that pilot attempts in using IRC chat and CUSeeMe video conferencing with students and technology-novice teachers should be attempted prior to the integration of these technologically sophisticated and potentially unstable software based activities into content-based on-line projects.

Integrating Technology with Curriculum

- **The project's design and utilization enabled the teachers in the study to integrate the use of computers and the Internet as tools in service of curricular and pedagogical goals.**

As the project designers intended, participants in America Dreams integrated the use of computers into their curriculum. The project involved students in learning in the areas of social studies, American history, and language arts. Computers and the Internet were used in service of publishing the results of their social studies research as well as exploring language arts integration

388

through the web-publishing of student's voiced visions of their own student stories in American Dreams and "Wall of Dreams" entries. While the research of American history was not pursued technologically as intended by the designers, it entered into the learning activities through the administration and analysis of surveys regarding the American dream.

This study confirms some of the challenges and dilemmas research has identified regarding the integration of technology and content area information. Goldman, Cole, and Syer (1999) of the Institute for Research and Learning, offer some important insights into the "Technology/Content Dilemma" in their whitepaper for the Secretary of Education's Conference on Educational Technology. They begin by describing an "enticing" vision that has drawn educators, including the researcher, into the process of implementing on-line projects. The vision is described as follows:

> Computer technologies become the norm in schools that are equipped with multimedia, graphics and animation, access to Internet and hand-held and remote devices. There is seamlessness of learning activities among home, school and community settings. Students use technologies like they use pencils, books and manipulatives to learn content in all of the subject areas. Learning goes beyond skills and facts, and students develop thinking and problem solving skills. The world is their classroom. In this vision, technologies help students gain mastery of content areas and zip at speeds of the fastest Internet connection well beyond and above the standards. Computer technologies are the norm rather than the exception, and they become enablers rather than another subject to be taught in school.

This researcher feels it is necessary to note, that this vision of the potential

of on-line projects was and continues to be shared by the researcher and many

on-line project enthusiasts. While it is perhaps more idealistic in nature than

the views of the researcher, elements of the vision served to inspire both

participation and a research approach to the America Dreams project.

After describing the ideal, Goldman, Cole, and Syer (1999) go on to assess

education's current status in relation to the vision. They suggest that,

> After two decades of computers in classrooms we can say there have
> been some major strides. Most schools have computer labs; many
> schools have computers in every classroom. Over 90% of schools are
> wired (connected to the Internet), and over one-third of teachers have
> Internet access in their classrooms, which they and their students use
> frequently. Most teachers and students use word processing programs.
> We see teachers who use spreadsheets, simulations, CAD systems and
> multimedia software, but then again, we are especially tuned into
> looking and finding exemplars of technology use in schools. We know
> that a variety of factors predict whether and how teachers will use
> technology, including access, training, teaching philosophy, and
> collaboration with other teachers.

This description of the current state of technology in today's classrooms

resonates with the researcher as an apt description of the state of technology

integration in the school examined in this study. The authors suggest,

however, that answers regarding the effectiveness and "large scale adoption of

technology in the core subjects" are yet to be found. They conclude,

> Even in schools where there is a strong push to adopt and use
> technologies, the road to content fulfillment is a long one. We see a
> pattern where the technology is front and center stage, rather than the

academic content. In case after case we see that when computer technologies are adopted, the learning about the technology often takes over, and it is only after several rounds of integrating technology with content that content emerges in strong ways. The technology learning curve tends to eclipse content learning temporarily - both kids and teachers seem to orient to technology until they become comfortable. This dilemma has important implications for teachers' willingness to adopt technology. This is because teachers in core subjects rightly see content, not technology, as the primary focus of their teaching efforts. Teachers' attention to content is important to pedagogy and usually leads to workable solutions. The good news is that content learning does emerge and is very rich once the technology recedes as the focus of activities in the classroom. At its best, technology can facilitate deep exploration and integration of information, high-level thinking, and profound engagement by allowing students to design, explore, experiment, access information, and model complex phenomena. Our research also indicates that while infusing technology into schools is worthwhile, it can be a long road from promise to reality.

Keeping in mind the wisdom offered by the authors, the researcher suggests that decisions made to bypass the on-line interaction components of America Dreams served to prevent the potential direction of the project towards issues associated with the technology rather than the core content. The authors suggest that teacher's most often see content, not technology, as their main concern and this attention to content has the potential, as in the project studied, to "lead to workable solutions." They suggest,

> The good news is that content learning does emerge and is very rich once the technology recedes as the focus of activities in the classroom. At its best, technology can facilitate deep exploration and integration of information, high-level thinking, and profound engagement by allowing students to design, explore, experiment, access information, and model complex phenomena.

391

The results of this study's analysis of an attempt to integrate technology and curriculum, and the work of the authors suggest that "infusing technology" into curriculum is worthwhile, although "it can be a long road from promise to reality." The authors suggest that educators need to be aware of certain trajectories experienced by teachers and students as they work together to make technology integration work.

Among the issues involved is the idea that "content integration takes time." Teachers and students need time to develop an understanding of the best fit for technology and their classrooms. They also acknowledge that there will be "glitches galore." In the case of this study, it was clear that glitches related to the downloading of archived historical documents steered the co-teachers away from the initial phase of the project towards a focus on community based research which employed the technology as a tool for publishing rather than historical research.

This study confirms the findings and implications for research and practice of Goldman, Cole, and Syer (1999) when they illuminate many of the dilemmas that teachers and schools face when integrating technology and curriculum. At the same time, this study also confirms and supports their realistic hopefulness for the future of technology and content integration. The findings of this study firmly support their suggestion that,

The technology learning/content learning dilemma necessitates a call for more complex models and experiences for teacher professional development and more materials that support standards-based learning.... We advocate for teachers to have time to experiment with technologies, share best and worst practices, study exemplars of student work, and deal with conflicts, successes and disappointments in their attempts with computer technologies. Once teachers have engaged with technology and have seen students engage, shine and go beyond their expectations, they are willing to cope with the tension between attention to technology and attention to content. They need to carve out time and become proficient at being in a classroom that feels like the busiest place on earth while staying focussed on pedagogy. It's a tall order, but we are seeing more and more teachers succeeding.

The researcher/educator would add to the authors' call for teachers' professional development by suggesting that there is an equal need for teachers and researchers to research and document these processes. Silva and Breuleux (1994) suggest that research explore "the methodology and design utilized to introduce and merge gigabyte telecommunications with regular K-12 classroom curricular activities, in particular, activities that employ collaborative learning tasks, whether locally or virtually." The present study stands as an attempt to add to this much needed knowledge base.

<u>Resource Based Curriculum</u>

- **The digital libraries, housed by the Library of Congress and designed as the project's central curricular resource , were not significantly utilized by project participants. Web-published, student created documents and Internet searches were substituted as the primary curricular resources.**

The designers of America Dreams built the project around a collection of primary source documents housed in the Library of Congress' digital libraries. The collection included multi-media artifacts relevant to the American dream dating from the 19th through the 20th century. This first phase of the project that involved students in sorting through, and analyzing these resources, was not implemented by project participants. As students and teachers moved onto the second phase of the project, they worked as researchers of the local community's views on the American dream. The results of their surveys became the resources for the project.

Analysis of the project's design suggests that the creators envisioned students going through a process of historical research, moving on to contemporary social research, and then completing the project by creating a

394

multi-media project that expressed their dreams and the knowledge they had constructed from the two prior phases. The creators of the project, however, also designed the project to have such flexibility and openness that teachers and students could freely adapt it to their purposes, time constraints, and specific contexts. This flexibility enabled the decisions that led to the omission of the first phase which has been previously described in the study.

Upon reflection of the outcomes and the path of utilization by project participants, the researcher suggests that the project would have benefited from a return to the historical artifacts housed in the Library of Congress. Analysis of the conversations of the "freedom" group's summary writing session exposed a lack of information and historical accuracy regarding the chronology and key historical figures related to slavery, segregation, and civil rights in America. While two of the four students seemed to be able to place slavery and segregation on the right timeline, the group's understanding and ability to express their thoughts on this subject would clearly have benefited from access to primary source documents related to the topics.

The researcher suggests that the high motivational and achievement levels found among the participants in the second phase of the project could have been built upon by a return to the historical documents. The themes of freedom, wealth, peace, and family love that emerged as important to the

395

families and friends of participants might have inspired a fruitful exploration in the archives of the digital collections. This exploration may have led to deeper and more accurate historical understandings. While it was the technical difficulties with downloading information from the collections that suggesting adapting the sequences of the project's design, the belief that the contemporary social research would be more engaging to students also factored into the decision.

Historical resource–based research had not been part of the student's repertoire prior to the project. It involved students in sorting and reading through materials in a sophisticated manner. This daunting task was perceived by the researcher to be potentially less engaging and motivating than the engagement with family and friends that was involved in their student-centered surveys. The historical research phase was also less student-centered, in the sense that the finite and captive nature of the structured tasks and resources was in stark contrast to the completely student centered nature of the second set of student administered surveys.

The first phase of the project was more about what the designer's might think you would learn, the second phase was about the participants. By changing the order of these phases of the project, the researcher believes that the motivational and technological aspects of the activities may have led to

greater levels of cognitive development and understanding for the participants studied.

The researcher also suggests that issues relevant to the need for further research on the use of technology in classrooms holds true for the use of resource-based curriculum whether they are technologically housed or not. The use of primary source documents, artifacts and articles of the historical record is another case of a common sense "good fit" for constructivist/collaborative learning classrooms. It is essential that educators learn to use these artifacts in ways that are more effective than the textbooks that most often substitute for them. The primary source documents and artifacts in and of themselves, may have initial motivational and inspirational impacts on students and teachers, but like computers and the Internet, it is the purposes, methods, and contexts that we use them in that will result in increased achievement and opportunities to learn.

<u>Teacher Development, Awareness of Technology in Schools, and the</u>

<u>Transformation of Teaching and Education</u>

- **Project creators constructed the learning and teaching activities to serve as a "change agent" for teachers looking to transform their teaching through the use of technology. While evidence was found to suggest that there was increased awareness, knowledge, and comfort with integrating technology and constructivist learning activities, there was little evidence to support a significant impact on classroom teacher or schoolwide transformation of teaching.**

It is clear that both the classroom teacher and the co-teacher/researcher added to their experiences as educators during their participation in the America Dreams on-line project. This addition included a year's long attempt at working with students at the intersection of technology, the Internet, constuctivist-based, student-centered learning, and on-line projects.

As the creators of the project described in their own professional careers as educators, the researcher and classroom teacher's participation in the America Dreams project was a logical next step that built upon the previous work that the classroom teacher had done in exploring collaborative work and

398

constructivist based activities. They were also a logical next step for the co-teacher/researcher that has nearly two decades of experience in integrating student-centered, constructivist-based learning activities into the curriculum at the classroom and school-wide level. The co-teacher/ researcher also brought a decade's worth of experience with integrating computers and computer network technologies into the classroom, school-wide, and district wide contexts. The classroom teacher identified, and continues to identify herself as a technological "novice."

The development of this study sprang from the researcher's interest in the topic as well as the desire to collaborate with teachers in ways that would promote effective and thoughtful integration of the school's existing computer and computer network technologies. As a co-teacher/researcher it is clear that the America Dreams experience led to professional development in several areas.

First, the experience suggested that student web-publishing offers students motivational opportunities in the development of both their literacy and technological literacy skills. Second, the need for continuous and contextualized teacher training for new teachers and technologically novice teachers is an obvious requisite for the more full integration of computer technologies and classroom curriculum. Third, the experience also suggested

that the teacher's ability and flexibility to adapt and shape the technology/pedagogy/content integration plays a paramount role in successful implementations of on-line projects. Although these projects are often student-centered, the teacher's role is pivotal in making the project fit the educational context in ways that will equitably challenge and develop all the participants.

Ms. F., the classroom teacher, was in her second year of teaching when she began the process of collaborating on America Dreams. As has been described, she was observed to be an "excellent" teacher, by any standard, and exceptional among "first-year teachers." She demonstrated excellent classroom management skills, a strong command of the core content knowledge, and an excellent rapport with children that resulted in high levels of student motivation, achievement, and academic growth.

While excellent as a classroom teacher, Ms. F. was a novice technology user and had few experiences with integrating technology into her classroom. Ms. F.'s development as technology integrator is best represented by her responses to teacher surveys and e-mail interviews. Ms. F.'s responses to the culminating teacher survey created by the designers suggest that her comfort level with technology was improved. They also suggest that she is developing a better understanding of what it takes to integrate technology successfully.

Finally, she suggests that she has grown from the experience of collaborating with another teacher on a technological project.

While Ms. F. has suggested that the America Dreams project served her development in the previously described areas, there is little evidence of a technologically driven transformation of her teaching. This suggests that teacher development and teacher transformation can be a slow and incremental process. Since completing the project and two years of teaching in the sixth grade, Ms. F. changed grade levels and is currently in her second year of co-teaching a kindergarten class. Recent observation and dialogue with Ms. F. suggests that some of the perceived barriers to technological integration that she encountered during America Dreams continue to hamper her in developing technology integration in her kindergarten class. An insufficient number of classroom computers continue to represent a substantial barrier to her.

Ms. F. reports,

> I think using the computer in Kinder is hard for many reasons. One of which is the fact that something is always going wrong with them . Kinder students are not known for their patience- so you would have to double plan and have a back up activity ready to go at all times. Another big problem I see is that Kinder students need a lot of instruction- they need to see, hear, and practice the directions several times to be successful and sometimes that still isn't enough!! So I think students being pulled, from the regular lesson, back to one or two computers would be distracting and frustrating for students especially when we only have them for 3 1/2 hours and they are expected to

know so much just in terms of the standards. I just feel that students would be missing bits and pieces each day and we would be playing catch up over and over (November/2000).

This excerpt from recent e-mail with Ms. F., suggests two things to the researcher. First, Ms. F. continues to express a deep concern for pedagogy, content, and standards-based achievement for students in her kindergarten classroom. Second, she suggests that technical problems with computers and her lack of knowledge in dealing with them continue to represent a significant barrier to her successful integration of classroom technology. Later in this e-mail exchange, Ms. F. expresses her "basic belief" about computers when she states,

> To be honest, I guess my basic belief is that a lot of kids have access to a computer at home. I am a teacher I should by definition be modeling, demonstrating, and giving practice time with feedback not sitting a kid in front of a computer, which they can do at home with little supervision. I guess I don't feel like I am earning my paycheck when kids are at the computer. But at the same time I know that there are some kids who receive nothing at home and need the experience on the computer and enjoy it. it is just really hard to fit everything in as always!.

This excerpt suggests several things to the researcher. It suggests that Ms. F. has yet to identify her view of the central role of the teacher as extending to the facilitation and modeling of technology use. While this study has repeatedly acknowledged the centrality of the teacher in effective classrooms, it has also alluded to the need for teachers to move towards more

402

student-centered approaches that ask teachers to take risks and allow students to have greater influence and independence in their learning.

This educational/technological dilemma, that often results in slow or non-existent teacher development in integrating technology, is aptly described by Cuban (1995) when he states,

> The seemingly marginal use of computers and telecommunications in school and classrooms is due less to inadequate funds, unprepared teachers, and indifferent administrators, than it is due to dominant social beliefs about what teaching, learning, and proper knowledge are and how schools are organized for instruction.

In the case of the educational context involved in this study, Cuban's findings are seemingly supported. While the school involved in the study would clearly benefit from greater amounts of resources in order to purchase more computers, the quantities and quality of the computers and network at the school is above average in relation to many public schools nationally. Opportunities for technological staff development and training are facilitated by district level personnel. Resources have been committed to creating a training environment. Administrative indifference is clearly not in evidence.

While lack of finances and access to teacher preparation may present as barriers at relative levels within the school and school district studied, it is clear that district wide, schoolwide, and society wide beliefs about teaching

and learning continue to be the most significant barrier to integrating online projects into classes.

Suggestions for Future Research

The present study serves to describe and interpret the practice of using on-line projects in public schools. The use of the Internet and on-line projects is a relatively young pedagogical and educational activity. This initial phase of implementation of on-line activities and contexts is the most appropriate time for a full array of descriptive and interpretive studies of on-line project use that center directly among the actual practices of educators and students. By exploring on-line projects in a broad range of educational contexts descriptively and qualitatively, we can widen the initial understanding of what actually happens and move on to questions regarding achievement, equity and the foundational philosophical issues concerning education and technology.

There is also clearly a need for further research on of the role of gender and status in student group work as it relates to opportunities to learn. The present study's description of gender related dialogic issues suggests that the teacher's role in attending to gender and status issues in student groups is primary and complex. The researcher suggest that analysis of teacher thinking

404

and practice on this matter may lead to the development of specific characteristics of teaching that effectively deals with power, gender, and status issues in and across educational contexts.

Much in the same way that Rallis, Rossman, Phlegar, and Abeille (1999) successfully describe the characteristics shared by "dynamic teachers. " Their work suggests, "Being a good teacher now requires taking on new roles" to ensure that students learn, maintain the researchers. Their book offers the idea that dynamic teachers adopt no less than seven roles:

"The Moral Steward," recognizing the worth, capabilities, and rights of their students.

"The Constructor," who understands the subject matter and knows different ways to teach it in order to accommodate students' various ways of learning.

"The Philosopher," who reflects critically about what is and isn't working in the classroom and makes midcourse corrections as necessary.

"The Facilitator," creating conditions in which students feel safe to take risks and make mistakes and have time to try again.

"The Inquirer," who depends heavily on assessment to find out what students have learned and what they need to learn more about.

"The Bridger," a partner with parents, other teachers, and the community to ensure that their classrooms are responsive to the community's needs and wishes.

"The Changemaker," actively pursuing change in classrooms, schools, districts, professional associations, and policy arenas.

405

The researcher finds these seven roles to be consistent with the contructivist-based needs for teachers employing on-line projects. In fact, they offer a complex vision of teaching that support a great variety of pedagogical perspectives and instructional strategies.

As Slavin (1995) also suggested, there is clearly a need to research collaborative learning and cooperative group work in ways that explore the many diverse contexts and instructional activities that employ their principles. Among these studies, the researcher suggests further studies comparing student group work that is mediated and non-mediated. It is believed that further analysis of student group work outcomes and their dialogic conversations can yield a much needed improvement in teacher's understanding of the best ways to mediate and structure group work towards improved levels of achievement and equity.

Finally, in the area of technology/curriculum integration, the researcher suggests further research comparing constructivist-based student-centered learning with traditional models as they relate to various subject matters. In addition, the researcher reflects on his administrative role as project participant, when suggesting the need for more studies exploring the principal's role in technology-based staff development and the use of on-line projects for the purpose of transforming teaching and learning.

Recommendations for Practice

A key of finding of the study suggests that constructivist-based, student-centered, research-based learning activities can result in students actively engaging in creating learning opportunities aimed at deeper and more complex understanding. The present study and many of those like it, suggest that teachers, principals, and school districts should further explore the possibilities of constructivist-based teaching and learning and it's impact on student achievement and equitable access to opportunities to learn.

Another important finding of the study suggests that opportunities to learn during collaborative group work, were significantly influenced by issues of gender and status within the classroom and student-group culture. The implications of this finding are obvious for teachers and principals alike. Status and gender must not be concealed as relevant educational issues. Teachers and teacher preparation must develop more complex understandings of gender related issues as they emerge in the new instructional and learning contexts created by a construcivist-based approach.

Also important to the study are the results relating to the use of new forms of technology in classroom and schoolwide cultures. While evidence was found that linked the technological aspects of web publishing and

407

asynchronous, Internet based communications with student engagement and meaning making, the ongoing and previously documented barriers and constraints towards transformational improvements in technology integration and teacher development (Cuban, 1995) in schools were evidenced again in the study. Thus, it is key that educators, principals, and school districts acknowledge the current status of its technological productivity and integration as lagging behind the infused level of technology implementation in the society at large. The elephant in the room must be acknowledged and addressed through more meaningful planning, teacher development, and classroom research.

References

Allen, C., & Pea, R. (1992). The social construction of genre in multimedia
learning environments. Menlo Park, CA: Institute for Research on
Learning.

Aronson, E., Blaney, N., Stephan, C., Sikes, J., & Snapp, M. (1978). *The
Jigsaw Classroom*. Beverly Hills, CA: Sage.

Aust, R., Padmanabhan, S. (1994). *Empowering Teachers with Technology:
An Agenda for Research and Development.*
ERIC DIGEST - ED373700 ERIC Clearinghouse on Information
Resources, Syracuse, N.Y.

Bakhtin, M. (1981). Discourse in the novel. In M. Holquist (Ed.), *The
dialogic imagination: four essays by M. M. Bakhtin.* (C. Emerson &
M. Holquist, Trans.). Austin: University of Texas Press.

Bakhtin, M. (1986). *Speech genres and other late essays.* Austin: University
of Texas Press.

Barsalou, L. W., (1991). Deriving categories to achieve goals. In G. H.

Bower (Ed.), *The psychology of learning and motivation: Advances in
research and theory.* 27, pp. 1-64. New York: Academic Press.

Barsalou, L. W., (1992). *Cognitive psychology: An overview for cognitive
scientists.* Hillsdale.NJ: Erlbaum.

Becker, H. (1999). *Internet Use by Teachers.* Center for Research on
Information Technology and Organizations.

Becker, H. (1999). *Teaching, learning, and computing, 1998: A national
survey of schools and teachers.* University of California at Irvine.
CRITO.

Berenfeld, B., & Schrum, L. (1997). *Teaching and learning in the
information age: A guide to educational telecommunications.*
Needham Heights, Massuchusetts: Allyn & Bacon

Berg, K.F., (1993). *Structured cooperative learning and achievement in a high school mathematics class.* Paper presented at the annual meeting of the American Educational Research Association, Atlanta.

Bershon, B.L. (1992). Cooperative problem solving: A link to immerging speech. In: Hertz-Lazarowitz & Miller (Hrsg*.*). *Interaction in cooperative groups*, pp. 36-48. New York: Cambridge University Press.

Bianchini, J. A. (1999). From here to equity: The influence of status on student access to and understanding of science. *Science Education, 83,(5), 577-601.*

Billig, M. (1987). *Arguing and thinking: A rhetorical approach to social psychology.* Cambridge, England: Cambridge University Press.

Birdwhistell, R. L. (1977). Some discussion of ethnography, theory, and method. In J. Brockman (Ed.), *About Bateson: Essays on Gregory Bateson,* (pp.103-144) New York: E.P. Dutton.

411

Blumenfeld, P. C., Soloway, E., Marx, R. W., Krajcik, J. S., Guzdial, M., & Palincsar, A. (1991). Motivating project-based learning: Sustaining the doing, supporting the learning. *Educational Psychologist, 26*,(3&4), 369-398.

Bonk, C. J., Appleman, R., & Hay, K.E. (1996) Electronic conferencing tools for student apprenticeship and perspective taking. *Educational Technology*, 8-18.

Bornstein, K. (1995). *Gender outlaw: On men, women, and the rest of us.* New York: Vintage Books.

.

Bossert, S. (1988-89). Cooperative activities in the classroom. In E. Rothkopf (Ed.), *Review of Research in Education*, 15, (pp. 225-250). Washington, D.C.: American Educational Research Association.

Bruckman, A. S. (1993). *Gender swapping on the Internet.* Proceedings of INET93, San Francisco,CA. ftp://ftp.media.mit.edu/pub/asb/papers/

Buchmann, M. (1989, April). *Breaking from experience in teacher education: When is it necessary, how is it possible?* Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

Bulkeley, W. (1997). Technology: What we've learned. *The Wall Street Journal*, R1-R32.

Bump, J. (1990). Radical changes in class discussion using networked computers. *Computers and the Humanities*, 24, 49-50.

Cazden, C. (1986). Classroom discourse. In M. Wittrock (Ed.), *Handbook of research on teaching* (3rd edition), (pp. 432-463). New York: Macmillan.

Cervantes, R. G., (1993). *Every message tells a story: A situated evaluation of the instructional use of computer networking.* Unpublished doctoral dissertation, University of Illinois, Urbana-Champaign.

Clark, A. (1993). *Associative engines: Connectionism, concepts, and representational change.* Cambridge, England: Cambridge University Press.

Clark, H. (1996). *Using language.* Cambridge, England: Cambridge University Press.

· Chang, H., Honey, M., Light, D., Moeller, B., & Ross, N. (1998). *The Union City story: Education reform and technology: Students' performance on standardized tests.* New York: Education Development Center/Center for Children & Technology.

Cohen, E. J. (1986) *Designing groupwork strategies for the heterogenious classroom.* NewYork: Teachers College Press..

Cohen, E. G. (1994a). *Designing groupwork* (2nd edition). New York: Teachers College Press.

Cohen, E. G. (1994b). Restructuring the classroom: Conditions for productive small groups. *Review of Educational Research,* 64, (1), 1-35.

414

Cole, M. (1996). *Cultural Psychology*. Cambridge, MA: The Belknap Press
of Harvard University Press.

Cole, M. & Wertsch, J. (1996) *Beyond the Individual-Social Antimony in discussions of Piaget and Vygotsky*.
http://www.massey.ac.nz/~ALock/virtual/colevyg.htm

Collins, T. (1990). The impact of microcomputer word processing on the performance of learning disabled students in a required first year writing course. *Computers and Composition*, 8, 49-68.

Collis, B. (1996). *Tele-learning in a Digital World: The future of distance learning*. London: International Thomson Computer Press.

Corsaro, W. A., (1981). Entering the child's world—Research strategies for field entry and data collection in a preschool setting. In J. Green & C. Wallat (Eds.), *Ethnography and language in educational settings*. Norwood, NJ: Ablex.

415

Corsaro, W. A., (1985). *Friendship and peer culture in the early year:.*

Language and learning for human service professions.

Westport, Conn: Ablex Publishing.

Cuban, L. (1993). *How teachers taught: Constancy and change in American*

classrooms 1880 - 1990. (2nd ed.). New York: Teachers College

Press.

Cuban, L. (1995). *Public school teachers using machines in the next decade.*

In Education and technology: Future vision. Washington, DC: U.S.

Government Printing Office.

Cuban, L. (2000). Is spending money on technology worth it? *Education*

Week, 19, 42.

Curtis, P. (1992). Mudding: Social phenomena in text-based virtual realities.

Proceedings of Diac92.

ftp://ftp.lambda.moo.mud.org/pub/MOO/papers/DIAC92.txt.

416

Damon, W. (1984). Peer education: The untapped potential. *Journal of Applied Developmental Psychology*, 5, 331-343.

Davidson, N., & Worsham, T. (1992b). HOTSICLE--Higher order thinking skills in cooperative learning environments. In N.Davidson & T. Worsham (Eds.), *Enhancing thinking through cooperative learning (xi-xx)*. New York, NY: Teachers College, Columbia University.

Deering, P. D., Meloth, M. S. (1999) The Role of the Teacher in Promoting Cognitive Processing During Collaborative Learning. In A. O'Donnell & A. King (Eds.), *Peer Group Learning*. Hillsdale, NJ: Erlbaum.

Devin-Sheehan, L., Feldman, R., and Allen, V. (1976). Research on children tutoring children: A critical review. *Review of Educational Research*, 46, 355-385.

D'Ignazio, F. (1993). Electronic Highways and Classrooms of the Future. In

by T. Cannings and L. Finkle. (Eds.), *In The Technology Age*

Classroom. Wilsonville, Ore.: Franklin, Beedle, and Associates.

Din, A. H. (1991). Computer-supported collaborative writing: The

work place and the writing classroom. *Journal of Business and*

Technical Communication, 5, 123-150.

Dixon-Krauss, L. (1996). *Vygotsky in the classroom: Mediated literacy*

instruction and assessment. White Plains, New York. Longman

Publishers.

Donlan, L., & Ferenz, K. (1997). *America Dreams*.

http://www.internet-catalyst.org/projects/amproject/splash.html

Dougiamas, M. (1998). *A Journey into constructivism*.

http://dougiamas.com/writing/constructivism.html

Driver, R, Asoko, H., Leach, J., Mortimer, E. F. & Scott, P. (1994) Constructing scientific knowledge in the classroom. *Educational Researcher*, 23, 5-12.

Duckworth, E. (1987). *The having of wonderful ideas and other essays on teaching and learning.* New York: Teachers College Press.

Dunkin, M. J., & Biddle, B. J. (1974). *The study of teaching.* New York: Holt, Rinehart and Winston.

Edwards, D., & Mercer, N. (1987*). Common knowledge: The development of understanding in the classroom.* New York: Falmer.

Fantuzzo, J.W., Polite, K., & Grayson, N. (1990). An evaluation of reciprocal peer tutoring across elementary school settings, *The Journal of School Psychology*, 28, 309-323.

Fantuzzo, J. W., Riggio, R. E., Connelly, S., & Dimeff, L. A. (1989). Effects
of reciprocal peer tutoring on academic achievement and
psychological adjustment: A component analysis. *Journal of
Educational Psychology*, 81, 173-177.

Feiman-Nemser, S. (1990). Teacher preparation: Structural and conceptual
alternatives. In W. R. Houston (Ed.), *Handbook of Research on
Teacher Education*, (pp. 212-233). New York: Macmillan.

Feiman-Nemser, S. & Buchman, M. (1986). The first year of teacher
preparation: Transition to pedagogical thinking.
Journal of Curriculum Studies, 18, 239-256.

Fetterman, A. (1989). *Ethnography: Step by step*. Thousand Oaks, Ca: Sage.

Fetterman, A. (1998). *Ethnography: Step by step*. Second Edition. Applied
Social Research Methods Series, 17. Thousand Oaks: Sage.

Fisher, C., Dwyer, D.C., & Yocam, K. (1996). *Education and technology:
Reflections on computing in classrooms*. U.S.: Jossey-Bass.

420

Fishman, P. (1983). Interaction: The work women do. In B. Thorne, C.

Kramarae, & N. Henley (Eds.), *Language, gender and society* (pp.

89-101). Rowley, MA: Newbury House.

Flory, M. D. (1991, November*). Limits on the image: The teacher as movie

star.* Paper presented at the annual meeting of the American

Anthropological Association, Chicago, IL.

Foerster, H. von (ed.) (1984). *Observing Systems*. Salinas: Intersystems

Publications.

Gee, J. P. (1996). *Social linguistics and literacies: Ideology in discourse* (2nd

ed.) London: Taylor & Francis.

Gee, J.P, Green, J.L (1995). Discourse analysis, learning and social practice.

Review of Research in Education, 23.

Gee, J. P. & Green, J. L. (1998). Discourse analysis, learning, and

social practice: A methodological study. In P. D. Pearson & A.

Iraon-Nejad (Eds.), *Review of Research in Education* (pp.119-170).

New York: American Educational Research Association.

Gergen, K. J., (1985). The social constructionist movement in modern

psychology. *American Psychologist*, 40, 266-275.

Goffman, I. (1981). *Forms of talk*. Philadelphia: University of Pennsylvania

Press.

Goldman, S., Cole, K., & Syer, C. (1999). *The technology/content dilemma.*

http://www.ed.gov/Technology/TechConf/1999/whitepapers/paper4.h

tml

Goodlad, J. (1984). *A place called school: Prospects for the future.* New

York: McGraw-Hill.

Goswami, D., & Stillman, P. R. (1987). *Reclaiming the classroom: Teacher

research as an agency for change.* Portsmouth, NH: Boynton/ Cook.

Graves, D. (1983). *Writing: Teachers and Children at Work*. Portsmouth, NH: Heineman Educational Books.

Green, J. & Dixon, C. (1993). Talking knowledge into being: Discursive practices in classrooms. *Linguistics and Education*, 5, 231-239.

Green, J., Dixon,C. & Putney, L. (1998). *Conducting Classroom- Based Research: Issues in ethnography and ethnographic analysis*. From Workshop by thew Santa Barbara Classroom Discourse Group. At the Research Assembly Midwinter Conference of the national Council of Teachers of English. University of California, Los Angeles.

Green, J. L., & Meyer, L. A. (1992). The embeddedness of reading in classroom life: Reading as a situated process. In C. Baker & A. Luke (Eds.), *Toward a critical sociology of reading pedagogy*. Amsterdam: Benjamins.

Green, J.L. & Wallat, C. (1981) Mapping instructional conversations. In J.L. Green & C. Wallat (1982) (Eds.) *Ethnography and language in educational settings* (pp. 161-205). Norwood, NJ: Abex.

Green, J.L. (1983). Teaching as a linguistic process: A state of the art. In E. Gordon (Ed), *Review of research in education* (Vol. 10, pp. 151-252). Washington, D.C: American Educational Research Association.

Greenwood, C.R., Delquadri, J.C., & Hall, R.V. (1989). Longitudinal effects of classwide peer tutoring. *Journal of Educational Psychology*, 81, 371-383.

Guba, E. G. & Lincoln, Y.S. (1981). Epistemological and methodological bases of naturalistic inquiry. *Educational Communications Journal.* 30, 233-252.

Guba, E. G. & Lincoln, Y.S. (1989). *Fourth generation evaluation.* Newbury park, CA: sage

Gumperz, J. (1982a). *Discourse strategies*. Cambridge, England: Cambridge University Press.

Gumperz, J. (1992). Contextualization and understanding. In A. Duranti & C. Goodwin (Eds.), *Rethinking context: Language as an interactive phenomenon* (pp. 229-252). Cambridge, England: Cambridge University Press.

Gumperz, J. (1986). Interactional socio-lingusitics on the study of schooling. In J. Cook-Gumperz (Ed). *The social construction of literacy* (pp. 45-68). New York: Cambridge University Press.

Hawkins, J., and Honey, M. (1993). *Teaching & Telecommunications: Research*. Center of Children and Technology.

Hawkins, J., Spielvogel, R., & Panush, E. (1996). *National study tour of district technology integration: Summary report*. New York: Education Development Center/Center for Children & Technology.

425

Herring, S.C. (1993). Gender and democracy in computer-mediated communication. *Electronic Journal of Communication*, 3, (2). Comserv@cios.org. Message: Send Herring V3N293

Hertz-Lazarowitz, R. Ivory, G., & Calderón, M. (1993). *The Bilingual cooperative integrated reading and composition (BCIRC) project in the Ysleta Independent School District: Standardized test outcomes.* Baltimore, MD: Johns Hopkins University, Center for Research on Effective Schooling for Disadvantaged Students.

Hillocks, G. (1983*). What Works in Teaching Composition: A Summary of Results.* Paper presented at the annual convention of the National Council of Teachers of English, Denver, Colorado, November.

Hodas, S, (1993*). Technology Refusal And The Organizational Culture of Schools*, 2.0

http://homepage.seas.upenn.edu/~cpage/techref.html

Hofstadter, D. R. (1997*). Le ton beau de Marot: In praise of the music of language.* New York: Basic Books.

Honey, M., Carrigg, F., Hawkins, J. (1998). Union City On-line: An

Architecture for Networking and Reform. *Learning with technology:*

The 1998 yearbook of the Association for Supervision and Curriculum

Development. Alexandria, VA: ASCD

Hymes, D. (1974). *Foundations of sociolinguistics.* Philadelphia: University

of Pennsylvania Press.

Johnson, D. W., Johnson, R. T. (1992). Positive interdependence: Key to

effective cooperation. In R. Hertz-Lazarowitz & N. Miller (Eds.),

Interaction in cooperative groups, (pp. 174-202). Cambridge, UK:

Cambridge University Press.

Johnson, D. W., Maruyama, G., Johnson, R., Nelson, D., & Skon, L. (1981).

Effects of cooperative, competitive, and individualistic goal structures

on achievement: A meta-analysis. *Psychological Bulletin,* 89, 47-62.

Jonassen, D. (1991, September). Evaluating Constructivist Learning.

Educational Technology, 36, (9), 28-33.

Jonassen, D. (1991). Objectivism vs. Constructivism. *Educational Technology Research and Development*, 39, (3), 5-14.

Jonassen, D. (1994, April). Thinking technology. *Educational Technology*, 34, (4), 34-37.

Kelly, G.J., & Green, J.L. (1997). What counts as science in high school and college classrooms? Examining how teacher's knowledge and classroom discourse influence opportunities learn for learning science.. *Journal of Classroom Interaction*, 32, (2), 1-3.

Kerr, S., (1991).Lever and fulcrum: Educational technology in teachers' thought and practice. *Teachers College Record*, 93.

Kiesler, S., Siegel, J., & McGuire, T. W. (1984). Social psychological impacts of computer mediated communications. *American Psychologist*, 39, (10), 1123-1134.

Kincheloe, J. L. (1991). *Teachers as researchers: Qualitative inquiry as a path to empowerment.* New York: Falmer Press.

Kohn, A., (1986). *No contest: The case against competition.* Boston: Houghton-Mifflin.

Lave, J. (1988). *Cognition in practice: Mind, mathematics and culture in everyday life.* Cambridge, UK: Cambridge University Press.

Lave, J., & Wenger, E., (1991*). Situated learning: Legitimate peripheral participation.* Cambridge: Cambridge University Press.

Lehrer, R. (1993). Authors of knowledge: Patterns of hypermedia design. In S. P. Lajoie & S. J. Derry (Eds.), *Computers and cognitive tools*, Hillsdale, NJ: Lawrence Erlbaum.

Lemke, J. (1988). Genres, semantics, and education. *Linguistics and Education: An International Research Journal*, 1, 81-99.

Levin, J., Rogers, A., Waugh, M., & Smith, K. (1989). Observations on

educational electronic networks: Appropriate activities for learning.

The Computer Teacher, 16, 17-21.

Levinson, S. (1983). *Pragmatics*. Cambridge, England: Cambridge

University Press.

Lloyd, P. & Cohen, E.G. (1999). Peer Status in the Middle School: A Natural

Treatment for Unequal Participation. *Social Psychology of Education*,

3, (3), 193-216.

Lyons, D., Hoffman, J., Krajcik, J., & Soloway, E. (1996*). An investigation

of the use of the World Wide Web for on-line inquiry in a science

classroom*. Paper presented at the meeting of the National Association

for Research in Science Teaching,

Chicago, IL.

Marshall, C., Rossman, G.B. (1995). *Designing qualitative research. (2nd*

ed.). Thousand Oaks: Sage Publications.

Means, B. (1995). Transforming with technology: No `silver bullet'.

Education Digest, 61, 12-01, 31.

Means, B., & Golan, S. (1998). *Transforming teaching and learning with*

multimedia technology. Menlo Park, CA: SRI International.

Means, B. & Olson, K., (1994) The link between technology and authentic

learning. *Educational Leadership*, 51.

Means, Barbara et al. (1993). *Using technology to support education reform*.

Washington, DC: Office of Educational Research and Improvement,

U.S. Department of Education.

ERIC DIGEST - ED364220. ERIC Clearinghouse on Information

Resources, Syracuse, N.Y.

Mehan, H. (1979). *Learning lessons*. Cambridge, MA: Harvard University

Press.

Meloth, M. S. & Deering, P. (1999) Peer Group Learning. Hillsdale, NJ:

Erlbaum.

Meloth, M. S., & Deering, P. D. (1992). The effects of two cooperative

conditions on peer-group discussions, reading comprehension, and

metacognition. *Contemporary Educational Psychology*, 17, 175-193.

Meloth, M. S., & Deering, P. D. (1994). Task talk and task awareness under

different cooperative learning conditions. *American Educational*

Research Journal, 31, 138-165.

Mergendoller, J.R. (1996). Moving from technological possibility to richer

student learning: Revitalized infrastructure and reconstructed

pedagogy. *Educational Researcher*, 25,(8), 43-46.

Minnick, N. (1987) *Introduction to L.S. Vygotsky*, 1987.

Moore, M. G. (1995) The death of distance.: *American Journal of Distance*

Education 9, 3, 1-4.

Murphy, E. (2000). *Constructivism: From philosophy to practice.*

http://www.stemnet.nf.ca/~elmurphy/emurphy/cle.html

National Center on Education and the Economy (NCEE). (1998). *New Standards: Performance Standards and Assessments for the Schools* http://www.ncee.org/OurPrograms/nsPage.html

Newman, F. (1996*). Authentic achievement: Restructuring schools for intellectual quality*. San Francisco, CA: Jossey-Bass Inc.

Nuthall, G. (1995). Undertanding Student Thinking and Learning in the Classroom. *The International Handbook of Teachers and Teaching*. (Eds.), Biddle,Good,& Goodson; Kluwer Academic Publishers.

Oldfather, P. (1991). *Student's perceptions of their own reasons/purposes for being or not being involved in learning activities: A qualitative study of student motivation*. Dissertation Abstracts International, 52, 853A.

Oldfather, P. (1993). *When students do not feel motivated for literacy learning: How a responsive classroom culture helps*. http://curry.edschool.virginia.edu/go/clic/nrrc/rspon_r8.html

433

Oldfather, P. (1993b*)*. *Facilitating participation and ownership through engaging students as co-researchers.* Paper presented at the annual meeting of the America Educational Research Association. Atlanta, GA.

Palincsar, A., Stevens, D., & Gavelek, J. (1989). Collaborating with teachers in the interest of student collaboration. *International Journal of Educational Research,* 13, 41-54.

Papert, S. (1990). Situating Constructionism. From Harel, I. *Constructionism.* Ablex Publishing Corporation.

Papert, S.A. (1993). *The Children's Machine: Rethinking school in the age of the computer.* New York: Basic Books.

Patton, M. Q., (1980). *Qualitative evaluation methods.* Thousand Oaks, Ca: Sage.

Peck, K. L., & Dorricott, D. (1994). Why use technology? *Educational Leadership,* 51, (7), 11-14.

Penuel, W.R., & Means, B. (1999, July). *Observing teaching practice in project-based learning using multimedia: A Tool for Evaluators.* Paper presented at the Secretary of Education's National Conference on Educational Technology. Washington, D.C.

Piaget, J.(1932) *The moral judgment of the child.* London: Routledge & Kegan Paul.

Piaget, J. (1970) *Structuralism.* NewYork: Basic Books.

Piaget, J. (1970). 'Piaget's Theory'. In P.H. Mussen (Ed). *Carmichael's manual of child psychology,* (3rd ed.),1. New York: Wiley.(pp.703 – 732).

Prawat, R. (1992). Teachers' beliefs about teaching and learning: A constructivist perspective. *American Journal of Education,* 100, 354- 395.

President's Committee of Advisors on Science and Technology, Panel on

    Educational Technology. (1997). *Report to the president on the use of*

    technology to strengthen K-12 education in the United States.

    Washington, DC: USGPO.

Rallis, S., Rossman, G.B., Phlegar, J.M., & Abeille, A. (1996*). Dynamic*

    *teachers: Leaders of change.*Thousand Oaks, CA: Corwin Press.

Reid, E. (1993). Electronic chat: Social issues on Internet Relay Chat. *Media*

    Information Australia, 67, 62-70.

Rich, Y. (1990). Ideological impediments to instructional innovation: The

    case of cooperative learning. *Teaching and Teacher Education*, 6, 81-

    91.

Riel, M. (1990a). Building electronic communities: success and failure on

    computer networking. *Instructional Science*, 19, 145-169.

Riel, M. (1990b). Cooperative learning across classrooms in electronic

    Learning Circles. *Instructional Science*, 19, 445- 466..

Riel, M., (1994). Educational change in a technology-rich environment. *Journal of Research on Computing in Education*, 26.

Rodino, M. (1997). Breaking out of binaries: Reconceptualizing gender and its relationship to language in computer-mediated communication. *Journal of Computer Mediated Communication*, 3, (3). http://ascusc.org/jcmc/vol3/issue3/rodino.html

Rogoff, B. (1990). *Apprenticeship in thinking: Cognitive development in social context*. Oxford: Pergamon Press.

Rogoff, B. (1994). Developing understanding of the idea of communities of learners. *Mind, Culture, and Activity*, 4, 209-229.

Roland, L. (1997). *Benefits of collaborative learning*. Western Oregon University: http://www.wou.edu/las/natsci_math/math/class/cooplist.html

Rutkowski, T. (1997) Statistics for the graphs: of General Magic at

tony@genmagic.com: *From Learning on and over the Internet:*

Dynamics and Limitations:Y. Karaliotas.

http://users.otenet.gr/~karl125/education.htm

Rysavy, S. D., & Sales, G. C. (1991). Cooperative learning in computer-

based instruction. *Educational Technology Research & Development,*

39, (2), 70-79.

Sabelli, N., & Dede, C. (in press). *Integrating educational research and*

practice: Reconceptualizing the goals and process of research to

improve educational practice.

Sandholtz, J. H., Ringstaff, C., & Dwyer, D. C. (1997). *Teaching with*

technology: Creating student-centered classrooms. New York:

Teachers College Press.

Santa Barbara Classroom Discourse Group, (1992a). Constructing literacy in

classrooms: Literate action as social accomplishment. In H. Marshall

(Ed). *Redefining student learning: Roots of educational change*

(pp.119-150). Norwood, NJ: Ablex.

Santa Barbara Classroom Discourse Group, (1992b). Do you see what I see?

The referential and intertextual nature of classroom life. *Journal of*

Classroom Interaction, 27, 29-36.

Sharan, S. (Ed.). (1990). *Cooperative learning: Theory and research*. New

York, NY: Praeger.

Shultz, J., Florio, S, & Erickson, F. (1982). *Where's the Floor?: Aspects of*

the Cultural Organization of Social Relationships in Communication

at Home and at School. Ethnography and Education: Children in and

out of School. Eds. P. Gilmore and A.Glatthorn. Washington, D.C.:

Center for Applied Linguistics.

Sener, J. (1997). Current Educational Trends and Concepts and their Relation

to ALN. The Asynchronous Learning Networks Magazine (ALN

Magazine).Vanderbilt University: 1, (1).

Shank, G. (1997). *Abductive multiloguing: The semiotic dynamics of*

navigating the Web.

http://www.uni-koeln.de/themen/cmc/text/shank.93a.txt

Shank, G. D., & Cunningham, D. J. (1992). The virtues of an educational

semiotic. *Mid Western Educational Researcher*, 5 (2), 2-8.

Sharan, Y. & Shlomo S. (1992*). Expanding cooperative learning through*

group Investigation. New York : Teachers College Press.

Siegle, D. (1999). *Resource Web Page*: Boise State University.

http://coehp.idbsu.edu/siegle/qual/trust.htm

Silva, M., & Breuleux, A. (1994). The use of participatory design in

implementation of Internet-based collaborative learning activities in

K-12 classrooms. *Interpersonal Computing and Technology*: 2, (3).

http://quest.arc.nasa.gov/misc/ipct.html

Slavin, R.E. (1977). How student learning teams can integrate the

desegregated classroom. *Integrateducation*,15, 56-58.

Slavin, R. E. (1983). When does cooperative learning increase

student achievement? *Psychological Bulletin*, 94, 429-445.

Slavin, R.E. (1983a). *Cooperative Learning*. New York: Longman.

Slavin, R.E.(1983b), When does cooperative learning increase student

achievement?, *Psychological Bulletin*, 94,429-445.

Slavin, R. E. (1995). *Cooperative learning: Theory, research, and practice*

(2nd Ed.). Boston: Allyn & Bacon.

Slavin, R. E. (1995). *Research on cooperative learning and achievement:*
What we know, what we need to know.
http://www.successforall.net/resource/research/cooplearn.htm

Slavin, R. E., Sharan, S., Kagan, S., Hertz-Lazarowitz, R., Webb,
C., & Schmuck, R. (1985*). Learning to cooperate, cooperating to*
learn. New York, NY: Plenum Press.

Software Publishers Association. (1994) *K-12 Education market report.*
Washington, D.C.: Software Publishers Association, .

Software Publishers Association. (1996) Report of the effectiveness of
technology in schools, 95-96: Executive Summary.
http://www.spa.org/project/edu_pub/summary.htm

Solomon, D., Watson, M., Schaps, E., Battistich, V., & Solomon, J. (1990).
Cooperative learning as part of a comprehensive classroom program
designed to promote prosocial development. In S. Sharan (Ed.)
Cooperative Learning: Theory and Research. New York: Praeger.

442

Stevens, R., Madden, N., Slavin, R., & Farnish, A. (1987). Cooperative

integrated reading and composition: Two field experiments. *Reading

Research Quarterly*, 22, 433-454.

Stevens, R.J., & Slavin, R.E. (1995a). Effects of a cooperative learning

approach in reading and writing on academically handicapped and

nonhandicapped students. *The Elementary School Journal*, 95, (3),

241-262.

Strommen, E. F., & Lincoln, B. (1992). Constructivism, technology, and the

future of classroom learning. *Education and Urban Society*, 24, 466-

476.

Strommen, E. F., & Lincoln, B. (1998*). Constructivism, technology, and the

future of classroom learning.*

http://www.geocities.com/Athens/Delphi/6470/integrating.htm

Sugar, W. A., & Bonk, C. J. (1995). *World forum communications: Analysis of student and mentor interactions.* Paper presented at annual national convention of the Association for Educational Communications and Technology, Anaheim, CA.

Swan and Mitrani (1993). The changing nature of teaching and learning in computer-based classrooms. *Journal of Research on Computing in Education,* 26.

Talmage, H., Pascarella, E.T., & Ford, S. (1984). The influence of cooperative learning strategies on teacher practices, student perceptions of the learning environment, and academic achievement. *American Educational Research Journal,* 21, 163-179.

Tannen, D. (1991). *You just don't understand: Women and men in conversation.* New York: Ballantine Books.

Taylor, P. (1996) Mythmaking and myth breaking in the mathematics classroom, *Educational Studies in Mathematics,* 31, 151-173.

Tobin, K., & Tippins, D (1993) Constructivism as a Referent for Teaching
and Learning. In: K. Tobin (Ed) *The Practice of Constructivism in*
Science Education, (pp. 3-21), Lawrence-Erlbaum, Hillsdale, NJ.

Tuyay, S., Jennings, L., Dixon, C. (1995). Classroom discourse and
opportunities to learn: An ethnographic study of knowledge
construction in a bilingual third-grade classroom. *Discourse*
Processes, 19, 75-110.

United States Congress, Senate. (1991). *High-Performance Computing Act*
of 1991. 102nd Congress, 1st session, S. 272.
ftp://ftp.nic.merit.edu/nren/hpca.1991/nrenbill.txt.

United States Office of Science and Technology Policy. Director.
(1992). *The National Research and Education Network Program:*
A report to Congress. [Washington, D.C.: GPO].
ftp://expres.cise.nsf.gov/pub/fnc/nrencongr.ascii

Valsiner, J. (1993) Culture and human development: A co-constructivist

perspective. In P. Van Geert & L. Moss (Eds.),*Annals of theoretical

psychology*, X. New York: Plenum.

Von Glasersfeld, E. (1990) An exposition of constructivism: Why some like

it radical. In R.B. Davis, C.A. Maher and N. Noddings (Eds),

Constructivist views on the teaching and learning of mathematics

(pp.19-29). Reston, Virginia: National Council of Teachers of

Mathematics.

Vygotsky, L. S. (1978). *Mind in society: The development of higher

psychological processes*. M. Cole, V. John-Steiner, S. Scribner, & E.

Souberman, (Eds.). Cambridge, MA: Harvard University Press.

Vygotsky,L.S. (1986). *Thought and language*. Cambridge, MA: MIT Press.

Wallace, R., & Kupperman, J. (1997). *On-line search in the science

classroom: Benefits and possibilities*. Paper presented at the AERA,

Chicago, 1997. http://mydl.eecs.umich.edu/papers/curriculum.pdf

Watson, K. (1998). *Readings and training materials.*

http://edweb.sdsu.edu/webquest/materials.htm

Waugh, M. L., Levin, J. A., & Smith, K. (1994). Organizing electronic

network-based instruction interactions: Successful strategies and

tactics, part I. *The Computing Teacher*, 21, (5), 21-22.

Webb, N. (1989). Peer interaction and learning in small groups. International

Journal of Educational Research, 13, 21-40.

Wenglinsky, (1998).*Does It Compute? The Relationship Between*

Educational Technology and Student Achievement in Mathematics.

www.ets.org/research/pic/technolog.html

Wertsch, J.V. (1991). *Voices of the mind: A sociocultural approach to*

mediated action. Cambridge, MA: Harvard University press.

Wertsch, J.V. (1985). *Vygotsky and the social formation of mind.* Cambridge:

Harvard University Press.

Windschitl, M. (1998) . The www and classroom research: what path should

we take? *Educational Researcher* , 27, (1) , 28-33.

Wittgenstein, K. (1953). *Philosophical investigations.* New York: Macmillan.

Wittrock, M. C. (ed.) (1986). Handbook of research on teaching. (3rd ed.).

New York: Macmillan Publishing Co

Wozniak, R.H. (1993) Co-constructive metatheory for psychology:

Implications for an analysis of families as specific social contexts for

development. In. R.H. Wozniak & K.W. Fischer (Eds.*), Development*

in context: Acting and thinking in specific

environments. Hillsdale, NJ: Erlbaum.

Yager, R. E. (1991). The constructivist learning model: Towards real reform

in Science education. *The Science Teacher*, 58, (6), 52-57.

Yoder, M. (1999). The Student webquest. *Learning and Leading with*

Technology, 26, (7).

Zaraza, R., & Fisher, D. (1993). Introducing system dynamics into

the traditional secondary curriculum: The CC-Stadus project's

search for leverage points. *The Creative Learning Exchange,* 7, (1), 3.

Zuboff, S. (1988). *In the age of the smart machine.* New York: Basic Books.

Appendix A

List of On-line Projects

U.S. History for Kids from PBS
http://www.pbs.org/wgbh/pages/amex/kids/index.html

The Collaborative Visualization Project
Through the use of advanced technologies, the CoVis Project is
attempting to transform science learning to better resemble the
authentic practice of science.
http://www.covis.nwu.edu/

FrontPage 2000 in the Classroom
Web page creation as a class project.
http://www.actden.com/fp2000/java/index.htm

The Global Grocery List Project
http://www.schoollife.net/schools/ggl

The Global Schoolhouse
http://www.gsn.org/

**Global Learning and Observations to Benefit the Environment
Program** GLOBE is a hands-on program links students with other
students and with scientists around the world. Students, guided by
trained teachers, take environmental measurements identified and
designed by an international group of scientists and educators.
http://www.globe.gov/

Globalearn.com
Live, interactive expeditions for students around the world.
Http://www.globalearn.com

Global Online Adventure Learning
Students are invited to embark on a growing list of exciting
adventures. The adventures involve the sciences, technologies, and
the underlying laws of nature.
http://www.goals.com/

I*EARN
International Education and Resource Network
The largest international k-12 network for structured student projects.
I*EARN projects enable young people to collaborate on issues facing
the planet and its people.
http://www.igc.apc.org/iearn/projects.html

Internet Explorer 5.0 in the Classroom
A kid-friendly guide for using the Web browser in your classroom.
http://www.actden.com/ie5/index.htm

JASON Project
A year-round scientific expedition designed to excite
and engage students in science and technology and to motivate and
provide professional development for teachers.
http://www.jasonproject.org

Journey North
http://www.learner.org/jnorth

NASA K-12 Internet Initiative
http://quest.arc.nasa.gov/overview.html

Live From Antarctica
A Passport to Knowledge project designed to allow students and
teachers the opportunity to experience what life is like in the coldest
place on the planet, Antarctica. It is an electronic trip via: interactive
television, computer networks, and classroom activities.
http://quest.arc.nasa.gov/antarctica

Network-based Educational Activities
A collection of 236 exemplary network-based educational activities.
http://ccwf.cc.utexas.edu/~jbharris/Virtual-Architecture

Projects for your Classroom
http://teams.lacoe.edu/documentation/projects/projects.html

The Telescopes In Education (TIE) Program
This project is designed to bring research-grade astronomy to schools,
amateur clubs, etc. by way of a remotely-controlled telescope and

easy-to-use software for data acquisition. Two remote automatic scientific grade telescope systems have been put online accessible via modem/phone lines.
http://www.mtwilson.edu/Science/TIE/

University of Kansas' Explorer
A database to engage educators and students in creating and using multimedia resources for active learning.
http://explorer.scrtec.org/explorer/

WhaleNet
http://whale.wheelock.edu

Wind Tunnel On-line Design Collaborative Project
http://quest.arc.nasa.gov/aero/events/collaborative/wind_tunnel.html

The Wolf Studies Projects
The Wolf studies project is an example of an Internet-based activity that was developed to provide teachers with a model for instructional use. This project is being used by teachers and students to enhance their study of Wolves while also acting as a catalyst for their further instructional use on the network.
http://www.wolf.org

Wright Flyer Online Project
http://quest.arc.nasa.gov/aero/wright

Appendix B

Conversation Map of "Freedom" Group Video Taped Summary
Writing Session # 1

Line IU	Message Units Transcripts of Text	Event
001	JP: You guys,	JP Task intro.
002	Is there,	
003	anybody got a watch?	
004	Sandy: (Raises her hand) Yeah, I do.	
005	JP: Ok so keep track of your time	
006	and figure you know you gotta rap up at about 9;30.	
007	Cause then we'll have another group comin in.	
008	But I'll make em wait if you need more time.	
009	Sandy: alright (JP leaves the room.)	
010	Sandy: ask me...?	
011	Bryan: Ok,	
012	how come all you guys only get one?(regarding the surveys)	
013	Craig: because no one would...	
014	Sandy: I had a dentist appointment., and I was like I pain.	
015	Craig: Ok alright, who,	
016	Ok first question	
017	Bryan: Only one of my persons like put seven down.	
018	Sandy: The rest put ten and Jane put ten and Craig's put ten and mine put ten. So the common thing would be.	
019	Craig: (talking while she's talking): the question for the reading would be ten.	
020	Alright Sandy, prepare to write. Write neat do not mess it up	
021	Sandy: I'm going to write with pretty.. (holds up marker)	

453

022	Craig: I'll go over it (holds up marker)	
023 024 025 026 027	here you go, Sandy: alright (Jane reaches for a cookie.) Craig: Ok Say she could write.. Bryan: (inaudible) Sandy: That's right like..	
028 029	Bryan: for our first question. Sandy: Yeah...for our first question, only on one of the , only one of the surveys	
030 031 032	Craig: That would be like that would be. (Bryan stands up) Bryan: no Craig: That would be like giving every single detail. Its just a summary..	
033 034 035 036 037	Sandy: The common number was, um having ten. Rating it from one to ten being ten as the most important that was most common or a something Jane: Average, It would be average. Craig: Yeah, yeah, yeah, ok, ok Bonnie Sandy: Yeah.	
038	Craig: You start writing that. And	
039 040 041 042 043 044 045 046 047 048	Bryan: But we've gotta write like four. Craig: Four what? Bryan: Four of these. Craig: No we don't Bryan: Yes we do. Sandy: mmm,mmm Craig: Just one. We needed to write one Bryan: For each person. Craig: No we don't, a summary of these surveys right here and then a summary of what we got right here	
049 050 051	Bryan: So Sandy writes one and Craig writes the other one right. We girls help each other and we boys, we men help each other. Craig: Just start writing.	

052	Sandy: Yeah nice words Ben.	
053	Craig: No this is supposed to be..	
054	Sandy: Yeah we're supposed to work together.	
055	Craig: Yeah um, it's a group project.	
056	Craig: Ok , um…use a different pencil.	
057	Bryan: Use a marker.	
058	Sandy: No I don't wanna use that.	
059	Craig: Yeah	
060	Bryan: We have..	
061	look at all these sheets we have.	
062	Sandy: But …for the other group.	
063	Craig: Yeah	
064	Bryan: We don't care.	
065	Craig: Ok, lets go.	
066	For um, for our first question on the	
03:15	survey.	
067	Craig: Don't you consider that a little big.	
	Bryan: See just one line and she already	
068	messed up.	
	(Sandy writes while others watch and wait.)	
	Bonnie: That's how you spell it right?	
069		
070	Bryan: remember he said to read each others so Craig you read mine and I'll read yours.	
071	Sandy: We should read em as a group.	
072	Bryan: You did that by yourself.	
073	Craig: No my mom did it.	
074	Bryan: Your mom writes just like you Craig.	
075	Sandy: For the first question (Craig is reading a survey.)	
076	Craig: Who wrote this right here?	
077	Bryan: (Inaudible)	
078	Bryan: (Reading) How does…like today?	
079	Sandy (gives a survey to Jane): here's one.	
080	Bryan: Craig, your mom said this? (Then	
081	he reads): You can express the way you	

455

082	feel, write or your life: William: Yup. (Group is reading at the same time(inaudible)	
083 084 04:33	Bryan: How do you,.... Abraham Lincoln and (Group is reading surveys to themselves.)	
085 086 087 088 089 090 091 092	Craig: Alright, this one right here says that in the 1960's had the biggest impact on freedom. This right here said that we did have more freedom now than we did before. Bryan: This one said a lot. Sandy: this one said, No, we have less... Bryan: I think this one is like too much like to say Craig: (Points at a survey) Look how much he wrote man (Bryan and Sandy talk at same time) Bryan: my mom.. Sandy: (inaudible)	
093 094 095 096	Craig: Ok in a lot of other countries woman Bryan (at same time): Dude we're supposed to be... Craig: can't even work or go anywhere. They are just supposed to stay home and raise a family.	
 097 098	(Bryan gets a cookie and Sandy goes for another.) Ben: You already had one. Bonnie: inaudible	
099 100 101	Craig: No.. oh duh, ok, today and not in this country. Dr. Martin Luther King for pushing in his belief.	
102	Ben: They're pretty good(re cookies)	
103 104	Craig: and freedom to speak also Kennedy the president had a lot of.. I can't read your mom's writing man	

456

105	Sandy: Your mom?	
106	Bryan: this one?	
107	Craig: yes that one	
108	Bryan reads: Dr. Martin Luther king was pushing his beliefs and freedoms to speak also Kennedy the president had a lot to do with freedom and a lot to do with Black education.	
109		
110	Abraham Lincoln freed the slaves.	
111	Bryan: These cookies are good	
112	Sandy: Uh huh huh. ..	
113	Ok talk about freedom.	
114	Bryan: I'm glad we're here every Wednesday for our first..(inaudible)	
115	Sandy: Look (she wipes off paper of crumbs)	
116	Bryan: Oh my God…(Inaudible)	
117	Craig: What	
06:53	(Bryan and Sandy laugh and hold their mouths.)	
118	Sandy: Ok…I got crumbs all over my elbow.	
119	Never mind never mind.	
120	Craig: lets go over this real quick.	
121	Sandy: Dude, for our first question, that's fine.	
122	Craig: No its not	
123	Bryan: It isn't, we're supposed to be writing our summaries.	
124	Craig to Sandy: here I'll help you erase all of that.	
125	Bryan: Ok.. Where's the eraser. To Jane) Craig: Ok	
126	Sandy: I have it.	
127		
128	Craig: Ok go like according to our survey Sandy: …how you spell according..	
129	(Bryan and Craig spell it simultaneously Craig: Right?	

457

130	You…to spell that. That's pathetic.	
131	Sandy: Ok, how do you spell it?	
132	Craig. A CC O r d ing	
133	Sandy: According to	
134		
135	Craig (as she writes he looks on): Our	
136	Bryan: Our	
137	Craig: survey	
138	Bryan: survey…(mimicking) (they laugh….)	
139	Craig: ur vey comma um	
140	Bryan: people now a days believe in back then (Sandy and Craig laugh.)	
141	believe that they..	
142	Jane: How about according to our survey.	
143	Sandy: Well after we read all of our surveys lets see which ones have the most of yes or no.	
144	Craig: the most common	
145	Bryan: nope	
146	Craig: answer was that there was that there was a lot of freedom.	
147	Jane: But what about the average, answer?	
148	Bryan: Look at you, you are dropping crumbs everywhere. (Sandy writes and laughs)	
149	Bryan reads: according to our survey the most freedom	
150	Sandy: common	
151	Bryan: common,	
152	you don't how to spell common?	
153	Sandy: No	
154	Craig: get over there Sandy and stop writing. (Sandy moves over to new position to write.)	
155	Sandy: the most common., the most common, the most common what?	
156	Craig: Answer	

157	Bryan: Answer (Bryan and Craig have moved to one side and Sandy and Jane are on the other.) Sandy: for which question?	
158	Bryan: for question number one	
159	Craig: it doesn't matter.	
160	Bryan: Yeah	
161	Craig: It's a summary dude,	
162	it doesn't matter what question.	
163	Bryan: yes it does.	
164	Craig: answer	
165	Bryan: Answer	
166	Sandy: Answer (as she writes)	
167	Craig: for our first question	
168	Bryan : for our first question	
169		
170	Jane: We could put average instead of common because common doesn't really sound that good. (Now Jane is only one on her side of table.)	
171	Bryan: hey, whose going to read this?	
172	Jane: the president. Craig and Bryan at the same time	
173	Bryan: This isn't going to be put in some place	
174	Craig (inaudible)	
175	Bryan:The president won't be able to….	
176	Jane: I know that	
177	Bryan: But we haven't even put any smart words in there.	
178	Sandy (looks at her watch):whoa (She shows her watch to Craig.)	
179	Craig: Eight minutes left dude.	
180	All: Ok, Ok	
181 10:23	Craig: for, for, for, our…(as Sandy writes)	
182	Bryan: Lets not leave the other groups any. (re the cookies)	
183	Craig: Alright (Sandy and Craig grab another cookie. Jane	

	shakes her head.)	
184	Craig: First question	
185	Bryan: (holds up a piece of cookie): here Jane. (Jane shakes head)	
186	Ok thanks. (And then eats it)	
187	Craig: was that um most people think that. Bryan: That were cool.	
188	(Craig laughs) that	
189	Sandy: That	
190	Bryan: That freedom made a high impact.	
191	Craig: Freedom is very important Bryan: No freedom made a high impact	
192	Craig: No	
193	Jane: That sounds better.	
194		
195		
196	Craig : This is question one,	
197	not all these right here dude.	
198	Sandy: important	
199	Craig: Today.	
200	**Bryan: Today**	
201	Sandy: Today	
202 11:20	Craig: Period.	
203	(Craig reads other surveys) Bryan: if we put that like in our own thing, it'll be half a page.	
204	We would like be all writing all small.	
205	we'd be still on the first line.	
206	Sandy: We wouldn't even be half way there.	
207	(Craig reads, Bryan plays with crumbs) Bryan to Jane: want it? (re: crumb)	
208	Craig (reading): helping them achieve their goals.....freedom gives them the right to do this.	
209	Alright um people say.	
210	Jane: which one..	

460

211	Sandy: right there	
212 213	Jane: Mine says um choice of where to live, work and play, being able to go into any national park lake or wild..wild ness area for rec (mispronounces recreation) freedom to vote for person or party of your choice.	
214	Bryan: Ok	
215 216 217	Craig: To sum it up, people think they can do anything because of freedom. Sandy (writes and talks): people think we can do.	
218	Bryan: I think we should... because	
219 220 221	Craig: they can do Bonnie: Everybody as in we Craig: people	
222	Bryan: Economy	
223	Sandy: O fart..(she makes an error writing)	
224 225 226 227 228 229 230 231 232 233	Jane: People now think that we can, uh, people now are. Bryan interrupts: We're not talking about the people we're talking about the economy. (Sandy and Craig and William write on.) Jane: How about people now think that. Sandy: (writing and reading) They. (Ignoring Elizabeth.) Jane: people now are not afraid to (Bryan makes a loud bird like sound.) Craig: Ok, say, write what Jane just said. People now. Jane: People now Sandy: I'm only on people think the (They all laugh)	
234 235	Craig: the, the Sandy: people think they can do almost anything they want.	

236	Craig: they can anything they	
237	Sandy: Almost anything	
238	Craig: Yeah, anything they want because	
	Sandy: They can	
239		
14:01		
240	Jane: But does that sound like a bad way.	
	Craig: No	
241		
242	Someone enters: What are you guys doing?	
	Craig: Shhhh We're doing something top	
243	secret	
	Unknown: What are you guys doing?	
244	Bryan: Our freedom thing.	
245	(Jane shuts door.)	
	Craig: because and	
246		
247	JP enters: hey guys, um you want to go all the way to ten o'clock so you can try to get both accomplished	
248	because your not going to have enough time.	
249	I was just thinking that.	
250	Sandy: Yeah	
251	JP: I'll just let you guys keep rollin and we'll let the other group wait till another day.	
252	Bryan: Yeah	
	(Sandy looks happy.)	
253	JP: Thanks guys.	
15:03	(JP exits room.)	
254	Bryan: What are you writing?	
255	Sandy: Freedom	
256	Craig: What did you write and for?	
257	Jane: freedom and choice.	
258	Sandy: That's what you said.	
259	Bryan: No dude, he's right.	
260	Freedom and the republicans	
	(Bryan and Craig laugh)	
261	Jane: Freedom of choice	

462

262	Sandy: Freedom and freedom of choice.	
263	Craig: Choice.	
264	Sandy: does that make sense..people think that they can do almost anything	
265	Sandy and Craig: because of freedom and choice.	
266	Craig: Write it.	
267	Bryan: freedom and choices.	
268	Jane spells: choice.	
269	Bryan: Choices dude.	
270	Sandy: That'll make more sense.	
271	Craig: How about read it over about choices.	
272	Sandy reads: People think they can do almost anything they want because of freedom and choices.	
273	Craig: Ok, put it.	
274	Bryan: apostrophe.	
275	Craig: apostrophy?	
276	What are you talking about.	
277	Sandy: Ok	
278	Craig: Next question..	
279	man we ran out of space.	
280	Sandy: We have exactly eight. That's like the perfect number. (re surveys they are arranging)	
281	Craig: Question number..	
282	Jane: Two, I mean three.	
283	Bryan: (Pointing to papers) One, two, three, four , five,	
284	Craig: We only have five to fill out then.	
285	Bryan: Oh yeah, huh.	
286	Bryan: I could have filled out ten.	
287	Craig: Ok now, question number three.	
288	who had the most impact on freedom ?	
289	Bryan: Abraham Lincoln, Abraham	
290	Lincoln dude	
291	Craig: Honest Abe	
292	Sandy reads: I feel there were...	
293	Bryan: Honest Abe and Criss Cross (joke	

	about a black singing group)	
294	Jane: Or what about, um	
295	Bryan: Kennedy	
296	Jane: Yeah, Kennedy	
297	Sandy reading: I have absolutely no idea what she wrote.	
298	Craig grabs paper.: I feel their were three groups and individuals that had an impact. The writers of the declaration of	
299	independence had a huge impact on the I I I I don't know what that says.	
300	Bryan: the IRS dude.	
301	Craig: The Americans from England	
302		
303	Bryan: Why don't you go out that door and ask Mr. Puglisi (to Jane) (Jane exits)	
304	Craig: Had a big impact on the freedom of America. America slaves,	
305	finally Martin Luther King Jr had a huge impact....	
306	alright, alright, ok (Jane re-enters room)	
307	Craig reads what they have written: the most common..	
308	Our first question	
309	Bryan Abraham Lincoln was the most.	
310	Because he feed the slaves dude.	
311	Craig: Well what about Martin Luther King?	
312	Jane: Well what about Harriet Tubman?	
313	Craig: he abolished segregation	
314	Sandy: Yeah	
315	Bryan: But he died.	
316	Craig:So did Abraham Lincoln	
317	Bryan: He didn't get assasinated?	
318	Bryan and Craig: Yes he did, he got shot. Sandy:In the back	
319	Craig: In the theater.	
320	Jane: When he was making a speech he got	

321	shot.	
	Craig: No when he was watching a play	
322	Bryan: Ok	
323	Lets put both of em.	
324		
325	Sandy: We think, we think the people that	
	had the most impact on freedom was	
	All together: Martin Luther King Jr and	
326	Abraham Lincoln	
	Bryan: Actually both of the kings man,	
327	Martin Luther King Senior	
328	Craig: But.. Martin Luther King Senior	
329	isn't famous for anything dude.	
	He was a doctor and a	
330	Bryan: He was a preacher ..	
331	A preacher that told Martin Luther King	
332		
333	Craig: You want to write all that Bryan?	
334	Bryan: Yeah..we need to write a lot look at	
	all that.	
335	We need to write more	
336	Sandy: It's a summary	
337	Jane: What about Rosa Parks	
338	Craig: Rosa Parks got arrested.	
339	Jane: I know but she had freedom because	
	Craig: She didn't have..	
340	freedom because she got arrested.	
341		
342	Bryan: Ok, Ok,	
343	put put Martin Luther King Junior and	
	Abraham Lincoln were most freedom..	
344	Sandy: No had the most impact.	
345	Bryan: most freedom, l u th er period	
346	Sandy: Stupid	
347	Bryan : Junior period	
348	Sandy: Martin Luther King comma,	
349	because, because, because,	
350	we're gonna list a whole mess of people	
	because we only read one survey.	
351	Bryan: All of the surveys have it in.	

352 353	Jane: Yeah Bryan: Except for this one and this one says in 1960 was the biggest impact on freedom because of the African Americans did..	
354	Craig: Its who, the who not when	
355 356	Bryan: the same thing my mom put. But irrigation is ... positive.	
357 358 359 360 361 362 363	Sandy: This one is really weird. It doesn't say who it just says Craig: When Sandy: Yeah Craig: or what it was. Sandy: year right to bear arms Craig: That's like what freedom is.	
364 365 366 367	Craig: Time Sandy. Sandy: Oh we have like a half an hour. Craig (mimicking):.. we have a half an hour. Bryan: I know huh she's like..	
368 21:15 369 370 371 372 373	Jane: Why don't we do this in like blue and dark. Craig: Sentence by sentence. Bryan: Because its not going to be that good if its like going around the whole school. Like its probably going to be hanging up in the cafeteria like the other one. Jane: Whats wrong with it. Bryan: I don't know but I gotta go. (He exits room).	
374 375 376	Sandy: I thought he meant like I gotta go home and I was like what. Hey Craig are you going to Taco bell today? Craig: No I can't	
377 378	Sandy: You don't like you don't make them right. You have to make a C and then draw the line. (re his writing)	

379	Craig: O wow, whatever.	
380	Sandy: Like one of those curvy ones.	
381	Craig: A C then a line	
382	Sandy: Thank you. Its much better.	
383	Craig: You want to see funky writing man look at mine	
384	Sandy: Capitals	
385	Sandy to Jane: that's such a cute shirt	
386	Jane:Thanks	
387	Sandy: This is my little brothers shirt...	
388	see look, actually its my cousin's.	
389 22:41	He left it with my little brother and I'm wearing it cause it has green on it.	
390	Sandy: I have a whole bunch of different colored shirts except for green.	
391	Craig: That's hard to believe...girls are supposed to have every single	
392	Sandy: Well I have a sweater that's green but it doesn't look it has a stain right.. it spilled something that has blood on it	
393 394	Craig: so it looks like your belly button's bleeding.	
395 396	Sandy: No I spilled punch on it. I was like spooch, oh man (Craig writes as the girls look on.)	
397 23:53	William: equals....	
398 399	(Bryan re-enters room) Bryan: ok Sandy: now that you're back in here we're going to make some noise..... (Bryan is looking at the table and the chalkboard off camera, Sandy joins him)	
400	Bryan: ok we should like write freedom on there. (Points to chalkboard)	
401	Bryan and Sandy: by Bryan, Sandy, Craig and Jane.	
402	Bryan: You put n double o	
403	Sandy: huh	
404	Bryan: Is that an O right there.	

467

405	Craig: Its an s	
406	Bryan: No it looks like an O	
407	Craig: s	
408	Sandy: It kinda looks like a J	
409	Craig: who cares....	
410	since we write this we're going to have to write this again.	
411	Jane: huh?	
412	Craig: Start writing now	
413	ok, Ok, that was question..	
414	Bryan: Why are we doing it in red	
415	Craig: Beats me	
416	Jane: I like red.	
417	Bryan: Its so cute.	
418	Craig: Ok I say we discuss question	
25:27	number three now.	
419	We already did question number three huh	
	Sandy: No we did question number two:	
420	Craig : no	
421	Bryan That was three,	
422	we still need to do..	
423	Sandy: No no that wasn't it was number	
424	two.	
	Craig: It was number one	
425		
426	Craig: Start with the next sentence.	
427	Use a different color.	
428	Sandy: Alright	
429	Bryan: so this is one, the blue's one	
430	Craig: Martin Luther King is three.	
431	Bryan: we could use colors man.	
432	This is one, two, this is two and three would be black.	
	Craig to Sandy who is collecting surveys:	
433	What are you doing?	
434	Sandy: I'm collecting them and then we're gonna read threes	
435	Craig: fours	
436	Sandy: three	
437	Bryan: four, four	

438	Sandy: oh	
439	Bryan: Put em back over there.	
440	Craig: no duh...I saw...(Inaudible)	
441	Bryan: I think I'll get some water	
442	We're like the people that are writing.	
443	Craig: Ok, Ok alright people,	
444	Sandy you have a big enough mouth start reading it.	
445	Bryan: read all of the, all eight.	
446	Sandy: Do people have more freedom now than in the past and why.	
447	Craig: Do not read the question.	
448	Sandy: No we have less...	
449	no it says like less dooh.	
450	Oh Oh I get it less due to political mistrust and our judicial system's like something buer racy (mispronounces bureaucracy) (Bryan takes paper from her) Bryan: Bu er racy..	
451	Craig: Bureau..cracy	
452	Sandy: bureau cracy	
453		
454	Bryan: I want to read. As Sandy tries to	
455	grab paper back.) Yes life changes in the attitude, behavior, culture, economic..	
456	Craig: That's talking about you right there Bryan.	
457	Bryan: Economic. Have influenced a lot in people's life and freedom has changed , what does that say?	
458	Craig: Accordingly.	
459	Sandy: yeah	
460	Bryan: accordingly to meet the people's	
461	needs	
462	Sandy: ok, I get to read now	
463	Bryan: you get to read then I get to read mine	
464	Sandy: Yes people do have more freedom now than	
465	Craig and Jane are talking about the color	

469

466	of the markers at the same time as Sandy Sandy: What, what?	
467 468 469 470 471 472 28:43 473	Craig: You write, I read. (He grabs at the paper from Sandy). Sandy: Write what? Craig: …you didn't even finish… what are you doing? Sandy: ok, how do you spell Abe? Bryan: You mean she didn't even finish it. Sandy: How do you spell Abe?	
474 475 476 477 478 479 480	Bryan: Ok, I'll read this. Sandy: A Bra ham. Bryan: Sound it out. Sandy: A bra ham. Craig: there Bryan: A B R A H A M Craig… you can call on	
481 482 483 484 485 486 487	Bryan: Ok this is a good one.. people do have more freedom now than in the past but complete freedom They never. Sandy: hold on Bryan: can be reached because…. many on freedom Sandy is talking at same time to Craig: inaudible.	
488 489 490 491 492 493	Craig: according to the people. Bryan: in high positions..until, people understand Sandy: that's good. Bryan: that human beings are fragile beautiful creatures. (Sandy and CraigLaugh) all and every human.. freedom..	
494	Craig: I'm sorry but I have to go. (he exits room)	
495	Sandy to Ben: impact on freedom or in freedom.?	

496	Bryan: On freedom... wait no!	
497	Sandy: Yes.. (she reads): Martin Luther King and Abraham Lincoln.	
498	Bryan: Oh yeah	
499	Sandy: had the most impact..on freedom. Acoording.	
500	Jane: According to question four.	
501	Bryan: According to question three.	
502	Sandy: its four...oh yeah acoording to.	
503	Bryan: This one said Martin Luther King and	
504	Sandy: How do you spell according	
505	Bryan: Maya Ang...both had a strong impact on freedom.	
506	Sandy: Our	
507	Bryan: because they've changed the ever....	
508 30:53	Freedom is.. freedom is for everyone and inaudible.	
509	Jane asks about marker (inaudible):	
510	Sandy: Use the other one..	
511	it looks like a highlighter	
512	Bryan: Yes they do, they can.	
513	Yes they do they can do more. Especially	
514	women can do more. Also vote.	
515	Sandy: Whose behind the door?	
516	I think its like locked. (Craig knocks on it and enters.)	
517	Craig: Its about time....	
518	Hey let me read this.	
519	Bryan: I was reading this one it was like so easy for me.	
520	Bryan and Craig read together: of course people have more freedom today, maybe too much freedom.	
521	People do whatever they want with little government can't, control. (Craig tries to grab surveys from Bryan. Bryan holds on).	

522	Sandy: That was good.	
523	Craig: I know Greg has like this psychotic mind.	
524	Jane: He's cool.	
525	Bryan: here Craig, you read that one.	
526	Craig: Absolutely dated as..	
527	Bryan: Whose Bonnie's mom?	
528	Sandy: Is it normal like in cursive?	
529	Craig: Yeah	
530	Sandy: That's my mom's.	
531	Craig: Strides have been made in the... know why its so hard to read.	
532	Its all smeared and like your mom has all spelling errors..	
533	Sandy: She doesn't have spelling errors she just like makes it look like its spelling errors.	
534 32:44	Bryan: You know what we should have done, we should have just wrote it out on a piece of paper first and then written it on the there	
535	Sandy: Well hello, we've already done it in marker now.	
536	**Bryan: Ok**	
537	Craig: Who cares	
538	Bryan: we need to have it at least up to here.	
539	Craig: We just need one more dude. See,	
540	just one more question.	
541	Bryan: Oh shoot.	
542	Craig: We should have gone like.	
543	We should have gone like uh our survey was on freedom.	
544	Bryan: No, then what are we going to put on the bottom.. freedom. (In a high pitched voice.)	
545	Craig: Reads: absolutely as stated above.. great strides have been made	
546	Jane: Do you have a watch?	
547	Sandy: Yes, we have.. two minutes. We got	

472

	like fifteen minutes.	
548	Craig: the freedom from..	
549	Jane: In other words ten minutes from recess.	
550	Bryan: Oh yeah we don't get no recess.	
551	Sandy: Yeah we do.. we just lose five minutes of it.	
552	Bryan: I don't get no recess.	
553	Craig: We don't have recess.	
554	Sandy: No we have recess…all talk at same time.	
555	Bryan: We're supposed to stay in for recess.	
556	Jane and Sandy: Not me.	
557	Craig: I do.	
558	When does recess start.	
559	Sandy: At um	
560 33:50	Sandy and Jane: nine fifty five	
561	Sandy: Ok guys like we need to talk more about freedom here.	
562	Craig: ok, freedom…	
563	freedom from slavery is the english role they (Others are talking at the same time.)	
564	they.. the freedom from slavery and (Others talking at the same time.)	
565	Bryan: I hope Leslie's not going	
566	Jane: She's going next after this group	
567	Sandy: Nancy, Nancy's going to taco bell.	
568	Bryan: Good, are you going to go to taco bell? (To Craig)	
569	Sandy (Looks at marker): How does this look?	
570	Craig: Your mom has a lot of stuff.	
571	Sandy: That's my mom	
572	Bryan: Ok	
573	Craig: Same freedom then the past.	
574	Sandy: she also doesn't write.. (Bryan grabs papers from Craig)	

473

575	Bryan: let me read.	
576	This this is mine.	
577	Craig: So, that was Sandy's mom.	
578	Sandy is talking to Jane: in cursive like.	
579	Bryan: ok, oh,	
580	same freedom than in the past.	
581	People are now more about the individual... and always	
582	Jane: Most people said that have more freedom than now in the past I think we	
35:20	did,	
583	I'd say that we don't.	
584	Craig: Maybe because that was your dad;s opinion.	
585	Jane: I know that.... They would have slaves back then and all that	
586	Bryan: You might have um yak	
587	Craig: Dude you know how much...(inaudible.)	
588	Bryan: Who ?	
589	Craig: Linda	
590	Sandy: Oh yeah, no she's like a maniac.	
591	Bryan: your little sister?	
592	You're talking about your little sister..	
593	she dances too much.	
594	Sandy: Oh in the cheerleading?	
595	Bryan: Ok	
596	Sandy: we're not even... (William tries to grab paper)	
597	Bryan: No, I already read yours	
598	Craig: I know..I wanna read my own..	
599	see what my mom wrote.	
600	Bryan: I wanna um, I wanna like.	
601	Ok you can have yours, and you can have yours and you can have yours. (Passes out survey to each person....)	
602	You gotta come up with something.	
603	Craig: See if your mom had this right here.. I would call that a lie.	

604	Bryan: Just put this. Just put this,	
605	We had more, we didn't not have no freedom in the past because	
606	Craig: We didn't not have no freedom (to Sandy)	
607	Bryan: We didn't have no freedom in the past.	
608	Sandy: We didn't have any freedom in the past.	
609	Bryan: because of all the riots. (Craig laughs)	
610	Bryan: Yeah	
611	Jane: It was slavery, slavery was the main thing why.	
612	Bryan: Slavery wasn't in the nineteen sixties.	
613	Sandy: Yes it was.	
614	Craig: That was segregation.	
615	Jane: they had black that were slaves and that wasn't a long time ago.	
616	Craig: It was along time ago.	
617	That was along time ago. (others talking)	
618	It was like seventeen something dude	
619	Bryan: Yeah when England was going.	
620	Jane: Martin Luther King was alive when there were slaves?	
621	Sandy: there were still slaves.	
622	Bryan: segregation is like saying.	
623	Sandy: They were still like prejudiced	
624	Craig: No blacks allowed.	
625 36:40	Bryan: Oh like that.	
626	Jane: Lets put down our opinion	
627	Bryan: That wasn't like slavery though	
628	Sandy: We have like five minutes.	
629	Bryan: There was no freedom, see there was no freedom dude.	
630	Jane: How about this,	
631	in our experience in our questions. (others	

632	not listening to her)… we had no freedom back then.	
633	Bryan: What?	
634	Sandy: We didn't have, we didn't have because of the segregation	
635	Jane: Now because of the bigger government	
636	Sandy: I got an idea..	
637	the segregation and like along time ago in the past made it so certain races split up into separate groups or whatever	
638	Craig: ummm	
639	Bryan: Come on Craig.	
640	Craig: Different races didn't have that much freedom.	
641	Sandy: Yeah	
642	Craig: That's a good way to sum it up.	
643	Sandy: oh	
644	Bryan: Different races	
645	Sandy: In the past, In the past, In the past Bryan: races in the past did not have no	
646	freedom. Sandy: In the	
647	Craig: In the past	
648	Sandy: Different, different races in the	
649	past. Craig: In the past different	
650	Sandy: writes..Different	
651	(Craig bothers Sandy Writing) Sandy (Laughs):.stop.	
652		
653	Bryan: Dude, she put it wrong.	
654	Different, at the beginning.	
655	Craig: diff er eent	
656	Sandy: It isn't that its different (regarding what she wrote.)	
657	Bryan: That F looks like a t.	
658	Sandy: which one?	
659	Bryan: Ok that's different	
660	Craig: Race..R A C E	

661 662	Sandy: different....well I didn't.. Craig: spell races dude.	
663	Jane: Wait there was only one race or that did not really have	
664	Bryan to Sandy: how do you spell it? R A C A	
665 666 667 668 669 670 671 672 673 674 675	Jane: the blacks and the hispanics, they had no freedoms back then. Bryan: The hispanics did the blacks didn't Jane: That's only one race. Sandy: But it still separated everything into different parts. Craig: Yeah but its still a different race. Bryan: I know, its one race and you put races. Craig: but still but the were still separated.. you get it. Jane: we had, we should put we had no freedom because... Craig: You people had freedom because your.	
676	Bryan: We only have eight minutes.	
677 678 679 680 681 682 683	Sandy: You have had freedom too. Craig: No I was .. Asian boy (All talking...) Black (All talk... Sandy says something to Bryan inaudible). Bryan: Because like you've never seen my dad. (who is black) Jane: Oo lets put we had no um back the in the past. The white..back in the past we had not a big impact (she holds her head)	
684 685	Bryan: stop if it hurts. (Craig laughs) Craig: I know huh.	
686	Jane: According to question four then we did not have that much freedom	

40:34 687	(Bryan says something inaudible and Sandy laughs) Jane: um I'm sorry but um	
688 689 690 691 692 693 694 695 696 697 41:29	Sandy: Ok.. Craig: different races Sandy:how do you spell races cause this is a different one. Bryan: R A S E S (Craig laughs) Bryan: resses (Jane is notably mad or frustrated.) Sandy: Come on Craig you're the genious. Bryan: R a s s e s , races or R A C E S, races. Craig: Ok Lets leave it like that. Bryan: Or R A… Craig: we're not supposed to know how to spell everything.	
698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714	Craig: Other races other than the watchamacallit.. the white peoples. Other. Bryan: The people Sandy writes and speaks: other than. Craig: than the wrong Sandy: I don't care. Craig : Than the white Bryan: the whities Craig: The whites, the whites Sandy: why do you say whites? Bryan: because Craig: the white pe o ple Sandy: the whites, different races other than the whites. Bryan: didn't Craig: didn't get the …because of preju dice Sandy: because of segregation..didn't Bryan: Because of yeah segregation	
715	Jane: Did not have a big impact on	

478

	freedom.	
716	Sandy: No	
717	Craig: They had a really big impact on..	
718	Jane: I mean when they were slaves	
719	Sandy: They were like what made..	
720	Jane: It was because of..I know but it was because…of Abraham Lincoln that they were.	
721	Bryan (at same time): But,But,But,but,but,but	
722	Sandy: Um they didn't get the same..Freedom!	
723	Craig: get the same free o dom.	
724	Bryan: you didn't spell freedom right.	
725	Sandy: Yes I did, freedom..	
726	Sandy: what about the segregation?	
727	Craig: But were not just talking about the segregation…	
728	we could be talking about a hundred years ago.	
729	Sandy: Because of the slaves..	
730	Craig: Color	
731	Sandy: Yeah	
732	Bryan: Because of the color of	
733	Craig: Because color of skin.	
734	**William: skin**	
735	Bryan: Because… that doesn't make sense.	
43:30	Jane: Slaves didn't have freedom back	
736	then.	
737	Craig: Well some were let go so they did have freedom.	
	Jane: If they paid off their debts.	
738	Craig: No some were let go.	
739	Jane: they escaped and got to..	
740	Bryan: No not necessarily.. they were like	
741	the underground railroad.	
	Craig: their masters would let them have	
742	like a little land a little..	
	Sandy: Freedom because	
743	Craig: of their skin color	

744	Sandy:of	
745	Bryan: The	
746	Sandy: their	
747	Bryan: the	
748	Sandy: their	
749	(All laugh at writing.).	
	Sandy: Oh no	
750	Bryan: because of the skin color	
751		
752	Bryan Read it all over again....	
753	different races other than the whites Craig	
754	joins him:didn't get freedom because of	
	their skin color	
755	Craig: Oh my gosh she spelled skin right.	
756	Sandy: The end. And throws pen down.	
757	Craig: We were supposed to write like all	
44:36	the way up to here you know.	
758	Bryan: Pu put put, put.. add also… think of	
	something	
759	Bryan: and also	
760	Sandy says something inaudible	
761	Craig: yeah.. that would look cool.	
762	Bryan: they the whites, the whites, whites	
	treated them like. Uhhhh	
763	Bryan and Craig spell: treated	
764	Bryan: treated them no respect	
765	Sandy: treated them with nada..no respect	
	(They laugh at Sandy's writing.)	
	Craig: how did we get stuck with her..	
766	Sandy: aww..	
767	Bryan: respect	
768	Craig: respect	
769		
770	Bryan: therefore, therefore	
771	Craig: that's one word.	
772	Sandy: hay chihuahua,hay chihuahua	
773	Craig: Yo quiero…	
774	Bryan therefore, therefore that's why we	
	didn't have freedom in the past.	
775	Sandy: is why, that's why	

776	Craig: apostrophe s	
777	Sandy: thats why	
778	Craig: why	
779	Bryan: we didn't have freedom in the past....longer	
780	Sandy: hay chihuahua..	
781	did not have any have any freedom in the past..	
782	the end bye. Bye.	
783	JP enters: how we doing guys.	
784	Bryan: we only got this far.	
785	JP: that's ok, that's alright	
786	Craig: yeah right(to Sandy)	
787	JP: so you summarized just your survey results	
788	Sandy: eh huh	
789	JP: and it took you about an hour and you worked pretty straight through..	
790	that'll give me a good idea of about how long..	
791	Jane: Is it ten already?	
792	JP: yeah its ten already	
793	Bonnie: That was really difficult.	
794 46:34	JP: to take all that..good ok (end of session)	

Appendix C

Planning Timelines used for School Based Activities Associated

with "America Dreams" Project

(Time-line of significant Activities see list of activities for complete timeline)

10-5-98   Introduce America Dreams project to Ms. L. and Ms. F
                 at their Team meeting. Ms. L signs up the class.

10-12-98   Give copies of America Dreams web pages to Ms. L
                 and Ms. F including pages on student and teacher
                 roles.

10-16-98   11:00-11:45 am
                 Teach Lesson to Ms. F class in computer lab on what
                 is the Internet. She has already randomly assigned
                 student roles to them. Introduce the "America Dreams"
                 project to the students and try to start scavenger hunt .

11-6-98   11:00-11:45 am
                 Teach lesson on "America Dreams" in computer lab.
                 Further explore the web site and try scavenger hunt
                 again. Refocus class tasks onto creating surveys with
                 the America Dreams basic questions and getting
                 students to understand research role. Give them the
                 questions as survey homework.

12-10-98   10:10 am- 11:30 am in Ms. F room. Teach lesson on
                 America Dreams and Bring typed up responses of their
                 homework tasks. I have already put them on school
                 webpages. Excellent discussions of research and group
                 analysis of the their survey data. From this data
                 students are taught about quantitative and qualitative
                 data and surveys and they analyze their data to produce
                 themes which emerged from their parent's responses to
                 the America Dreams questions. They do excellent
                 work. I meet with Ms. F later and suggest that we take

these themes and use them to have students explore the role of researcher. I give them the homework of choosing among the themes so that their assigned groups could further explore these topics through a search of websites on the Internet. I also get the computer lab upgraded in the mean time. Adding more computers and network components so that Internet use is more functional.

1-15-99   11:00-11:45 am Teach lesson in the computer lab and try to help groups find and sort through web pages based on their themes. Time is limited but the find some good sites.

2-19-99   11:00-11:45 am I accompany class to computer lab and help groups as they pursue more info on their themes. I then work with one group at a central table who have found good information but need guidance in what to do with it. They get a brief   lesson on scanning documents for a purpose and summarizing information.

3-3-99   12:45-1:15 pm Meet with Ms. F. Develop backtrack Time line and Field notes. Plan for up coming lessons. Get permission for audio taping interviews, and video.

3-5-99   11:00-11:45 am Meet class in computer lab. Explain research informed consent forms and pass them out. Explain again my research. Have kids go to website to add their individual dreams to the Wall of Dreams Bulletin board. Ms. F suggests that they will write their dreams later and post them next time.

Friday 3-12-99 11:00 am	Trial videos of groups. Students put dreams into Wall of Dreams. Students review other school's projects. Students turn in survey data.
Wednesday 3-17-99 am	Work with groups in conf. Room. Video. Develop links information
Wednesday 3-17-99 am	Meet with Ms. F. Develop plan for end of year. Negotiate Time line. Audio.
Wednesday 3-24-99 am	Meet with Ms. F. Develop plan for end of year. Negotiate Time line. Audio. Discuss video.
Friday 3-26-99 11:00 am	Whole class review of surveys. Video class. Begin work making webpages. Homework to right summaries of links information. Hmwk. Kids write on video experience
Friday 4-2-99 11:00 am	Continue work on web pages. Discuss plans to return to American Memories info. In search of themes. Video
Wednesday 4-21-99 am	Groups meet in conference rooms to discuss webpages, finish work, and review American Memories information
Wednesday 4-21-99 am	Meet with Ms. F. Develop plan for end of year. Negotiate Time line. Audio. Discuss video.
Friday 5-7-99 11:00 am	Continue work from American Memories archives. Video.
Wednesday 5-12-99 am	Continue work from American Memories archives. Video.
Wednesday 5-12-99 am	Meet with Ms. F. Develop plan for end of year. Negotiate Time line. Audio. Discuss video.
Friday 5-14-99 11:00	Begin to create web pages for final project on chosen themes. Video
Wednesday 5-19-99 am	Continue work from American Memories archives. Video.

484

Friday 5-28-99 10:30-11:45 am	Celebration of student work. Invite parents. Disseminate student surveys.
June	Debrief session with Ms. F.

Appendix D

Dear Parents and Students,

I am writing to request your participation in a research project I am working on as principal of Bard School and also as a doctoral student at the University of California at Santa Barbara (UCSB). Throughout this school year, Ms. F class has participated in an exciting online or Internet based project called America Dreams. They are learning about the American Dream from several perspectives and also are learning how to do research themselves. I am interested in studying how students learn using these online projects and also how I, as principal, can help teachers to use Internet projects more effectively.

I plan to study this issue using ethnographic methods. These methods try to describe how people think and behave in natural situations; in this case, the classroom. In order to study the learning that takes place, I plan to use a variety of information or (data).These data will include video tapes of the classroom, audio tapes, interviews, my notes on my observations, and student work products.

This letter is written as a required part of my research which asks parents and students to participate and informs them of their rights during research. It is important to understand the following safeguards for students and parents: Participation or non-participation will not affect student grades, the names of students, teachers, and the school site will be changed in any reports or publications which spring from the study. Students, teachers, and all participants will remain anonymous. Students and parents have the right to review video or audio tapes at any stage in the study upon request. Students have the right to withdraw from the study at any time. Students and parents will be given access to written reports and publications based on this study. Students and parents with questions about the study should contact me at school. Parents who have questions regarding this informed consent letter may contact the Human Subjects Committee at UCSB at 961-3807.

Students in Ms. F class are expected to continue to do the excellent work that they have been doing this year on the America Dreams project. Their participation has joined them with students from across the country who have collaborated on the Library of Congress project. My research is intended to help our Bard students and teachers learn and teach more effectively and will hopefully be useful for others as they use these new and exciting technologies. Initially, students may feel nervous or shy about video taping their learning, however, my experiences with research in the classroom has demonstrated that most students get used to the camera quickly and soon forget it's there.

486

Thank you for taking the time to review this letter. I look forward to continued work with your students. Please return this letter to Ms. F signed by both parent and child.

I,_____ give consent for my child to participate in the study.

I,_____ do not give consent for my child to participate in the study.

I,_____ agree to participate in the study.

I, _____ do not agree to participate in the study.

Appendix E

America Dreams Nationwide Participant Description and Demographics

Educators registered to participate in the America Dreams project by submitting the on-line registration pages. There were 54 registered participants who included educators and their classes from 18 states in the United States of America. Table 43 represents the distribution of registered participants among the 18 states. Table 44 represents the distribution of these schools within American geographical regions.

Table 43
Distribution of Registered Participants among the 18 Represented
U.S. States.

State	# of Participating Classes
California	16
Colorado	1
Florida	1
Hawaii	8
Indiana	1
Kentucky	2
Michigan	2
Mississippi	2
Missouri	1
New Jersey	3
New Mexico	2
New York	3
Ohio	1
Oregon	1
Pennsylvania	2
Tennessee	2
Vermont	1
Virginia	3

Table 44

Distribution of Registered Participants within U.S.
Geographical   regions

Region	Total	%
Mid-Atlantic	8	15 %
Midwest	5	9 %
Northeast	1	2 %
Northwest	1	2 %
South	5	9 %
Southeast	4	7 %
Southwest	2	4 %
West	25	46 %

Table 45 represents the distribution of participants within the following

categories: urban, suburban, and rural.

Table 45

Distribution of participants within urban, suburban, and rural
        locations.

Location	Number	Percentage
Urban	11	20 %

Suburban	25	47 %
Rural	18	33 %

A variety of types of schools were represented among registered participants which include the following : University, District, High School, K-12, High School, Middle School, Elementary School. Table 46 represents the distribution of participants within these grade level categories.

Table 46

Distribution of Registered Participants for Types of ----Schools.

Type of Class	Number of Classes	Percentage
University	2	4 %
District	1	2 %
K-12	2	4 %
High School	11	20 %
Middle School	22	40 %
Elementary	14	26 %
Middle/Secondary	2	4 %

A significant percentage of students from participating classes receive English as a Second Language (ESL) instruction. In addition, a significant percentage of participating students receive free or reduced lunch food subsidy due to their parent's economic status. Table 47 represents the number and percentage of classes with 0-25%, 25-50%, 50-75%, and 75-100% ESL students. Table 48# represents the number and percentage of classes with 0-25%, 25-50%, 50-75%, and 75-100%, and unknown students receiving a food subsidy.

Table 47

Number and Percentage of classes with Various Percentages of ESL Students.

ESL Students*	Number	Percentage
0-25 %	35	67 %
26-50 %	6	12 %
50-75 %	5	10 %
75-100 %	5	10 %
Unknown	1	1 %

Data on students (52) in grades K-12 only. University participants (2) are not included.

Table 48

Number and Percentage of Classes with Various Percentages of
Students Receiving Food Subsidies.

Food Subsidy*	Number	Percentage
0-25 %	27	52 %
26-50 %	8	15 %
50-75 %	5	10 %
75-100 %	9	17 %
Unknown	3	6 %

Data on students (52) in grades K-12 only. University participants (2)
are not included.

Appendix F

Results of Initial Surveys Given by Students to their Adult Family Members and Friends

American Dreams Interviews

(Students from Ms. F's 6th grade class asked adults they live with or know the following questions as a homework assignment)

1. What do you think the American dream is ?
2. What is your family's idea of the American dream ?
3. How has it changed over the generations, grandparents, parents, children, etc..?
4. How will opportunities of the 21st century challenge the American dream ?

1. What do you think the American Dream is?

Freedom.
It is alright.
To live and prosper in peace.
Having your own home and car.
Success.
For everyone to have a chance and have a house.)
To succeed and be free.
I will be president.
To live free and healthy.
To be free to live in the manner that each individual chooses.
To accomplish your goals and be successful in life.
To live in peace without violence.
To own a house.
To have a good job And make a good salary.
To live a life of luxury.
To travel everywhere.
To enjoy freedom of this country.
To be free.
To succeed in your life.
Being free to live the lifestyle you want to live.

For someone to be free to live in peace with family and have rights.
To be successful in a country that provides freedom and opportunity.
To have money, a home, a job, and freedom
To own your own home, have a good job, and to have a nice family.
For everyone to accept one another, to get along with no prejudice,
no homeless people, and everyone to be happy
To have freedom and to live in your own house.
Freedom.
The Declaration of Independence declares that "all men are equal, that
all are endowed by their Creator with certain unalienable Rights, that
among them are Life, Liberty and the pursuit of Happiness.
My mom believes that the elements of the American Dream are
captured in the recorded words of the Declaration of Independence. The
American dream includes a loving family, employment, equitable
wages, home ownership, vehicles, freedom to choose, recreation, and
apple pie.
Peace and Freedom.

2.   What is your family's idea of the American Dream ?

To live a good life.
That it might be ok.
To have a healthy family.
 (Having a home and a car.
A nice house and happiness.
To be happy.
To be treated as equals and not as an object.
No more drugs and someone getting killed.
To live free and healthy.
To be free to live our lives, and to be a family, and be loving and
respectful.
To have everything you desire.
For the children to go and finish college and to have a good job and a
good life.
To live with nature. To have less pollution. To have human rights and
democracy.
To have freedom. To be protected by the U.S. Constitution. Prosperity.
They believe in it strongly because they were poor.
Keeping kids and other people from doing or dealing drugs.

For people to remember what people did. Being happy and successful in life.

To work hard to achieve our dreams and create our own opportunities for success.

To have money, raise a family and live a comfortable life in harmony.

Peace, be healthy, to have people love you, to have money and to live a comfortable life.

To have a healthy family. To raise them and be comfortable.

To have freedom and to be with your family.

My mom believes that the American Dream is an illusory promise. An illusory promise is not a promise at all. She says all people should have the necessities of life, which include the rights to employment, education, adequate shelter, food, health and dental insurance, and respectful and equal treatment. Mom also says that money, and those with an abundance of money, have been given the power to decide who actually lives the American Dream. My mom says every American has the fundamental right to the so-called "American Dream," but injustice and
selfishness continues to reign and serve gatekeepers. But these gatekeepers, my mom says, should not stop anyone from pursuing the American Dream or his or her own dream with all of his or her might. Mom says dreams can often come true.

Peace and Harmony.

3.   How has it changed over the generations, grandparents, parents, children, etc..?

People who we love have died and we lived the family dream with them.

Before we were more desperate.

The old American Dream had to do with more freedom.

Later generations have higher goals and expectations.

Higher goals.

Doesn't think it changed.

Persons have died alot.

Because the time situation has changed.

Our ancestors had to worry more about freedom, housing,

but we get to focus on jobs and education.

It hasn't changed, only gotten harder.

Society is changing. Social behavior, culture, values, and attitudes change.

They like new technology that accomodate their daily needs. They are more liberal than conservative. They have more freedom. They don't like the "classics."

The dream is the same and each generation to improve.

It hasn't changed much over time, but everyone has their own opinion.

People now a days all have to work and people can't walk down the streets without fear.

Most of my family for generations back had the same solid work ethic. We have always had to work hard to achieve a comfortable life style...things were never handed to us.

More opportunities.

More opportunities, more freedom of choice.

More freedom, more choices, more opportunities.

It has changed because at a certain time their dreams were limited.

Children have no respect for adults.

My mom's parents, nor her grandparents, ever spoke of an American Dream. Mom did not learn of this dream until she was in her late twenties. My mom says that the American Dream has become broader and harder to achieve. It seems that the more people get, the more they want. Materialism, workaholism, over-commitment, and performance stresses are all destroying the dream. Many adults are now working longer hours and more hours per week, not out of necessity, but to increase their spending power. People in general seem to have lost sight of the essential element of the American Dream, the family. As a result, America's   children are being neglected and /or relegated to a place of secondary importance. This is tragic because children are the future leaders and decision makers of America. Our grandparents and parents have not changed because they are what we become in the future. And the children have become disloyal, liars, and disrespectful to the elderly and parents.

4.   How will opportunities of the 21st century challenge the American dream ?

The dream will be stronger.

It is going to be harder to keep families united.

It will be harder to get good jobs.

They will expand the avenues available to achieve the American Dream.

There will be new technology so it will have new opportunities.

Everything will change in the world.

She dosn't think it has.

Technology today allows us to reach certain information about things all over. As the population grows, its harder to obtain the dream.

They will explore more about science and high technology. People will have more advantages because of the new technology and be more systematic.

They would be challenging their abilities to achieve their goals and needs.

Communication will change.

Bigger government.

He doesn't think it will. All the kids think they can succeed in computers.

It might make it easier for some and harder for others.

People will try to improve it to be better and not worse then what is.

It seems to be getting harder for my generation to achieve the "Dream." My parents were able to buy a house in their mid 20's when my mom didn't even work, but now it is almost impossible to afford a house on one income.

More people and more competition, less opportunities.

More people and more competition, less opportunities

More people and more competition, less opportunities.

It will challenge it because the population has grown and the business It has become more scarce.

Everyone will want more electronic things.

In the age of modern or advance technology, my mom says that if a person does not prepare him/herself with the skills, competencies, knowledge, and abilities necessary to compete in the 21st Century, the American Dream will become that much more illusory or unobtainable. Without education, our country will continue to be a country of " haves" and "have-nots."

It would challenge it by having more computerized technology and more young people are going to have trouble operating them.

Appendix G

America Dreams Sample Web Page

As we near the dawn of a new Millennium, America Dreams creates a timely forum for citizens to consider the dreams of our past, the realities of the present and our hopes for the future. This project, a collaborative effort by
Leni Donlan and Kathleen Ferenz, 1997 Fellows, American Memory Program,Library of Congress, challenges students to explore the American Dream from three perspectives:

As Historian

The initial WebQuest provides a guided investigation of "The American Dream" which explores what that abstract concept has meant through the decades of America's past. This phase establishes a knowledge base and an analytical outlook as students use the digital resources of the American Memory collections, Library of Congress, for research. It prepares students to become the historians who will write the story of their own community. Outcome: Team web exhibits

As Storyteller

Through focused studies that begin with families and expand to include communities, classrooms across the nation will create community narratives (" Community Name (eg. San Francisco) -Through our Eyes."). Collectively, the narratives become a digital gallery, "Portrait of America."
which tells the story of our nation as we enter a new Millennium. Individual dreams of students, teachers, community members, elected officials and other participants will be published on "The Wall of Dreams."
Outcomes- Web exhibits: Portrait of America (collective contributions of participating classes), Wall of Dreams

As Celebrant

The culminating activity is a "Celebration of Americans." In schools across the nation, students will host community festivals to share their stories and dreams.

Meeting in electronic chat rooms and in video conferences, local narratives will be shared with other classes and with state and national officials.

Weekly IRC Chats; Kick Off and Culminating CU-SeeMe Videoconferences

Teachers' Notes

With an understanding of the entire puzzle, it will be easier to make each of the pieces fit! A description of the "Big Picture" will help you see why the "American Dream" is being considered from three perspectives and how you can enable students to meld their learning into a seamless whole.

Calendar of Events

Teachers and students will be busily conducting this project within their classrooms and communities. Online interaction will create a national community of participants, working together toward common goals.

Internet Relay Chat (IRC)
Videoconferencing (CU-SeeMe)
Mailing List Archive
Meet the Dreamers CU-SeeMe Text Log
Professional Discussion Archives
Community Meeting Archives
Evaluative Survey #1
Final Teacher Evaluative Survey
Student Evaluative Survey
Technology Specialist Evaluative Survey

America Dreams will contribute to the building of a collective, 21st Century Dream for our nation. Come dream with us...

You may say that I am a dreamer, but I'm not the only one. I hope some day, you'll join us and the world will live as one.
...John Lennon

Nothing happens unless first a dream.
...Carl Sandburg

We derive a large portion of our identity from the groups we belong to.
Our family, our school, our team, our side of town, our party, our
country, our religion, our race, our language...
..Jim Carnes, Us and Them.Southern Poverty Law Center,1995

[Overview][Historian] [Celebrant] [Storyteller] [Participant] [Register]
[Portrait of America] [Wall of Dreams]

info-dreams@internet-catalyst.org

Appendix H

Sample Web Page Linked by "America Dreams"

[Home | Who We Are | Programs | Products | Prof. Development |
What's New | Map]

New Standards: Performance Standards and Assessments for the
Schools

A joint project of the National Center on Education and the Economy
and the Learning Research and Development Center (LRDC) at the
University of Pittsburgh, New Standards began in 1990 to create a
system of
internationally benchmarked standards for student performance and an
assessment system that would measure   student performance against
the standards. Much of the system is in place.

In December 1996, New Standards released a widely praised
comprehensive set of performance standards in mathematics, English
language arts, science and applied learning at the elementary, middle
and high school levels.

The standards represent the first integrated set of performance
standards in these subject areas developed for national use in the United
States. While professional and research associations have developed
content standards,
which indicate what should be taught in the various subject areas, the
New Standards performance standards indicate the level of
performance students should demonstrate – how good is good enough.
These standards have
been benchmarked to the expectations of those countries with the
highest student performance in the world.

In addition to the standards, New Standards has also developed a
performance assessment system tied to the standards. The system

includes reference examinations in mathematics and English language arts, which include a
mix of traditional test items and performance tasks that ask students to use their knowledge to solve complex problems.

New Standards also is developing assessments in science and applied learning, along with a portfolio system that will enable teachers to organize classroom work, including extended projects, around the standards.

For states and school districts that have already developed standards and assessments, New Standards will link local standards to those of New Standards. That way, districts and states can be sure that their standards are as
high as the internationally benchmarked standards of New Standards, and citizens of any state can compare their students' performance with those of other states using the New Standards performance standards or linking their
standards to the New Standards system.

The New Standards standards and assessments were developed under the guidance of a governing board composed in part of representatives of states and school districts that collectively educate nearly half the students
in the United States. Thousands of classroom teachers have participated in the development of assessment tasks, scoring rubrics and portfolios. Support for New Standards comes from the New Standards state and district
partners, The Pew Charitable Trusts and the John D. and Catherine T. MacArthur Foundation.
The New Standards performance standards and portfolio system are available directly from the National Center.
The examinations are sold by Harcourt Brace Educational Measurement, a leading publishing firm. Professional development workshops and technical assistance designed to support the implementation of New Standards and
similar performance standards and assessment systems is available from the National Center.
Visit the Products section of our site for more information about how to obtain these products and services.

503

Take a look at a Sample of the standards.

Read our New Standards newsletter

Contact us for information about how states and districts can implement the New Standards system.

Contact Cynthia Betances for information about workshops and technical assistance in the use of New Standards or similar standards and assessment systems.

[Home | Who We Are | Programs | Products | Prof. Development | What's New | Map]
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Appendix I

Sample e-mail messages between the designers of the project and the researcher and project participants.

E-mail Conversant	Text Passage	Analysis Note
Researcher Leni	Much of the research on technology and schools such as the work Cuban has done at Stanford suggests that " computers meet classroom culture and classroom wins." **I know...and the very idea that computers should CHANGE classroom cultures is ludicrous.....but classroom cultures need to change. Technology use may ignite the fire to allow that.**	Technology and education. Transforming education with technology.
Leni	Yes....this was a first. It appeared that the Librarian, Chris Fricke, allowed the students to come on in groups without a clear purpose for doing so. Since there were so many of them and their machine names made it difficult to know whom I was conversing with, it was difficult to really do anything meaningful. These children were pretty young... and didn't seem very chat sophisticated. I will try talking with Chris to see if there is a way we could try that again with better structuring of the situation.	Technology Pedagogy Structured activities online communication problems
Leni	I really do believe that the online project has to be open and permeable if it is to be "doable". I was thrilled to see the direction they were taking, because they were making something really meaningful and locally important out of this.	Pedagogy Permeable design meaningful and locally important
Researcher	It is great to collaborate with someone	

505

Leni	so excited and positive. kids and teachers need that as much as anything… it will help get them over many logistical or technological humps that are part of their context. **They do, don't they. They need to feel reasonably supported so that they can have a "safety net" and they need to to feel safe enough to risk a bit (that's where good administrators like you come in) so that they can make it own their own and bask in the pride of their own accomplishment… as true of teachers as it is of their students.**	Pedagogical Teacher development Technology in education Administrator's role in education
Leni	America Dreams began as the "lesson" required of American memory program Fellows	Project origin LOC
Leni	We were required to choose "a "collection from the digital library and create a lesson with it that could be used with students. It was almost that broad.	Project origin
Leni	I've always gone for the "Brass Ring".. I love social studies and the humanities and when I heard of the opportunity through my friend and longstanding collaborator, Kathleen Ferenz, I agreed that we should do this. So we applied and were selected.	Project origin Designer's background
Researcher **Leni**	What made you use the WebQuest? **For a lesson using LOC resources, that was a "stand alone" in and of itself, the WebQuest model was ideal. The goals and outcomes were clearly described (or so we thought)…the resources needed were defined, etc..**	WebQuest Project Design Goals and outcomes
Researcher **Leni**	How did you come to know of it? **Kath and I both stayed abreast of**	WebQuest

506

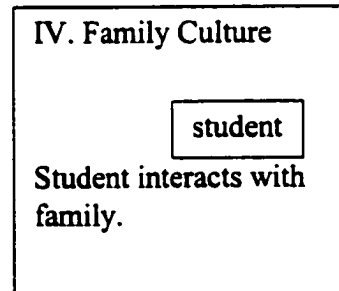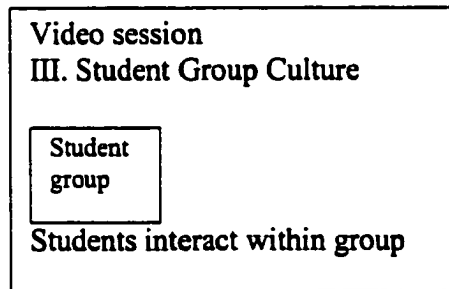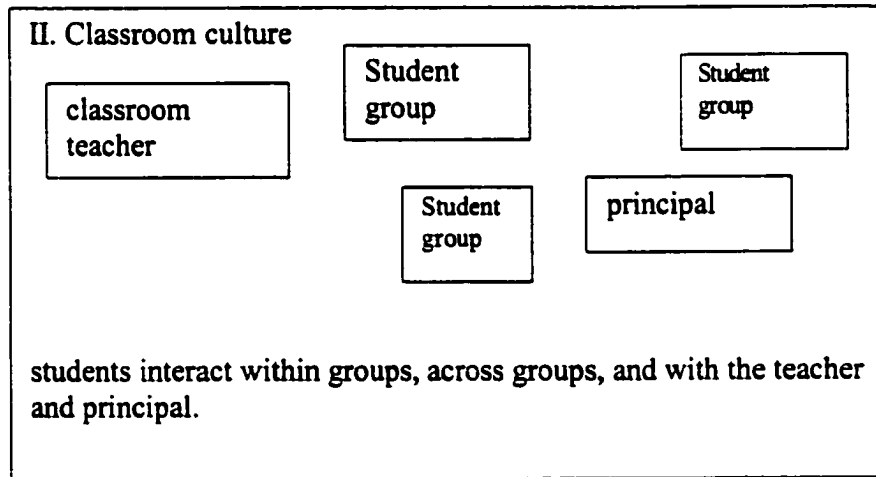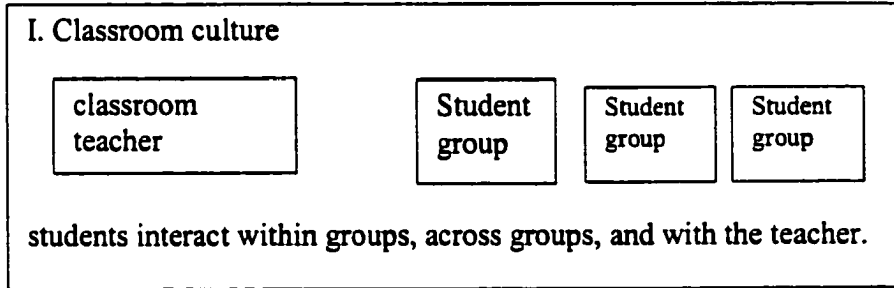|	the latest and greatest stuff out there:-) **Kath was teaching at SFSU at that time (still is) and was beginning to use this model in her course for teachers. We both know and admire Bernie Dodge and his work.**	Project origin Teacher development Designer's background
Researcher **Leni**	How did you test it? **We used it with our own students…inadequate for real testing, but all we had time for.**	Project design
Leni	Over the fall and winter months, Kath and I revised, refined and finally tested our lesson. We presented this intial lesson to an audience at NECC in the summer of 1998 and invited them to join us in the expanded project, America Dreams. Colleagues from the Internet Catalyst worked with me in the further expansion of the project and the development of the website and evaluation piece. The user services division, National Digital Library Program, Library of Congress was interested in seeing if our project might be a viable vehicle for further dissemination of the America Memory Digital Collections to the K-14 community-hence their support and participation.	Project origin
Leni	We are seeing elementary and middle school students for the most part…they have the most flexible schedules. Even at that level, the span of coasts makes it all but impossible to find enough times that classes can join each other (not just me) online. High school students, who have the potential to REALLY gain from online interaction with cross country	Time constraints Pedagogy Online interaction

507

	peers find it most difficult to schedule	
Leni	Reinforces for me the need for overall reform in education. I believe that flexible scheduling and team teaching are perhaps the best way to allow middle and high school students to really "do" something viable in schools. In the elementary schools, we need to honor our teachers as professional educators and allow them to schedule their classes as appropriate.	Educational Reform Flexible scheduling Team teaching Teachers as professionals
Leni	we know that real learning takes a real context and real engagement…anything but those deadly 20 minute periods for spelling, and 40 for SS, 60 for math and reading, etc..) I think that modeling this kind of project will help some teachers who are "ready" to see the possibility in teaching this way. I suspect that I am a dreamer :-)	Educational transformation Teacher development pedagogy
Leni	been there and done that…in my last life, I was the Director of Technology at Town School, here in San Francisco. I would have been there still, perhaps, were I working with an administrator with your understanding and support!	Administrative role in education
Leni	at this point the LOC provide some funding for the project (we had hoped to have considerably more funding which would of allowed us to do more with evaluation and publicity, but this didn't happen). Laurie worked with me on the evaluation piece and took primary responsibility for it. We hired a publicist.	Money program evaluation
Researcher Leni	What does the publicist do? **Carole Teach worked with**	Political/Social

508

	politicians to try to elicit their support and public dreams.	
Leni	You are an amazingly talented group, and are creating wonderful learning communities in your classrooms.	Community of Learners
Leni	the sense of accomplishment in publishing your students will feel, the project's success in meeting the described goals, our need to report this success to the Library of Congress, etc..	Goals Pedagogy LOC
Leni	I don't believe that teachers can "teach well" without making the time to develop meaningful curriculum that fits their class, their own style of teaching etc, One size does NOT fit all, in my opinion, and this creating of curriculum is a part of the professionalism that we strive for.	Pedagogy Professionalism
Laurie	Certainly there is a great deal to learn from individual interviews/discussions with the teachers and tech coordinators (and principals) who are participating in the project.	Administrator's role Designer's as researchers
Laurie	I am also wondering what the principals of the participating schools have to say and your observations can help guide our work here. I could interview them also, or we could throw up a quick survey for them as well.	Administrator's role Designer's as researchers

Appendix J

Model of Student Activities Associated with America Dreams Project (including the various contexts students are involved in.

I. Classroom culture

| classroom teacher | | Student group | Student group | Student group |

students interact within groups, across groups, and with the teacher.

II. Classroom culture

| classroom teacher | Student group | Student group |

| Student group | principal |

students interact within groups, across groups, and with the teacher and principal.

Video session
III. Student Group Culture

| Student group |

Students interact within group

IV. Family Culture

| student |

Student interacts with family.

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┌─────────────────────────────────────────────────────────┐
│ Computer Lab                                            │
│                                                         │
│        ┌──────────┐  ┌──────────┐  ┌──────────┐         │
│        │ teacher  │  │ principal│  │ student  │         │
│        └──────────┘  └──────────┘  └──────────┘         │
│                                                         │
│  Students Interact with teacher, principal, each other, group, and │
│  Internet                                               │
│                                                         │
└─────────────────────────────────────────────────────────┘
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