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Imagination in action: A phenomenological case study of simulations in two fifth-grade teachers classrooms

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Imagination in Action: A Phenomenological Case Study of Simulations in

Two Fifth-Grade Teachers' Classrooms

by

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A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
Department of Childhood Education
College of Education
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Date of Approval:
October 21, 2005

Keywords: elementary, active learning, integration, social studies, drama

Dedication

I am blessed to have a family who has encouraged me throughout this doctoral program. My mother, Bridgette Lauren Gauweiler, and father, Richard John Gauweiler, have provided a constant source of love and encouragement for as long as I can remember. I will continue to strive and make them proud. Also, I am grateful to my wonderful husband, Patrick Little, for being my supportive partner and best friend. Last, I would like to thank the Lord, for "I can do all things through Christ who strengthens me…" (Philippians 4:13)…and that includes a dissertation!

Acknowledgments

Even though dissertations connote a solitary effort, I could not have completed this project without the support of my committee. I am grateful to my co-chairs, Dr. Kathryn Laframboise and Dr. Janet Richards. I believe they are the ideal combination. Both provided insightful and constructive comments that enriched subsequent drafts. They gave me substantial amounts of their time – a demonstration of how much they cared. In addition, Dr. Jan Ignash and Dr. Mary Lou Morton contributed thought-provoking suggestions. They provided consistent support and inspired me to write because of their positive feedback. I was fortunate to have worked with these four talented professors.

Other faculty members of the University of South Florida generously clarified my questions and addressed my concerns. I appreciated the professional expertise of Dr. Roger Brindley, Dr. Valerie Janesick, Dr. Carol Mullen, Dr. Suzanne Quinn, and Dr. Nancy Williams.

The faculty, staff, and students at Miller Elementary School made this research study a delight. Dana Daniels, the principal, and the teachers in this study welcomed me to the school and accommodated my numerous requests. Last, I will always remember the students: Amanda, Becky, Chelsea, Harry, Hunter, Jasmine, John, Ryan, and Trevor. The Teepeeshon and Trailblazers live on.

Table of Contents

List of Tables

List of Figures

Imagination in Action: A Phenomenological Case Study of Simulations

in Two Fifth-Grade Teachers' Classrooms

Cher N. Gauweiler

ABSTRACT

The purpose of this research was to describe how two fifth-grade teachers help students understand social studies and language arts concepts through simulations. I observed two fifth-grade teachers, Lindsey and Paula, as they conducted a simulation focused on the Lewis and Clark expedition. I spent 100 hours over a period of eight weeks in the teachers' classrooms. The following research questions guided my inquiry:

1. Why do the two teachers use simulations?

2. How do the two teachers implement simulations?

3. How do the ten students respond to simulations?

4. What do the ten students think about simulations?

To answer these questions, I interviewed each study participant three times, analyzed teacher resource materials and student work samples, videotaped and audiotaped the students' and teachers' behaviors, and observed the teachers' and students' interactions. I followed a phenomenological theoretical orientation and reported my findings through a descriptive case study. A detailed account of

the early, middle, and late stages of a simulation depicted the participants' actions.

I discovered that the two teachers used simulations because they believed simulations targeted students' learning styles and enabled students to retain the material over time. Lindsey felt simulations allowed her to integrate content and create an active learning environment, and Paula believed simulations involved the students with authentic learning. To implement the simulation, the teachers increased students' background knowledge on Westward Expansion, prepared them for their roles throughout the action phase, and evaluated student learning through written and oral assessments.

I observed how two groups of five students interacted throughout the simulation. I learned how they formulated an identity for their team, discussed dilemmas, resolved conflicts, and completed their tasks. The students shared positive and negative opinions about their roles as captains, journal writers, interpreters, and privates. They explained how they had learned about the content, teamwork, and historical figures associated with the Lewis and Clark expedition. All of the students gained on their posttests. Four of the students made connections with the simulation content to their lives and experienced positive attitudinal and academic transformations.

CHAPTER I: INTRODUCTION

Imagination is more important than knowledge

(Einstein, 2005, p.9)

I used to have a poster with Einstein's quotation displayed in my fourth-grade classroom. Often, after my students had departed for home, I would sit at one of the student's tables and reflect on that statement. I wondered how I might teach my students how to think in a more divergent manner. I reflected on the amount of time I had allotted that day for student-led conversations. I considered alternative ways I might have structured my social studies lesson. I asked myself if imagination had primacy over knowledge in my classroom. Questions revolved in my mind such as, *"Did I allot opportunities for my students' creative thinking today? Did I honor diverse responses? In what ways did I allow for student choice?"*

Although it was difficult to admit to myself, I recognized that often I inadvertently controlled not only every aspect of what I thought my students should learn but also how they should learn it. I asked my students questions, but I pre-determined what I believed were correct answers. I allowed for student discussion, but I limited the scope and topics of conversation. Even though I wanted to give students more autonomy, I was concerned that they would not be able to originate relevant dialogue without my assistance. I believed that multiple perspectives enrich a discussion. However, I did not know how to elicit these

responses in a room of 30 students. I would pose a question and the same four students would raise their hand to answer it. I knew that 26 other students had other ideas, but I didn't know how to involve them in discussions.

Still, I envisioned a more student-centered classroom where students generated questions that arose from their desire to know. I considered how I could introduce authentic tasks that allowed students to examine issues from different viewpoints, engage in critical thinking, and practice problem-solving. Therefore, I decided to restructure my pedagogical approach for the following school year. I decided that I would experiment with drama, a technique that I had enjoyed as a high school student and as an undergraduate in college. I recalled how my teachers used drama to teach Greek mythology and world history.

A Choice for Drama

Through drama I believed I could encourage students to imagine, discover, and create alternate realities. Drama may include plays, dance, games, and simulations (Grady, 2000; Heathcote, 1984a; Wagner, 1998). Each dramatic genre is distinct with different purposes and learning outcomes (Heathcote, 1984a). Wilhelm (1997, 1998) described the value of drama as twofold. Drama offers an alternative approach to the printed word and allows readers to connect with text through action. By extension, Heinig (1992) and Wagner (1998) claimed drama increases students' overall comprehension and understanding of content and enables them to examine text more closely. King (1996) equated drama as a type of transformational magic – it invites students to learn more about a particular topic.

In my classroom, I started with creative dramatics activities. Creative dramatics provides an opportunity for students to respond to situations without a script or prior preparation (Jarolimek, Foster, & Kellough, 2005). As an example, after I read an African folk tale my students would ask if they might retell the story through drama. I observed my fourth graders as they transformed rulers to sticks and orange crepe paper to fire. Some rummaged through our prop box as they located objects to portray a certain character, such as a peasant or a prince. Other times they used props to embellish their parts in Readers Theater productions. Readers Theater is a technique that allows students to read dialogue from an actual story as if they were practicing for a play. Parts include narrators and characters. However, in Readers Theater students do not memorize their lines and limit their movements (Anderson, 2002). I recognized that Readers Theater motivated students to reread text and encouraged participation.

My students' innovation and excitement inspired me to facilitate more lessons that fostered small group interaction and opportunities for active learning. I sought other ways to teach through drama. I then introduced simulations when I taught fourth, fifth, and sixth grades. I recalled how my students' behaviors changed when I implemented simulations into my language arts and social studies classes. Their enthusiasm for the content increased as they realized historical people were real. Instead of reading about patriots, they became them. Through the simulated experience, they discovered the content in a different manner than with a traditional approach that relied heavily on a textbook and

worksheets. Simulations allowed students to encounter authentic, vicarious learning.

Because simulations are related to the field of drama, they share some of the traits of drama such as characterization and invention. Through concrete experiences, students process abstract concepts and issues. Simulations present opportunities to examine values and increase decision-making skills (Kellough & Roberts, 2002).

A Simulation of "Pilgrims' Journey to America"

To clarify this point, I offer an example of what a simulation might look like in a social studies unit on the Pilgrims' journey to America. Imagine the following scenario: six groups of fifth-grade students with four or five students to a group huddle around desks. Some cover their eyes while others study the person holding a "fate" card. At first glance they are ten and eleven-year old students. Yet, in their minds and through their actions, they are pilgrims ranging in age from fifteen to fifty. At this point they are unsure if they will lose a loved one, have their journey to America postponed for several weeks, or earn extra money for supplies. Students read their fates as a team member plots the journey with a permanent marker on chart paper. The group members sigh a collective groan when they realize their "brother" is missing. Meanwhile, a nearby team cheers because they have learned that they will have excellent weather on their voyage.

The simulation I describe above corresponds with the information in the students' social studies and language arts texts. In addition to the knowledge they gain from informational and fictional works focused on Pilgrims, the students

experience the historical event through a simulation. Approximately three to four times a week students meet in their groups and enter a simulated reality. At the end of four to six weeks, they will discover who has safely made the journey to America and who has not.

Simulations in the Classroom

Simulations are a type of experiential learning (Clegg, 1991; Kolb, 1984; Moon, 2004; Ruben, 1999; Thatcher, 1990) that is spontaneous, unrehearsed, and not directly taught (Jones 1980, 1987). Simulations enable students to learn about a subject through interaction and discovery. Participants act in accordance with assigned roles and make decisions as if they were those individuals (Greenblat, 1988; Hess, 1999; Jones, 1989). In a simulation, the dialogue is unscripted because the students do not rehearse. Instead, they use their background knowledge of the topic and interpretation of their characters to recreate a particular event. Simulations tend to be student-centered rather than teacher-centered. A teacher adopts the role as a facilitator who creates situations for students to engage in a simulated reality (Jones, 1988; Petranek, Corey, & Black, 1992; Seidner, 1978).

Simulations for educational purposes originated in the United States. Classroom teachers use them in subjects such as, geography, history, religious studies, chemistry, math, social studies, journalism, speech, and politics (Clegg, 1991; Horn & Zuckerman, 1980; Robbins, 1988; van Ments, 1994). Although some people are not familiar with simulations, they have existed in some form in education since the 1960's (Martin, 1978; Morie, 1996; Seidner, 1978).

5

Classroom teachers modify simulations for various instructional purposes. Simulations range from introductory exercises to culminating events that require significant student research and preparation (Kaldhusdal, Truesdale, & Wood, 1998; McCann, 1996; Morie, 1996).

Rationale for Proposal

I conducted this study to report in detail what happened in two classrooms in which simulations were employed. Some people equate simulations to a fun diversion that is not representative of actual learning (Jones, 1993). The two teachers I observed have used simulations for several years to teach social studies and language arts curricula. A descriptive account from my observations and a report of the experience from the teachers' and students' perspectives provided a comprehensive portrayal of a simulation. In addition, this study contributes to the research in the field of educational drama and to future studies of simulations in elementary classrooms.

Some teachers employ simulations in order to integrate the language arts and social studies. These subjects are naturally interconnected. Both explore how people communicate and provide students with tools on how to learn about others. Activities that replicate historical events with these subjects allow teachers to involve students in hands-on learning (Fennessey, 2000; Fredericks, 2000). Simulations enhance students' cognition and higher-order thinking skills (Cordeiro, 1995; Heinig, 1992: Morie, 1996; Mayer, 2002; Wagner, 1998; Wilhelm & Edmiston, 1998). Simulations also encourage cooperative learning and group problem-solving (Cordeiro, 1995; Heinig, 1992), are intrinsically

motivating (Barkley, 2003; Fennessey, 2000; Hess, 1999), and may improve metacognition (Smey-Richman, 1988). In particular, elementary age students enjoy simulations and drama because they are at ease with imaginary worlds and are able to adopt different roles through informal storytelling (Gallas, 1991; McCaslin, 2000; McCaster, 1998; Millians, 1999b; Richards & Goldberg, 2003; Robinson, 1980; Taylor & Walford, 1972; Walker, 1999). In this sense, they are immersed in their minds through a type of drama that is unrehearsed and unscripted.

Simulations align with a current view of multiple literacies. Although many people still associate reading and writing with print-based texts, an enhanced understanding of the multiple literacies allow teachers to extend traditional book learning to alternative forms of communication (Hagood, 2000). These modes incorporate primary sources, art, Internet websites, primary sources, magazines, DVD's, music, and artifacts (Richards & McKenna, 2003). Multiple literacies involve sound, movement, color, and visual representations and encourage social interaction and collaboration (Turbill, 2002). Likewise, simulations permit students to locate information beyond books and share their knowledge in forms besides writing.

Even though simulations produce cognitive and affective benefits and have endured for decades, the research in this area is minimal compared to other disciplines (Duke, 2000; Gosen & Washbush, 2004; Millians, 1999b; Ruben, 1999). In contrast to other teaching methods, many teachers do not use simulations often. Some teachers are not aware of simulations or are unfamiliar

7

with how to implement simulations (Hess, 1999). Others consider simulations to be time-consuming, expensive, and ambiguous (Cruickshank & Telfer, 1980; Lee, 1994; May, 1997; McCaslin, 2000; Morie, 1996; Taylor & Walford, 1972; Thatcher, 1990).

Wagner (1998) reported that from 1989 to 1997, 17,671 dissertations in the field of reading and 16,542 dissertations in the field of writing were submitted to Dissertations Abstracts International. In comparison, only 71 in educational drama, creative drama, and drama in education combined were listed. I searched Digital Dissertations to conduct a search in the field of simulations. I used the keywords "simulation(s), teacher(s), and elementary" as well as other combinations. I found 71 citations that ranged from 1969 to the present. Most of the studies centered on computerized simulations, simulations in the math and sciences, and simulated studies with pre-service teachers. Three simulations, dated 1969, 1992, and 1993, addressed teachers' beliefs in relation to how and why teachers use simulations in the social studies classroom. Computerized simulations have their relevance (Aldrich, 2004), but they cannot replicate the interpersonal contact and discussion (Hess, 1999) that non-computerized simulations provide. Therefore, my study contributes to this underrepresented area. I describe and analyze how simulations were implemented in two elementary classrooms.

Purpose and Questions

The purpose of this research was to describe how two fifth-grade teachers help their students understand social studies and language arts concepts through

simulations. The teachers conducted a simulation on the Lewis and Clark expedition from early April to late May. I included five students from each classroom in the study. I observed the teachers' and students' interactions over an eight-week period, videotaped and audiotaped selected lessons, reviewed teacher resources and student work samples, and interviewed the participants to report their attitudes and beliefs. My guiding questions for this study were as follows:

1. Why do the two teachers use simulations?

2. How do the two teachers implement simulations?

3. How do the ten students respond to simulations?

4. What do the ten students think about simulations?

Design

A qualitative approach was the most appropriate way to answer my research questions. I collected data in depth and detail, and I was the instrument for data collection (Bogden & Biklen, 2003; Patton, 2002). A qualitative case study is a holistic, comprehensive portrayal and analysis of a specific event (Merriam, 1988). I chose a descriptive case study with tenets of phenomenology as my guiding research approach. Phenomenologists seek to report the lived experiences of a group of people by capturing and describing their perceived realities in a particular context (Holstein & Gubrium, 1994; Hopkins, 1994; Moustakas, 1994; Patton, 2002). My purpose was to understand what happened in classrooms where teachers used simulations and how they and their students ascribed meaning to their experiences in a simulation.

9

I maintained a researcher reflective journal for every session that I observed in the classroom. My journal enabled me to record my thoughts and gain clarity about my experiences. In addition, I wrote field notes for each visit and analyzed the data on a continuous basis. I collected the following data: in-depth interviews with the teachers and ten students (Seidman, 1998), tape-recorded and video-taped sessions, teacher resource materials, and student work samples. I analyzed the interview data through phenomenological analysis methods (Hycner, 1985; Moustakas, 1994). I used the data that I collected from fieldwork in order to explain what I had observed (Patton, 2002).

I used purposeful selection with two fifth-grade teachers who have used simulations in their classrooms for six years. Purposeful selection is a process in which researchers select a sample from which they can learn the most. The benefit of purposeful selection is that it provides detailed information and allows a researcher to investigate a particular area of interest (Berg, 2004; Merriam, 1988; Patton, 2002). The two teachers had worked together for seven years. They had agreed that I could carry out research in their classrooms. I had volunteered in the classroom once a week for two hours from September, 2004 to March, 2005. My time in the classroom allowed me to create a rapport with the students and establish trust as a visitor. When I collected data in April, I transitioned from the role of visitor to one of participant-observer.

I previously had worked with these teachers for three years as an intermediate teacher at Miller Elementary School. I believe my prior relationship with them facilitated more candid responses in interviews. In addition, I

completed a pilot study with one of these teachers in a doctoral course on qualitative research. My study examined why teachers used simulations in their social studies and language arts classrooms and why others did not. I surveyed six fifth-grade teachers and asked them if they incorporated simulations in their classrooms.

From that survey, I chose two teachers who reported they used simulations. I interviewed them three times over a span of eight weeks. Each interview lasted about 30-45 minutes. I selected this method because Seidman (1998) claimed that each interview serves a purpose and allows participants to reflect on their responses between meetings. In order to include an alternative perspective, I interviewed a teacher who reported she did not use simulations or role play. I learned that the two teachers used simulations because simulations helped students to understand and remember the content, interested them in the material, and involved them in the subject matter. Judy chose not to use simulations because she preferred a more controlled, structured environment. She claimed she was uncomfortable with drama and thought that students acted "silly" in dramatic activities.

The teachers I observed implemented three to four simulations a year on topics such as, Journey to America (Pilgrims), The Oregon Trail, and Immigration to Ellis Island. Each simulation lasted approximately six weeks. They introduced a simulation on the Lewis and Clark expedition in April, 2005. I secured written letters of approval from the principal of the field work site and from the school district.

Limitations and Key Assumptions

Limitations of the study included time constraints because of state-mandated testing dates. The testing coordinator of the school district gave permission that I collect data after the exams in March until the end of the school year in May. Although appropriate for a qualitative study, the sample size for my study did not allow generalizations to other teachers who use simulations in their classrooms. The responses of students were unique and did not reflect the experiences of their peers.

A key assumption to qualitative research is that the researcher is the primary instrument of data collection. Therefore, my perceptions and beliefs were integrated into the research process and influenced my assumptions and conclusions. I attempted to avoid bias by asking open-ended questions during interviews, transcribing interviews verbatim, and maintaining a researcher reflective journal. In addition, I requested another doctoral student familiar with qualitative research to review my field notes and themes. I asked the teachers and students to review written summaries of my findings from their interviews and shared the case study with the two teachers.

Definition of Terms

One of the major criticisms in the literature is that practitioners and researchers do not apply consistent terminology when they refer to simulations (Berting, 1989; Crookall, 1995; Greenblat, 1988; Hertel & Millis, 2002; Jones, 1989). Often authors contradict one another and interchange terms. However, differences exist (Bredemeier & Greenblat, 1981; Gibbs, 1975; May, 1997). For

example, many associate simulations with games, role play, and plays. Authors of games viewed simulations as a type of game, while authors on drama in education perceived simulations as role-playing exercises (Jones, 1980). As a result, Jones (1988, p.9) stated "terminology is the dragon at the simulation gate." He offered this metaphor partly because many educators do not understand the nature of simulations and confuse simulations with games. The terms are not synonymous. For the purpose of this literature review, I define the terms simulations, simulation games, and role play. Also, I supply the meanings of active learning, hands-on activities, and cooperative learning.

Active Learning

Although all learning involves a certain amount of active experiences (Thatcher, 1990), the premise of active learning is that students are mentally engaged in the area of study. Active learning incorporates more complex conceptual patterns and cognitive procedures than a lesson on rote memorization. This type of learning occurs when students set individual goals, plan activities to meet them, evaluate the consequences of their actions, and share their thoughts with others (Wells & Wells, 1992).

Cooperative Learning

Cooperative learning concerns an instructional approach that emphasizes peer interaction as an integral part of the learning process. Cooperative learning practices vary from simple to complex. Some activities allow students to work as partners. Others incorporate student teams with each person assigned a specific role. The major concepts of cooperative learning are the following: Positive

Interdependence, Individual Accountability, Equal Participation, and Simultaneous Interaction (Kagan, 1994). Some teachers adopt cooperative learning structures for a simulation.

Games

Games are contests with established rules, winners and losers (Cruickshank & Telfer, 1980; Gibbs & Howe, 1974; Gredler, 1994; Seidner, 1978). To many, the term "games" connotes that participants will enjoy themselves and have fun (Clegg, 1991; Jones, 1988). Games end after each session and are not intended to replicate reality (Gredler, 1994). Cruickshank and Telfer (1980) distinguished between academic and non-academic games. Amusement characterizes non-academic games like Bingo or baseball. In contrast, academic games include Scrabble and crossword puzzles and are designed for players to learn an objective. In each type of game, students play to meet predetermined objectives and follow established rules. Although games have been associated with simulations, for this study I will not focus on games in the classroom.

Hands-on Activities

In the classroom, hands-on activities are often referred to as hands-on methods or learning. The term refers to how teachers involve students in physical and intellectual (minds-on) experiences. Teachers provide opportunities for students to manipulate and handle objects and to discuss what they have learned (Jarolimek, Foster, & Kellough, 2005).

Role Play

Like simulations and games, authors have not defined role play well in the literature (Bonwell & Eison, 1991; Wagner, 1998). Role play requires individuals to imagine themselves in a particular situation or to adopt another's mindset in a certain context (Taylor & Walford, 1972; van Ments, 1994). Role play is a component of a simulation. The center of all dramatic exercises, role play cannot be extricated from the simulation (Wagner, 1998). One way of understanding this relationship is to imagine an umbrella as the simulation and role play as the handle. In other words, role play is a central part of the event, but it is not the entire activity. Preparation, discussion, and reflection are also important elements in a simulation.

Bonwell and Eison (1991) clarified that role play may last less than an hour while simulations last several hours or days. In addition, role play is not equivalent to acting. An actor interprets a character in order to entertain a group of people (van Ments, 1994). In contrast, students use role play within simulations to experience an unfamiliar situation and increase their understanding of the events that happen.

Simulations

One of the most distinct differences between games and simulations is that in a simulation, students do not try to win. In addition, simulations are ongoing in that the teacher controls the amount of time that they will last. Simulations occur during a class period or could take place over several weeks

(Hertel & Millis, 2002; Jones, 1988; Marks, 1992; Morie, 1996; Wolfe, McIlvain & Stockburger, 1992).

Interaction during a simulation enables students to understand an event and experience it through the perspective of another person. For instance, teachers might ask students to pretend that they are immigrants who have to leave their country. Students adopt the persona of another person and write, speak, and act as if they were someone else. The teacher does not tell them what to say or how to behave. Instead, the students decide how they will interpret and portray their characters. Moreover, simulations tend to be open-ended and ambiguous. In some cases, the goals are to explore values, opinions, emotions, and attitudes (Jones, 1987).

A *simulation* is a representation of reality (Morie, 1996) that is a more simplified recreation of an actual or imaginary world (Greenblat, 1988; Beard & Wilson, 2002; van Ments, 1994). Furthermore, Jones (1987, 1988) clarified that simulations are non-taught events and can be serious. Participants are embedded in the interaction of informal and formal dramatic reenactments and have ownership in determining events and the final outcome. Jones (1980, p. 10) provided the following explanation:

> With a simulation the participants are on the inside, with the powers, duties, and responsibilities of shaping events…Action and interaction take place. The situation changes. Causes have effects and decisions have consequences. The participants are involved, they participate, they

16

become absorbed in the interaction. It can be said that the participants

are the simulation.

On a related point, Seidner (1978) distinguished between three different types of simulations: all-machine, person-machine, and person-person simulations. All-machine simulations are entirely computerized and seldom used in the classroom. Person-machine simulations involve the interaction between a human being and a machine. For example, in driver's education programs, some cars are wired so that students could experience what driving drunk feels like. Finally, person-person simulations are most popular in the classroom and recreate social, dynamic systems. Another term for them is social-system simulations (Gredler, 1994). In this kind of simulation, participants make decisions based on a certain event. Their choices and interactions propel the simulation. In this dissertation I studied a social-system simulation.

Simulation Games

Even though simulations and games are separate genres, some materials contain the characteristics of both simulations and games (Gredler, 1994). Jones (1987) wrote that some authors of simulations include point-scoring devices in the simulation for assessment or competition. For this reason, Gibbs (1975) distinguished between simulations, games, and simulation-games. Jones (1987, p. 14) argued terms like simulation-game are "hyphenated horrors" and should be discarded because they confuse and mislead participants. Crookall (1995) believed that it is impossible to declare a solid definition for simulation-games

17

due to the socially constructed nature of them. Rather, Crookall claimed that definitions should remain tentative and open.

Summary

The study examined how and why two fifth-grade teachers used simulations as a form of experiential learning (Kolb, 1984; Thatcher, 1990) in fifth-grade classrooms. As they participated in a simulation from the beginning to the end, I observed and interviewed the two teachers and five students in each of the teachers' classrooms for an N of 10. I adopted a descriptive case study design with tenets of phenomenology as my guiding approach. I utilized phenomenological analysis methods for interviews (Hycner, 1985; Moustakas, 1994). The information that I collected, analyzed, and reported will contribute to the knowledge base on drama in education and inform other teachers on how they could use simulations in their educational environments.

CHAPTER II: REVIEW OF THE LITERATURE

Introduction

The Chinese proverb "I hear and I forget. I see and I remember. I do and I understand" appears often in simulation literature (Greenblat, 1988; Hertel & Millis, 2002; Lee, 1994; Morie, 1996). In several sources writers have used this explanation to justify simulations as a valid educational tool, especially in social studies classrooms (Hess, 1999; Marks, 1992; Morie, 1996). Indeed, simulations are interactive. Teachers and students engage in conversations as they recreate historical events, adopt different identities, and experience alternate realities (Blatt, 1995; Fennessey, 2000; Keech, 2001; McCann, 1996). Together, they learn about historical events such as The Oregon Trail or The Revolutionary War. They internalize major themes such as culture, people, places and environments, and individual development and identity (Fredericks, 2000; Keech, 2001). The National Council for Social Studies (1994) standards includes all of these concepts. Within these standards are questions such as: What happened in the past? Why do people behave as they do? Simulations offer teachers a means to teach the standards through the integration of language arts and social studies.

Besides the notion that simulations may be enjoyable (Blatt, 1995; Hertel & Milllis, 2002; Morie, 1996; Wolfe, McIlvain, & Stockburger, 1992), simulations offer cognitive and affective benefits as well. They motivate students to learn more about a given topic, result in more positive attitudes toward a discipline,

and add variety to the classroom (Cordeiro, 1995; Heinig, 1992; Morie, 1996; Mayer, 2002; Wagner, 1998; Wilhelm & Edmiston, 1998).

In my study, I looked at how two fifth-grade teachers used a simulation to teach about the Lewis and Clark expedition in their language arts and social studies classes. My research questions determined the major areas for this literature review. I wanted to understand why teachers used simulations, how they implemented them, and what students had said about them in the literature.

Therefore, I organized this review into five major sections. The first section offers the literature on select theories of teaching and learning in the context of simulations. The second describes the design of a simulation and examines how different teachers have implemented them in their classrooms. The third section discusses the development of simulations from a historical perspective. The fourth analyzes the research on the effectiveness of simulations, and the fifth reports what students have said in their experiences through a simulation. I conclude with a summary of the chapter.

Theories of Teaching and Learning

A single theory cannot provide a foundation for curriculum design. Educators adopt diverse perspectives, research findings, and their experiences (Jarolimek, Foster, & Kellough, 2005; Terwel, 1999). However, in the literature authors link certain educational theories most often to simulations. These theories are experiential learning and constructivism (Clegg, 1991; Inbar & Stoll, 1972; Kolb, 1984; Moon, 2004; Ruben, 1999; Smith & Herring, 2001; Thatcher, 1990). Both of these challenge traditional paradigms such as behaviorist theory

and traditional models of instruction. In this section I will contrast traditional theories of teaching and learning with active learning and describe experiential learning and constructivism. Also, I will explain how these two ideologies connect to why teachers' use simulations in their classrooms.

Traditional Model

In the United States, the traditional model of teaching and learning originated to the late 1800's and the early 1900's. Behaviorist learning theory dominated educational circles. Many teachers awarded learners for their efforts, perceived students' minds as empty vessels, and viewed intelligence as inherited (Abbott & Ryan, 1999b; Brooks & Brooks, 1993). Today, traditional methods of teaching and learning depict the teacher as the knowledge expert who controls the amount of information students learn and how it is transmitted (Marlowe & Page, 1998; Rogoff, Bartlett, & Turkanis, 2001; Ruben, 1999). The majority of the time the teacher relies on textbooks, workbooks, and a fixed curriculum as the students work alone to find the correct answers (Brooks & Brooks, 1993; Wolfe, 2001).

Greenblat (1988) explained that the traditional model of teaching and learning poses several limitations. The most significant one is that in the conventional model students are passive recipients of information. The teacher presents information in a sequential manner and leads discussions before or after a lecture. When teachers ask students to contribute their thoughts, extroverted students may dominate the discussion while reticent students stay silent. Yet, the quiet ones could have the best ideas.

Furthermore, Ruben (1999) and Brown (1998) stated that traditional approaches to education are not compatible with how students learn outside the classroom. Often these activities entail collaboration and peer interaction. Vygotsky (1973) and Piaget (1976) emphasized the relevance of peer involvement in learning. Yet, in traditional models students mainly work in isolation. Brown (1998, p. 199) described the activities that some students experience after school:

> Small groups of friends navigate to all parts of their communities, invade stores, explore vacant lots and buildings, seek out culverts and ponds, construct tree houses and forts, listen to music and engage in countless other creative activities. School-tired bodies are renewed, and dulled curiosities become sharpened as the youngsters' feet hit neighborhood turf after school hours.

Compared to how students interact outside the classroom, the arrangement of traditional classrooms inhibits conversation and activity (Brooks & Brooks, 1993; Flynn, Mesibov, Vermette, & Smith, 1994; Sharrock & Watson, 1986; Taylor & Walford, 1972; Wells & Wells, 1992). Students do not consider the material to be relevant in their lives and disengage from the content (Brooks & Brooks, 1993; Wilhelm, 1997). In contrast, simulations enliven the classroom and integrate knowledge into the real world (Hess, 1999).

Active Learning

Active learning is the cornerstone of simulations (Diulus & Baum, 1991; Greenblat, 1988; Hertel & Millis, 2002; Marks, 1992; Thatcher, 1990; Wolfe,

McIlvain, & Stockburger, 1992). Thatcher (1990) stated that all learning requires a certain amount of active experiences. In order to learn, students must be connected with the skills to be mastered. Teachers reported that they used simulations as an instructional method because they believed in the benefits of active learning (Antinarella & Salbu, 2003; Brown, 1998; Diulus & Baum, 1991; Greenblat, 1981c; Ruben, 1999; Shields, 1996). Active learning in simulations enable students to have ownership in the learning process, communicate with their peers to solve problems, make abstract concepts tangible, and transfer knowledge to a more authentic situation (Heitzmann, 1974; Morie, 1996; Wolfe, McIlvain, & Stockburger, 1992). Yet, centuries before simulations gained popularity in the 1960's, thinkers and researchers such as Aristotle, Plato, Socrates and Rousseau wrote about the benefits of active learning (Marlowe & Page, 1998; Stover, Neubert, & Lawler, 1993). Active learning is not a contemporary concept.

  Rousseau. For example, Rousseau, a thinker during the Enlightenment, discussed in *L'Emile* an educational program that exposed participants to artificially created situations. Rousseau noticed the classical education of his time required students to read and memorize passages. Rousseau believed these exercises stifled students' active learning processes. He thought that students grew "passive, destructive, deceitful, selfish, and stupid" and that "education was boring and beyond the children's comprehension" (Marlowe & Page, 1998, p. 14). Rousseau's ideas resonate with the rationale for educational simulations in the twentieth century (Inbar & Stoll 1972).

John Dewey. In turn, Rousseau's ideas inspired Dewey's. Dewey (1915) wrote that Rousseau was among the first to perceive learning as essential to students' growth and that adults should consider students' interests and needs in school. Dewey (1900, 1915) believed teachers should direct students' active experiences and advocated dramatization as one possibility. He discussed how a fourth-grade class at the Francis Parker School investigated Greek culture. The students studied Greek history, constructed "houses," wrote poems based on myths, and recreated battles and festivals.

Although he did not use the word "simulation," Dewey's descriptions typified simulations. Later, Dewey (1938) addressed the conflict between traditional and progressive approaches to education and argued that students should learn through experience. By extension, Dewey (1916) wrote that the reconstruction of the meaning from experience causes learning. In other words, when students reflect on an event they transform tacit understanding to the conscious level. Reflection, an important component in a simulation, mirrors this statement. Wagner (1998) and Kolb (1984) credited Dewey as one of the most influential thinkers of the twentieth century. His theory of "learning by doing" molded the progressive era in education and shaped later theories on experiential learning.

Experiential Learning

Educators rediscovered experiential learning in the 1960's, an alternative to traditional instruction that dominated during the 1950's (Clegg, 1991; Marlowe & Page, 1998; McCann, 1996; Ruben, 1999). Moon (2004) claimed Boud,

Cohen, & Walker's (2000) definition best describes experiential learning. Boud,

Cohen, & Walker wrote that experiential learning shares the following elements:

experience is the foundation and stimulus for learning; learners actively construct

their experiences; learning is holistic, socially and culturally constructed; and

learning is influenced by the social and emotional context of an event. In short,

people learn from their experiences (Kolb, 1984; Moon, 2004). As a result, some

instructors might use simulations because of their beliefs in the benefits of

experiential learning (Pedersen, 2000; Ruben, 1999; Thatcher, 1990).

Because all simulations are a form of experiential learning (Clegg, 1991;

Kolb, 1984; Moon, 2004; Ruben, 1999; Thatcher, 1990), simulations enable

students to learn through the discovery of an ongoing process or a given

scenario. Students have the responsibility to create their actions and evaluate the

outcomes (Diulus & Baum, 1991). This example demonstrates how experiential

learning manifests in the classroom.

The Oregon Trail: An example of experiential learning. McCann (1996)

organized a pioneer simulation with his ninth-grade English class in order to

interest his students in Willa Cather's novel, *My Antonia*. McCann introduced the

simulation. He explained the students would reenact the pioneer's journey along

the Oregon Trail once a week for five weeks. McCann informed the students that

they would work in small groups to respond to problems, write about their

experiences, and report to the class. He then assigned students to one of six

different families. Within the family each student represented a role such as

mother, father, oldest child, or youngest child. The students used role play while

they were in the simulation. In role, they faced challenges and dilemmas that actual pioneers would have met. McCann stated that the simulation caused the students to apply their own experiences to reflect on pioneer life. In addition, the activity prompted the students to consider what was important to them. They had to make decisions about what items their character would bring with them on the covered wagon.

McCann reported that the simulation increased student curiosity in *My Antonia*. The students read the book, and some even enjoyed it. Beyond that, McCann mentioned his students' written and oral responses to the novel reflected issues that arose in the simulation. McCann (p. 66) wrote,

They appeared to have some insight into the fear, disappointment, and difficulty of those people who left home to make a new life on the prairie. They noted that the characters had to make value judgments, and for some characters, the material things that once seemed very important diminished in value…Second, the students also seemed to have an understanding of Jim Burden's (main character in the novel) and Willa Cather's need to provide a record of the experience of moving to a new surrounding, facing and overcoming hardships, and taking the experience with them wherever they went.

The simulation enabled students to experience the Oregon Trail vicariously. They relied on their background knowledge and emotions to understand their characters. Interaction with their peers influenced their decisions as they learned more about an unfamiliar event.

Kolb's learning cycle. McCann's portrayal of his students' experiences with a simulation reflects Kolb's (1984) model of the learning cycle. Kolb believed learning is a process. Learning ensues when learners transform their experiences into knowledge. To demonstrate this definition, Kolb created a model cited often in the literature on experiential learning (Beard & Wilson, 2002; Diulus & Baum, 1991; Golub, 2000; Moon, 2004; Thatcher, 1990). As shown in Figure 1, Kolb's model described four parts of the learning process: concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE). In the first stage, concrete experience, students learn through a direct experience of an event. During the second stage, reflective observation, the students review their experience. In the third stage, abstract conceptualization, the students consider what they have learned. Then, in the fourth stage, the student engages in active experimentation. They transfer what they have learned from the earlier stages to adjust their thinking and attempt a different way to solve a problem.

The learning cycle and simulations. Thatcher (1990) applied Kolb's theory to the design of a simulation. If the experience is constructive, simulations facilitate learning. In relation to Kolb's model, simulations reproduce the learning cycle by their design. In simulations that extend over a period of several weeks, students receive the concrete experience when they engage in role play as a certain character. Then, they reflect on the activity after each session. After they consider what they have learned through the reflection, they return to the experience. The cycle continues throughout the entire length of the simulation. In
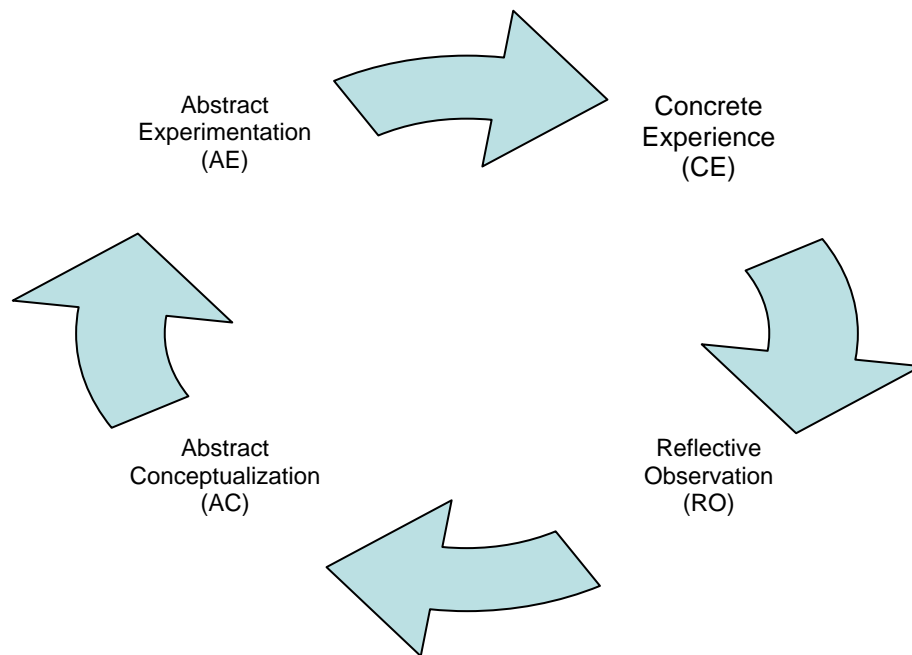
Figure 1. Kolb's Experiential Learning Model

Note. From *Experiential Learning: Experience as the Source of Learning and Development* (pp. 41-42), by D. Kolb, 1984, Upper Saddle River, New Jersey: Prentice-Hall. Reprinted with permission.

McCann's (1996) example of The Oregon Trail, the journal reflections enabled students to review what they experienced. When they entered the role play again, the reflection process caused them to reconsider their future actions.

Jerome Bruner's theory of development. Just as Kolb's learning cycle connected abstract and concrete concepts, Bruner devised a theory that included these components. In Bruner's (1966) theory of development human beings interpret reality through three different stages: enactive, iconic, and symbolic. Enactive knowledge refers to learning through movement, iconic through

observation, and symbolic through speech. In role play, students use their bodies (enactive), create images in their minds (observation), and use language (symbolic) to articulate their experience (Wagner, 1998).

Bruner believed that as students grow older, they transition from the enactive stage to the symbolic stage. Teachers' awareness of these stages allows them to meet their students' needs and interests. Bruner mentioned "dramatizing devices" that attract students' attention and help them to identify with an idea or a phenomenon. For instance, students could have props and artifacts in a simulation for Native Americans and Pilgrims. They could create arrows, hats, and pouches. The concrete objects help them to understand how the early settlers hunted, looked, and traded. Yet, they rely on abstract thinking to internalize the emotions the Native Americans or Pilgrims might have felt. For instance, they may wrestle with feelings of anguish if they lose family members during the winter or excitement when they master how to hunt.

Constructivism

Bruner's ideas about teaching and learning resemble principles of constructivism (Eggen & Kauchak, 1999). Bruner (1965, p. 87) stated that discovery learning "helps the child to learn the varieties of problem-solving, of transforming information for better use, helps him to learn how to go about the very task of learning." In addition, Gagnon and Collay (2001) and Flynn, Mesibov, Vermette, and Smith (2004) credited psychologists Piaget and Vygotsky as the pioneers of constructivist theory. In opposition to the teacher as the transmitter of

information, Piaget (1976) and Vygotsky (1986) proposed learners construct meaning through their individual experiences and interaction with others.

An important distinction posits constructivism as a theory about learning, not teaching (Brooks & Brooks, 1993; Marlowe & Page, 1998). In a constructivist classroom, learners blend their prior and current experiences to make meaning and learn more about a certain subject (Abbott & Ryan, 1999a; Applefield, Huber, & Moallem, 2001; Smith & Herring, 2001). In turn, teachers provide activities that encourage problem solving and investigation of a concept in depth. Constructivist principles do not state that students determine what should be taught. Instead, constructivism is a method for students to learn content in a more effective manner (Flynn, Mesibov, Vermette, & Smith, 2004).

Constructivists agree that when students control their learning they discover answers on their own, create individual interpretations, and express an enhanced understanding of a concept. Constructivists share a common belief that the teacher-directed classroom inhibits students' creativity, autonomy, and thinking. In the teacher-directed classroom, students depend on the teacher for information (Brophy, 2002; Brooks & Brooks, 1993; Gagnon & Collay, 2001; Marlowe & Page, 1998; Smith & Herring, 2001).

Simulations and constructivism. In order to convey how a simulation connects to constructivism, I provide the following example. Blatt (1995) organized a simulation on ancient Greece with her third graders. As an introduction to the simulation, she allowed the students to determine their characters. First, she arranged the desks in clusters so that students could sit

with their new "family." She distributed a list of popular Greek names and a handout on the Greek alphabet. The students chose a Greek name and an age eight-years old or older. After that, each family had to determine how they were related to one another. Most of the time students typified mothers, fathers, brothers, sisters, aunts, and uncles. They selected a family name based on the alphabet. In that way, the class transformed to the Alpha, Beta, and Sigma families. After each activity the students wrote in their diaries about their experiences from the viewpoint of the Greek person they embodied.

This activity was constructivist because the students decided how the characters were connected. They applied their knowledge of family structure to create a new one. In addition, they compared their understanding of the English alphabet to the Greek one. The teacher did not interfere with their discussion. Instead, she provided the resources for them to execute the activity. As the simulation continued, the students designed a home for their family based on pictures and read Greek myths. Often, their diary entries reflected information from the stories.

Teachers and constructivism. Teachers who foster constructivist learning environments may struggle at first. Flynn et al. (2004) synthesized their findings from 20 years of work with teachers who transitioned from a teacher-centered classroom to one more student-centered. The researchers found four themes that the teachers had in common. The teachers required a minimum of three years to gain comfort with a strategy, collaborated with a colleague or friend, changed their teaching gradually, and made several mistakes. Since simulations

are constructivist by design (Inbar & Stoll, 1972), they offer teachers an avenue to explore constructivism. However, novices to simulations might experience similar feelings that Flynn et al. (2004) reported.

   Social constructivist theory. Related to constructivism is social constructivist theory. Vygotsky (1986) introduced the idea that learning is a social experience. He delineated a three-stage process in the social construction of knowledge. First, learners create personal meaning themselves. Second, they engage in conversation with their peers to construct a common meaning. Third, they discuss their thoughts within a larger community. The entire process enables learners to adjust their original ideas based on others' perceptions. Opportunity for collaborative talk is an essential part of constructivist classrooms (Nuthall, 2002; Wells & Wells, 1992; Wells, 2002). By their design, simulations offer teachers and students an opportunity to engage in extensive conversations in order to solve a problem or role play a scenario.

   Today, many perceive social interaction as a powerful way to learn. Interactive classrooms allow students to communicate with their peers to solve problems. As a result, student conversation facilitates thinking. Through discussion students articulate their ideas and have them validated by others (O'Neill, 1995; Stover, Neubert, & Lawlor, 1993). Still, not all social interaction in classrooms equates to meaningful discussion. Researchers should focus on classroom interaction and the contexts that provide these opportunities so that learning occurs (Kumpulainen & Wray, 2002). As a method of social interaction, well-designed simulations facilitate communication because they encourage

student talk and cooperation. Often, this discussion ensues during the action and debriefing stages of a simulation. I describe these areas in the next section.

In summary, teaching and learning theories are multi-faceted. In the classroom, teachers use simulations because they believe in the benefits of active learning. In addition, they may give credence to theories such as experiential learning and constructivism. Inspired by Dewey, both ideologies invite student participation and foster independent thinking. Proponents of simulations reference these theories to justify their purposes in the classroom. Teachers who use simulations have their students interact in ways different from those in more traditional environments. Opportunities for student involvement and autonomy are built into how simulations are created and enacted.

Although the experiential nature of simulations pervades the literature (Clegg, 1991; Inbar & Stoll, 1972; Kolb, 1984; Moon, 2004; Ruben, 1999; Smith & Herring, 2001; Thatcher, 1990) three areas are not clear. Researchers have not reported how teachers' beliefs about teaching and learning correspond to their decision to use simulations. Second, they have not adequately addressed how teachers handle challenges that arise during the simulation. Third, researchers have not analyzed how teachers stimulate meaningful conversation among simulation participants. These are issues I explored when I conducted my study.

Simulation Design and Implementation

Simulations are related to the field of drama. They share some of the traits of drama such as characterization and invention. Simulations offer concrete

experiences so that students could process abstract concepts and issues. Simulations present opportunities to examine values and increase decision-making skills (Kellough & Roberts, 2002). Moreover, they embody a specific design. Many teachers execute simulations based on this format. In this section I provide a context for simulations in the field of educational drama and relate the teacher's role in the process. Also, I explain the design of a simulation and describe how different teachers have implemented simulations in their classrooms. I conclude this section with a discussion of the advantages and disadvantages for their use in the classroom.

Educational Drama

Drama encompasses scripted or unscripted formats and requires minimal effort or pre-planning (Fennessey, 2000; Richards & Goldberg, 2003; Wagner, 1998). In contrast to plays that require extensive time and preparation, teachers enhance learning in a specific content area through improvisational drama. Spontaneous and unscripted, improvisational drama includes creative drama or drama in education (Beard & Wilson, 2002; Grady, 2000; Wagner, 1998; Wilhelm, 1998). Beard and Wilson (2002) and Robbins (1988) clarified that drama in education centers on the learner's growth and development rather than on a performance to entertain an audience. Specifically, simulations are part of drama in education (Heathcote, 1984a). The value of these activities in a language arts and social studies classroom is that educators teach content through the recreation of actual events (Cordeiro, 1995; Fennessey, 2000; Smith & Herring, 2001).

Drama in education. Baj (2004) credited Dorothy Heathcote, a former actress and a teacher and trainer of the invention and development of drama as a secondary school subject. The term "drama in education" developed in Britain from the use of classroom skits and plays (Grady, 2000). Heathcote coined the term when she taught lessons in history, geography, biology, and sociology. For example, a common topic of social studies is immigration. After students read about the immigrants' experiences, students "walk in the time of the event" (Heathcote, 1983, p. 695). They explore how it feels to be an immigrant on a journey to a new country. They discuss the challenges they confront as that person. Then, they write a one-page diary entry from an immigrant's perspective.

Heathcote (1984a) wrote that teachers approach drama in several ways. Each strategy creates a different kind of learning and results in separate outcomes. In a simulation, students and teachers recreate an event and explore the process of interactions (van Ments, 1989). They incorporate different actions and learn that each one obtains various results. Students experience a myriad of emotions and ideas as they engage in role play as a certain character. Drama generates thought, feeling, and language through a variety of authentic contexts (Edmiston, Enciso, & King, 1985; Gay & Hanley, 1999; Wagner, 1998). As a result of the recreation of events in a simulation, students gain an in depth understanding of a phenomenon (McCaslin, 2000).

Scenario: Curtains Up on Reading. O'Hara (2001) recounted a program called *Curtains Up on Reading.* The program's purpose was to engage students in critical and creative thinking through simulated experiences, such as the

American Civil War and the Underground Railroad. As an alternative to a lecture

of chronological events, the students explored them through action. The theory

postulated the sensory experience would merge students' current knowledge

with the unknown. As a result, they would improve their understanding of an

event. O'Hara kept a journal that described one specific activity. The following

entry demonstrated the intensity of the experience for a fourth-grade class:

> The students went into role, imagining that they were slaves trying to
>
> escape to Canada with Harriet Tubman as their leader. We mapped out
>
> the school site beforehand: the hallways became dark passages through
>
> which we had to navigate, any other students or staff we saw were
>
> overseers, a specific point in our classroom became Canada…The leader
>
> of the pack of runaway slaves sang softly from Canada, calling to the
>
> young slaves as they bounded into freedom (O'Hara, 2001, p. 13).

In this instance, students utilized their imagination to convert their classroom to

another country and their teacher as a historical figure. O'Hara explained that

after two years of involvement with the *Curtains Up on Reading* program, the

pilot group of fourth-graders increased their state reading scores by 31% and

their writing scores by 79%. In addition, students communicated their

understanding of language arts skills such as, characterization, setting, and main

idea. One limitation to this claim was that other factors may have influenced the

students' improvement. The author did not mention these in the article.

Integration of language arts and social studies. The *Curtains Up on*

Reading program exemplifies the way teachers integrate drama with history and

language arts. Students read about historical events and then reenact a scenario. The social studies and language arts complement one another because they both involve human interaction. Likewise, drama personalizes these subjects and provides insight into human motivation. Students realize history is a story of real people and their lives (Smith & Herring, 2001; Fredericks 2000). In order for students to understand another's perspective, they adopt a different mindset through role play. In a similar manner, teachers modify their roles throughout the simulation.

Teachers' Roles in Simulations

Bruner (1965) discussed how two different teaching styles, the expository mode and the hypothetical mode, affect student learning. In the expository model the student is passive while the teacher is active. The teacher provides information, or the exposition. In the hypothetical mode the teacher and the student discuss ideas. This dialogue encourages collaboration and discovery. Both modes are connected to teachers' roles in simulations. In a simulation, a teacher provides information that students need to know through exposition. For instance, the teacher explains background information and leads class discussions. Yet, the majority of the time the teacher should adopt the hypothetical mode. In this way, the teacher guides the students as a facilitator who provides a context for students to learn.

Teachers should allow students more autonomy throughout the simulation (Jones, 1980; May, 1997; Thatcher, 1990; Wolfe, McIlvain, & Stockburger, 1992). Teachers' roles in simulations are multi-faceted. They are

37

managers, organizers, facilitators, and learners. As a facilitator the teacher

provides resources for the participants and ensures that the materials are used

judiciously (Jones, 1988; Seidner, 1978). Bolton (1984) and Wagner (1998)

claimed Heathcote was a pioneer during the early 1960's with the use of teacher-

in-role, also called "mantle of the expert" (Heathcote & Herbert, 1985; O'Neill,

1995). In this model, the teacher joins students as an equal participant in the

dramatic activity. First, the teacher shares information that students need in order

to solve a given problem. Then, the teacher models how to enter the imaginary

setting through the dramatic metaphor. The teacher-in-role is similar to the

teacher's function in several simulations.

For example, the teacher could adopt the persona of a government official

who presides over a city council. As the "official", the teacher communicates the

problem that the students need to solve. The students have to hire new

employees, but they do not have enough funds in the city's budget. The council

members need to decide how to allocate the money. As the facilitator of the

activity, the teacher encourages the students to think about certain areas. For

instance, the teacher mentions that the citizens in the town believe that their

taxes are too exorbitant. In addition, the teacher asks the students to imagine

artifacts or settings or might question students' decisions. Other times teachers

could assume subdued roles as they listen to students debate problems.

Heathcote (1984b) wrote that throughout any dramatic activity teachers

should create environments that value and respect students' contributions,

negotiate conflicts, and prepare for unexpected elements. On a related note,

students might act immature when they participate in these events. Teachers need to uphold high standards for students' abilities to stay in character. Also, if students are not sure what to do, the teacher should give them the necessary information to continue in the simulation (Mantione & Smead, 2003).

Example of teacher-in-role: Hope Elementary School. Some teachers immerse themselves in role during a simulation. For instance, Barb Johnson, a third-grade teacher, planned a simulation with her class. They researched their community and school as it existed 100 years ago. After weeks of research and preparation, the students arrived at school on the day of the simulation as if the classroom was a one-room schoolhouse. Johnson adopted the role of an early twentieth-century teacher. She placed slates and slate pencils on the desks, pulled out tin drinking cups, and wrote a quotation from the Bible on the board. Johnson thanked the student who brought a rabbit for her stew and the students who fixed the spoke on her wagon. She admonished students for misbehaviors such as one who attempted to fly off a barn roof and another who stayed home to plow. Throughout the day she displayed typical behaviors for a teacher in the year 1900 (Morris, 2002). Johnson's participation encouraged the students to stay in role and demonstrated her efforts to recreate an authentic simulation. Likewise, the students applied their knowledge of what they had learned to their characters. In this case, Johnson maintained her authority as the teacher but allowed the students to make decisions based on their assigned characters.

Community of learners. Johnson's collaboration with the class is similar to a community of learners (Rogoff, Bartlett, & Turkanis, 2001; Ten Dam, Volman, &

Wardekker, 2004). In a community of learners approach, students and adults are part of learning activities in a form of heterogeneous collaboration. Adults provide leadership; however, adults and students are in a partnership rather than an adversarial relationship. Moreover, the participants seek a common goal that allows everyone to contribute. Through the shared experience, simulations provide an opportunity for students and teachers to construct meaning together (Wenzler & Chartier, 1999).

In a simulation, the relationship between teachers and students is paramount. Teaching style impacts learning-related outcomes. Teachers affect the learning, attitude, and student perception of the experience. However, researchers have not systematically examined how teacher behaviors and instructional delivery influence simulations (Bredemeier & Greenblat, 1981; Gosen & Washbush, 1999, 2004; Greenblat, 1981a, 1981b; Ruben, 1999; Seidner, 1978). For this reason, I observed how two teachers executed simulations in my study.

Problems with teacher-in-role. Teachers do not have to participate in role-playing, but students enjoy it when they do (Blatt, 1995; McCaslin, 2000). Even when teachers do not adopt an assigned character, some might feel disconcerted with their altered responsibilities. As educators, they are accustomed to a certain amount of control in the classroom. They may struggle in their transition from directors to facilitators (Jones, 1980; May, 1997; Thatcher, 1990; Wolfe, McIlvain, & Stockburger, 1992). If teachers provide substantial

assistance, they detract from the idea behind the simulation: allow students to have control over their learning.

Teachers should not intervene when students disagree or fail to achieve adequate progress during a simulation. Instead, they must allow the participants to make decisions in their roles (Jones, 1987,1988; Morie, 1996; Thatcher, 1990). As a form of experiential learning, teachers should perceive errors as inevitable and even desirable. Jones (1987) explained the students should have the independence to make mistakes. For instance, the survivors could die, the journalists might not meet their deadlines, and the president may not cover all items on the agenda. As a result, students learn that their actions have consequences.

Preparation for the Simulation

Before teachers mention to the class that they will begin a simulation, they need to plan beforehand (Hyman, 1977; May, 1997; Seidner, 1978). They should consider how long the simulation will last, how the simulation connects to course content, and how they will manage the students (Cruickshank & Telfer, 1980; Hess, 1999; Shay, 1980). Beyond that, teachers should experience a simulation as a participant before they serve as a facilitator. This opportunity allows teachers to understand how their students might feel in a simulation. Kamimura (2002, p. 480) provides a rationale for teacher participation in a simulation: "We cannot talk about the experience of climbing a mountain unless we climb it. We cannot talk about the experience of going down a river on a raft unless we do it." A workshop that teaches educators on the use of simulations

41

allows them to discuss their frustrations and provides an opportunity to share ideas for implementation (Diulus & Baum, 1991; Marks, 1992). In addition, teachers could observe a simulation in another classroom or pilot one with a small group.

Teacher planning. Simulations require extensive planning. Researchers define teacher planning as a psychological process and a practical activity. From the research on cognitive psychology, teachers visualize the future, consider the outcomes, and develop an instructional plan. At the same time, other researchers have characterized planning as "the things that teachers do when they say that they are planning" (Clark & Peterson, 1986). Teacher planning ranges the short-term of a day or a week to the long term, such as, a semester or academic year. The instructional decisions teachers make during planning affect the content, materials, social aspects, and activities of a lesson (Borko & Shavelson, 1990; Shavelson, 1987). Although an essential aspect of effective instruction, most teachers do not have sufficient time to plan within their allotted hours. As a result, many teachers plan when students are not present. Rather than an isolated event, teacher planning is recursive as teachers refine and adjust their decisions (Borko & Putnam, 1996).

Most teachers decide on the subject matter first. Then, they consider the materials, objectives, and evaluation procedures (Borko & Shavelson, 1990). When planning, teachers refer to their knowledge of the content, classroom activities, students, teaching, school conventions, materials, and school texts (Borko & Putnam, 1996). In addition, teachers align their strategies to the

classroom objectives and state and local standards. They consider the strengths and weaknesses of their students (Tileston, 2004).

Selecting simulations. First, teachers should choose a topic that they are knowledgeable about (Crookall, 1995; Greenblat, 1988) or they could engage in research to learn about the subject. Millians (1999a) suggested teachers read several books about the subject, review atlases, study visual arts, listen to different types of music, and examine arts and crafts.

Second, teachers could decide to design their own simulation or purchase commercial ones (Greenblat, 1986, 1988; Millians, 1999a). If teachers design their own, Hess (1999) claimed they should allot 10-15 hours of work time to write the roles for students. Also, they need to decide on a relevant problem, collect resources, and consider possible outcomes (May, 1997). In contrast, Morie (1996) and May (1997) recommended that teachers new to simulations should purchase commercial materials and then follow the steps to enact it. Teachers should determine if the publisher gave them permission to reproduce the materials so that they do not have to purchase another set every year (Jones, 1987). Some simulations are expensive (May, 1997; Morie, 1996).

Third, Jones (1987) and Seidner (1978) recommended teachers analyze simulations for quality. Better simulations provide clues and opportunities for participants to consider during the action, but they are subtle. As a result, students incorporate problem-solving strategies to make decisions. Some simulations have a weak design or are superfluous to course content. Teachers should ensure that the simulation matches specific academic objectives.

Example of a teacher-created simulation. Some teachers prefer to write their own simulations. Millians (1999a), a fifth-grade teacher, had designed one large simulation for his classroom every year. In the past, he had used the U.S. Civil War, the Middle Ages, China, the 20th century, and the modern world. For some years, he framed the school year's studies on a broad topic such as the age of exploration. The general topic allowed him to create specific areas of study throughout the curriculum. Millians wrote his simulations after extensive research on a particular topic. He chose a setting, developed characters, and planned for conflict and challenges. Millians allocated substantial time to assign characters to particular students.

In one situation, he did not want two of his African American students depicted as slaves in a Civil War simulation. Therefore, he ensured that they would not have this option when he wrote a character list. He assigned boys to male roles and girls to female ones. Although costumes and props were not necessary, he believed that they added authenticity and engaged students to their assigned parts. As a result, students used props that they had constructed. Millians did not allow devices such as hunting spears, knives, and other tools, but students mimed them if they needed to. In any case, props were minimal.

Ethical issues in the choice of a simulation. Whether or not teachers write their own simulations or purchase commercial ones, they should be cautious with certain topics. Some teachers believe that students will develop empathy if they experience feelings of prejudice or racism. As an example, Dvorak (1998, p. xiv) stated,

We study history to learn from the mistakes others have made. Through

drama, we can find out what led to those mistakes and how we can

prevent similar incidents from happening again. If every person in the

world knew what the victims of the Holocaust thought and felt, would there

ever be another Holocaust?

In this instance, Dvorak pointed out drama helps students to identify with

Holocaust victims. Although Dvorak did not mention simulations, the inference is

that students reenact a part of the Holocaust.

On the contrary side, Totten (2000) objected to any dramatic activity or

simulation to teach the Holocaust. Totten argued a simulation would simplify a

tragic part of history that should never be reduced to a representation of reality.

Instead, the author suggested teachers select primary documents such as first-

person accounts of survivors and documentaries that explain the reality. Totten

provided an example of a group of seventh-grade students. They were confined

to a designated space that was supposed to resemble a cattle car, a form of

transportation that was used to transport Jews. The students giggled, pushed

each other, and stepped on each other's toes. Meanwhile, the teacher read them

an account of a survivor's explanation of the cattle car. At the end of the

simulation the teacher said, "'Now you have some idea as to what the Jews went

through! You should never forget it!'" (p. 166). Totten stated that a simulation to

teach the Holocaust is simplistic, gives incorrect information, and is ahistorical.

Although they have honorable intentions, some teachers might not realize that

some subjects are too volatile to teach through a simulation. In these cases, they should employ a different method.

Suggestions for success. Besides the choice of an ethical simulation, Cruickshank and Telfer (1980) and Shay (1980) recommended teachers consider certain factors before they attempt one. They stated teachers should select an appropriate simulation based on instructional objectives and consider how much time is required. They need to plan how they will introduce the activity and execute it based on students' backgrounds and abilities. In addition, May (1997) advised teachers to search for a well-written simulation that matches students' interests. Deliberation on these areas could result in improved student response and achievement.

Teachers should decide how to distribute the roles. Some students will receive better parts than others (Cruickshank & Telfer, 1980). Furthermore, Morie (1996) suggested if the simulation is team-oriented, the teacher divides the class heterogeneously by personalities and academic abilities. For a more successful simulation, the optimal group size is four to five members. Many small groups generate better interaction. Also, groups might behave better when the students decide who their leader will be instead of the teacher.

Blatt (1995) offered six strategies for teachers to increase their chances of a successful simulation. As a third-grade teacher who uses simulations, Blatt shared several examples:

1. Think of a believable idea that both the teacher and students will perceive as serious.

2. The teacher needs to have written resources like books so the simulation will not "die an early death" (p. 60). The books should be at the students' reading level, accessible to everyone, and related to the subject.

3. Include collegial help or guest speakers. The music teacher and art teacher may be valuable resources.

4. Provide blank books so students can write their notes, stories, dialogue, etc. Blatt called these books "The Adventure Book."

5. Costumes are not mandatory but students may find that they are more in character if they wear them. A box of old clothing serves several purposes. Students wear the costumes not throughout the day but only when they are immersed in the simulation. Name tags are also helpful so the students can call each other by their assigned name.

6. Listen to students and ask for their advice.

After the planning stage, then teachers are prepared to introduce the simulation. Simulations conform to a format, and I discuss it in the following section.

Design of a Simulation

In the literature, discussions on simulation design prevail (Clegg, 1991). One possible reason is that design is tangible. Teachers interested in simulations can read how to implement them and then follow the prescribed stages (Crookall, 1995; Greenblat, 1988; Hyman, 1977). Organizations such as the International Simulation and Gaming Association (ISAGA), the North American Simulation and Gaming Association (NASAGA), and the Society for the Advancement of Games

and Simulations in Education and Training (SAGSET) agreed on the structure of a simulation (Klabbers, 2003). That is, most simulations have three major parts: the briefing, action, and debriefing (Greenblat, 1988; Hyman, 1977; Jones, 1987, 1993). Well-designed simulations are more concerned with the process than with the ultimate product. In other words, students should ask questions to understand a problem rather than search for a solution. In the subsequent sections I discuss each stage of a simulation and describe how teachers assess their students.

Briefing. In the briefing stage, teachers introduce the activity to the students and build background knowledge about the topic (Jones, 1988). Students learn facts through mini-lessons, readings, and videotapes about the subject. Teachers review select vocabulary, articulate basic concepts, and explain the purpose of the simulation (Hess, 1999; Morie, 1996). In longer simulations, teachers divide the briefing into separate parts over a series of several days or weeks (Jones, 1980).

For example, Hess (1999) described the preparation for a simulation titled "Constructing a New American Government." The simulation recreated the 1787 Constitutional Convention in Philadelphia. At that time 12 of the 13 American colonies met to co-author the U.S. Constitution. Before the students entered the action phase of the simulation, they learned some information about the state that they represented. Students located their state on the map, reviewed the needs of their state, and previewed some of the issues to be resolved.

Other times teachers select students to act out a particular component of the simulation so that others understand what they are expected to do (Seidner, 1978). However, teachers should not spend extensive time in the briefing stage because students could lose interest (Cruickshank & Telfer, 1980). In addition, if teachers reveal the objectives or expected outcomes, they might influence how students make decisions in the action phase (Hyman, 1977; Jones, 1993).

Action. Like the briefing stage, the action phase occurs over a number of days. After the students receive the briefing they are prepared to enter the action phase. At this time, the teacher transitions to a facilitator (Jones, 1987). Since the students have received their assigned roles, their responsibility is to interpret how their characters would behave based on the information that they possess. That is, they do not have complete freedom in the creation of their roles (Clegg, 1991). The following passage described a student role in a simulation on the "Age of Exploration":

> Juanita, a Spaniard, feels her age more and more each year. Now 55, she has had a long life with her husband Bartolo, the village woodworker. Her children are her delight, although inside she still grieves painfully for the four she lost over the years. She must watch out for the others, and she sometimes fears that she will lose them and end her time on earth in pain and alone (Millians, 1999a, p. 223).

In the same simulation, others represented Bartolo and the children. The descriptions of their parts allowed students to interpret their characters. In some cases, conflicts arose due to the simulation design. For example, in a simulation

on Pioneers, some characters believed stealing was acceptable to survive while others did not. The difference of opinion generated a debate on values.

Therefore, the roles gave students a sense of purpose (Wolfe, McIlvain, & Stockburger, 1992). Role play enables the students to gain insight into others' behaviors and the results of their actions on others (Bouwer, Machado, & Bredeweg, 2002; Heathcote, 1984a; van Ments, 1989). At any rate, the students act as they believe their character would under certain circumstances.

Whereas each simulation has complications, students must negotiate, persuade, and cooperate with each other to solve a problem (Gredler, 1994). For instance, in a pioneer simulation on a journey through The Oregon Trail, students resolved issues titled "calamities" and "dilemmas." An example of a calamity was that bandits attacked a group's wagon and stole their money. In comparison, a dilemma caused the students to make a choice. The students met a starving family that would not survive unless the group gave them 20 pounds of food. If the group chose to help them, then they might not make it to their next destination (McCann, 1996). These events propelled the students to consider alternate ways to solve problems, engage in group decision-making, and experience the results of their actions.

Overall, the action stage might be students' favorite part because they are able to participate in peer teaching and learning. They do not have a teacher who directs them on what they should or should not do (Hyman, 1978). At times, the action could be intense. For instance, Millians (1999a, p. 216) described the action during a simulation on the Civil War with a group of fifth-grade students:

We usually played a 30-minute turn, allowing us time before and after to

prepare and to clean up. I set the stage, reminding them of past and

present issues and of any current challenges, and then they begin to

interact. It was always very busy, noisy, and rich. Much of my time was

spent conferring with individuals or refereeing and watched, for I could

thereby learn so much about my students, their understandings and lacks

thereof, their interests, and their needs in the future.

This anecdote highlighted Millians' role as a facilitator. At the same time the

students conversed throughout the action. An important and inherent component

of simulations, communication involves how humans interact with each other

(Crookall & Oxford, 1986; Greenblat, 1981a; Horn & Zuckerman, 1980; Hyman,

1977; Saunders, 1986; van Ments, 1989).

For teachers of social studies and language arts, communication is one of

the major benchmarks. In language arts, students convey ideas and information

through listening, speaking, reading, writing, and viewing (Florida Sunshine State

Standards, 2004). In social studies, students investigate themes such as people,

places, and environments and individuals, groups, and institutions (National

Council for the Social Studies, 1994). The action phase of a simulation allows

students to participate in various levels of communication and learn how they can

influence another's point of view. They realize how their individual actions impact

their group.

Culminating activity. Although not necessary, the final action phase of a

simulation results in a finale such as a covert mission, a search for hidden treasure, or a defense from attackers (Marks, 1992). Blatt (1995) completed a simulation on ancient Greece through the introduction of an earthquake. Part of the action phase required the students to write diary entries as their characters. Students wrote the last entry in the middle of an earthquake. The students had their writing slide off the page mid-sentence. Then, they wrote an epilogue for a person to read years later.

For another example, after a simulation on the election process called "Virtualville Votes," two fourth and fifth-grade classes celebrated the event with an inauguration ceremony. For weeks students planned fund-raising activities and campaigned for office through a primary and general election. The last day of the simulation parent volunteers decorated a local building with flags and balloons. The students who won the elections recited speeches when they were sworn in (Kaldhusdal, Truesdale, & Wood, 1998).

One caveat for a culminating activity is that this component is optional. Simulations do not have to be extravagant at any stage (Jones, 1987). Yet, in an effort to recreate England in the period of Charles Dickens, some teachers maintain that they should transform the library to resemble a London street in the 1850's (Antinarella & Salbu, 2003). The effect is one of overwhelming exhaustion (Antinarella & Salbu, 2003; Barkley, 2003). Jones (1980) mentioned teachers could mutate the spontaneity of a simulation to a theatrical performance. Simulations do not need to have props or scenery because they can take place with bare walls and no rehearsal time.

Debriefing. Also known as reflection, this stage is the most important (Bigelow, 1980; Crookall, 1995; Heathcote, 1984c; Hyman, 1977; Jones, 1987; Lederman & Kato, 1995; Thatcher, 1990). In fact, the final success or failure of a simulation could depend on this phase (Bigelow, 1980). The teacher shifts from the role of a facilitator to a director who guides the discussion. The debriefing process enables teachers and students to articulate what happened and transform the experience into learning (Bredemeier & Greenblat, 1981; May, 1997; Morie, 1996; Wolfe, McIlvaine, & Stockburger, 1992). In addition, debriefing facilitates critical thinking as students compare and contrast their experiences with others (Hertel & Millis, 2002).

In order to be meaningful, reflection should be deep and continuous (Moon, 2004). Therefore, in longer simulations, debriefing sessions should occur several times (May, 1997; Thatcher, 1990) and last as long as the action part of a simulation (Jones, 1987; Wolfe, 2001). Thatcher and Robinson (1985) delineated the following stages of the reflection:

1. Recognize the impact of the experience on each participant.
2. Identify and deliberate on the processes of the simulation.
3. Distinguish the facts and ideas that arose in the simulation.
4. Determine the ways that emotion was included and affected the individual and the group.
5. Identify the different perspectives of each of the participants and explore the complexity of the simulation.

Thatcher (1990) suggested the debriefing transpire through informal or formal

discussions, written reports, or individual commentaries. The teacher could

devise a response questionnaire that covers the most important points. Then, the

participants could write about their experiences before a class discussion. The

feedback would also be valuable for the teacher to realize what happened in the

simulation from each person's perspective.

Problems with debriefing. Even though teachers guide the discussion after

the simulation, they should not be dictatorial. In addition, they should allow some

time between the action and debriefing stages. Mature insights develop over a

period of time (Jones, 1987). If the teacher expedites the debriefing session, then

deep reflection will not occur. Also, teachers should try to include every

participant. Still, some students might not have a chance to share their thoughts

(Thatcher, 1990).

Assessment

The debriefing stage represents the time when teachers assess what

students have learned. An essential part of a simulation, assessment prompts

students to perceive the simulation as a meaningful endeavor and not as a

diversion (Gosen & Washbush, 2004; Hess, 1999). Assessment could be formal

or informal (Jones, 1987; Morie, 1996). If teachers choose a more formal method

such as a research paper, then they have to consider if the assignment will affect

student behaviors and final outcomes of the simulation (Morie, 1996). Students

might not focus on the process because they are concerned with the product.

54

Journals. Some teachers require students to maintain journal entries throughout the simulation and then collect them at the end (Millians, 1999a). For example, Petranek, Corey, and Black (1992) assessed through student journals. They graded students on four "E's": events, emotions, empathy, and explanations. They explained this process in the debriefing phase. The students wrote about the pivotal events in the simulation and described the emotions that they experienced. Then, they learned to empathize and connect to other students' reactions. Third, they used explanation to interpret different individuals' actions. Last, they examined the action in the simulation, applied their knowledge to the world, and created theories to explain their insights. The instructors awarded the highest grades to students with the most insightful analysis. One limitation in this report was that the authors did not include samples of students' work so that the reader could differentiate among the quality of responses.

Questionnaires. Besides journals, another informal type of assessment are questionnaires. Jones (1987) stated questionnaires assess the participants' behavior, skills, and knowledge. Also, teachers evaluate the simulation as an event in comparison to other simulations that they have used. Jones recommended the teacher, author of the simulation, or the participants write the questions. The teacher should try not to curtail responses. Open-ended questions should be first, and then factual questions should appear later in the questionnaire. Jones (1987, p. 103) included the following examples:

The thing that surprised me was…

How did your talking help your thinking?

How did you behave?

Comment about anything that mattered to you as a person…

Would you have liked more time for any of the parts of the simulation?

How could you have done better?

Teachers should be careful, however, that the questionnaire does not limit what students might want to say or what they actually think. The teacher could ask, "Is there anything else I need to know about the simulation?" or state, "Tell me more." The assessment process enables teachers to learn the strengths and weaknesses of the simulation. Then, they are able to use the information when they plan future simulations.

Advantages of Simulations

Wilhelm and Edmiston (1998) and Wagner (1998) suggested that drama bridges the divide between cognition and affect. Due to the holistic and experiential nature of drama, thinking, experimentation, and feelings are intertwined. As a dramatic activity, simulations offer another way to learn. The majority of research in this area is empirical (Jones, 1987; Millians 1999b), although some efforts have been made to quantify learning gains (Clegg, 1991; Feinstein & Cannon, 2002; Gosen & Washbush, 2004).

Communication. Teachers who use simulations believe they augment students' oral and written communication skills (Marks, 1992; McCann, 1996; Morie, 1996). During the action phase of a simulation, students negotiate, compromise, and discuss possible solutions towards a problem. In the debriefing stage students draft and edit their journal responses. They articulate their

thoughts for class discussions and evaluate their experience. In each stage they communicate for a purpose.

Specifically, role play encourages students to interpret what others would say and how they would act. This awareness applies to real life. In society, people anticipate others' feelings and thoughts in order to respond in an appropriate manner. In a simulation, students do not talk about people. Instead, students become them. Then, they use verbal and non-verbal language to represent that person's point of view (van Ments, 1989).

As an illustration, a third and fourth-grade class created a social studies simulation called "Classroom City." The students decided that they needed to declare a city council meeting because their business partners were not helpful. They agreed to adjust the agenda to allow for a meeting. At the same time, the classroom teacher honored their request through her role as city manager. She told the students that they could convene after recess (Keech, 2001). The interchange among the students portrayed how they addressed problems that arose. They negotiated their need for a meeting with the teacher and adjusted their schedule. In situations like this one, students practiced problem-solving through role play (van Ments, 1989).

Motivation and attitudinal change. Jensen (1998) and Lumsden (1994) claimed that motivation is dependent on the context. In other words, when teachers give students a task that they perceive as worthwhile, the students transition from a lethargic stance to an energetic one. For many students, simulations motivate them to learn (Barkley, 2003; Fennessey, 2000; Hyman,

1978; Morie, 1996; Seidner, 1978). In addition, many researchers for the last three decades have claimed that simulations affect students' attitudes towards a subject matter. They influence students' interest towards a topic (Greenblat, 1981b, 1988; Hyman, 1978; Morie, 1996; Wentworth & Lewis, 1973). Druckman (1995) added that participants' attitudes are contingent upon their experiences with the simulation. Since participants' emotions are idiosyncratic, this area is one that is complicated to confirm. Some simulations will work better than others. As a result, the students will not feel the same as others.

Taylor and Walford (1972, p. 34) wrote that "without doubt, motivation is the clearest and least disputed gain attached to simulation in the classroom, despite the difficulties in measuring it…but *why* simulations arouse and sustain a high level of interest, enthusiasm, and excitement, is relatively unresearched." Over 30 years later this claim is still true. Gosen and Washbush (2004) stated that most people agree that students will want to learn if they perceive an activity as worthwhile. However, motivation cannot be categorized into a single variable. They contended that out of necessity the majority of the research on simulation efficacy will emerge from classroom studies.

Even though emotion is difficult to measure, anecdotal reports from teachers support the motivational potential of simulations. For instance, Hess (1999) claimed that in a simulation, students who have considered subjects like politics, history, and economics as boring and irrelevant gained interest through a simulation. Simulations offer a different approach to learning that arouses student interest. After a simulation on discrimination, Fennessey (2000, p. 4) shared a

comment from Chelsea, a 10-year old student, about her feelings towards history:

> Learning history is great fun, but becoming history is capturing! Learning history from textbooks can be done, but I assure you, we won't be eager to come to school. Becoming slaves and whites, and learning teamwork was wonderful. I was, and I'm sure others were, too, so eager to come to school, I was dreaming it!

Chelsea's response informed the teacher of her experiences with the simulation. Student feedback influenced the teacher's decision to continue with simulations. However, Fennessey did not include any negative comments from students. The purpose of her book was to encourage teachers to use drama in the social studies classroom.

Affective gains. Some simulations delve into topics such as racism. Through a simulation students develop empathy and an increased tolerance for differences (Greenblat, 1988; Hyman, 1978; Morie, 1996; Wolfe, McIlvain, & Stockburger, 1992). Based on their classroom experiences, McCaslin (2000) and Antinarella and Salbu (2003) stated simulations help students to develop critical judgment about how society functions. In addition, students explore imaginative thinking and emotion (Kellough & Roberts, 2002; Jarolimek, Foster, & Kellough, 2005). Jones (1993) wrote that imaginative activities like simulations enrich innovative thinking, question conventional wisdom, and facilitate more open-mindedness. In role play students fantasize and brainstorm different possibilities (Diulus & Baum, 1991).

Ownership. Furthermore, simulations accord participants ownership in the learning process. Through their assigned roles students share a sense of purpose and enjoy the responsibility of student-led discussions (Hyman, 1978; McCaslin, 2000; Wolfe, McIlvain, & Stockburger, 1992). Petranek, Corey, and Black (1992) stated that students recognize each other as resources and appreciate the opportunity to make choices. Hess (1999) mentioned that at times reserved students overcome their reticence through role play. He described how one student demonstrated diplomatic skills. By the second day of the simulation she juggled three separate negotiations in different groups.

In addition, simulations allow students to explore different personalities and behaviors. Other times they adopt a different gender or race (Grady, 2000). In any event, teachers need to be aware of the oversimplification of concepts or characters (van Ments, 1989). In the debriefing stage, teachers should discuss different perspectives so that the simulation does not reinforce stereotypes or perpetuate generalizations. The teacher should include non-examples for every example that the students present. For instance, if students believe that all of the pioneer wagon drivers were men, then the teacher could introduce a character such as Charlotte in Pam Munoz Ryan's (1998) novel *Riding Freedom*. The book is based on a real woman who became a famous wagon driver.

Disadvantages of Simulations

Yet, not all simulated experiences are enjoyable or motivational. Each individual will have a unique experience and will have a different reaction to the

event (Hyman, 1977). In other cases, some simulated experiences could cause distress or anxiety in students and teachers.

 Implications for teachers. Heathcote (1984a) mentioned because a simulation is open-ended, each person incorporates different ideas that could create confusion for inexperienced teachers. Also, some teachers are not able to formulate patterns from the disparate ideas that students and teachers explore. Everyone involved in the simulation must agree to pretend in a simulated reality. If someone does not, then the teacher has to persuade that person. Teachers cannot control certain facets of a simulation nor their outcomes (Cruickshank & Telfer, 1980; Heathcote, 1984a; Jones, 1987; Morie, 1996). Heathcote (1984a) wrote that other unresearched problems include teachers' levels of comfort with noise and space. Teachers harbor different noise and space thresholds. At times the action phase may be chaotic. Some teachers cannot attend to the noise of large groups of students engaged in conversations when they work together in role.

 Other factors include expense and time. Some commercial simulations are expensive (Cruickshank & Telfer, 1980; May, 1997; Morie, 1996) and others require substantial periods of instructional and planning time (Cruickshank & Telfer, 1980; van Ments, 1975; McCaslin, 2000; Morie, 1996; Taylor & Walford, 1972). Often teachers are not able to afford simulation materials, or the school might not have the funds to purchase them. Many simulations are continuous and require several weeks to complete (Hertel & Millis, 2002; Jones, 1988; Marks, 1992; Morie, 1996).

On the other hand, some advocates of simulations claimed that simulations are able to compress large amounts of content into a smaller span of time. Hyman (1978) and Cruickshank and Telfer (1980) stated teachers could create a scenario and highlight the key points of a particular topic. Cruickshank and Telfer described this phenomenon as the ability of simulations to "telescope time" (p.77). For instance, students could learn the outcomes of their actions in a shorter period than for the actual event. In a simulation on the election process, students run for office, debate issues, campaign for the presidency, and declare the winner in a matter of weeks.

Implications for students. Some simulations contain limited participation. As a result, some students could be excluded (Cruickshank & Telfer, 1980; Morie, 1996; van Ments, 1975). The teacher has to generate additional parts for the students who do not have a role. Even if students are included, cooperative learning might not appeal to everyone or motivate them to work (Marks, 1992). Some students prefer to learn on their own and do not feel comfortable in small group interaction. In addition, some students will not like simulations (Cruickshank & Telfer, 1980; Greenblat, 1981c). Others are disorganized and unable to complete the simulation (Marks, 1992). At times students will be absent for the action phase. On those days other students have to adjust their parts. When absent students return to class, they will be confused about what happened.

To summarize this section, simulations are a part of the field of educational drama. They offer specific advantages and disadvantages to social

and academic learning. In addition, they adhere to a distinct design that incorporates role play and reflection. Teachers act as facilitators to guide students through the process. At times they explain background information. On other occasions teachers encourage students to problem-solve independently. At any rate, simulations enhance communication and address the social studies and language arts state and national standards. Developed in the 1990's, the standards outline curriculum expectations for specific content areas (Florida Sunshine State Standards, 2004; National Council for the Social Studies, 1994).

For decades teachers have used simulations in various formats and subject areas (Clegg, 1991; Gosen & Washbush, 2004; Gredler, 1994; Ruben, 1999). One of the strengths in the research is that authors agree on the design of a simulation (Greenblat, 1988; Hyman, 1977; Jones, 1987,1993; Klabbers, 2003). Books on the structure and application of simulations enable facilitators to implement them in a classroom (Clegg, 1991; Greenblat, 1987; Jones, 1993). In addition, authors have discussed the importance of the debriefing stage and alternative ways for students to share what they have learned (Jones, 1987; Lederman & Kato, 1995; Millians, 1999a; Thatcher, 1990). Through written and oral reflection students transform their experience to learning (Bredemeier & Greenblat, 1981; May, 1997; Morie, 1996; Wolfe, McIlvaine, & Stockburger, 1992).

In contrast, some areas for further investigation include how simulations affect student motivation and attitude towards the subject matter (Gosen & Washbush, 2004). Moreover, the disadvantages of simulations such as time

constraints and teachers' comfort levels with noise and space (Heathcote, 1984a) require further research. Also, all students do not enjoy simulations (Cruickshank & Telfer, 1980; Greenblat, 1981c), but their comments are not included in the literature. Classroom experiences comprise the bulk of research for both the benefits and limitations of simulations (Clegg, 1991). Many of the authors do not elaborate on the disadvantages of simulations that allow for a more balanced portrayal of simulations in the classroom. In my study I looked at the advantages and disadvantages of simulations in order to present an in-depth account from multiple perspectives.

History of Simulations

Possibly due to the interdisciplinary nature of simulations (Hyman, 1977; Klabbers, 2001), the history of simulations is one that is not replete in the literature (Crookall, 1995). However, a brief overview of simulations from a chronological perspective explains how simulations expanded in education. I report the development of simulations from its origins in the 19th century to the present.

The 1800's

Simulations are not a recent phenomenon. The origins of simulations as military training events are well-documented (Cruickshank, 1968; Inbar & Stoll, 1972; Jones, 1987; Taylor & Walford, 1972; Troyka & Nudelman, 1975; van Ments, 1994). Jones (1987) and May (1997) explained that the first organized use of a simulation was with the Prussian army in the 1800's. The Prussians tested the competency of potential military officers. They asked the officers to

64

participate in simulated situations and make decisions based on the context. In another case, the British army assigned roles such as officer, survivor, or engineer to various military personnel to assess them in areas such as cooperation, leadership, and creativity. Prescribed roles in a simulation are evident in simulations today.

The 1960's

Simulations have existed in some form in education since the 1960's (Charles & Stadsklev, 1973; Cruickshank & Telfer, 1980; Gredler, 1994; Heitzmann, 1974; Martin, 1978; Morie, 1996; Ruben, 1999; Seidner, 1978; Sharrock & Watson, 1986). Ruben (1980, 1999) stated the traditional information-transfer model was the most endemic until this decade. The teacher imparted information to students through books, lectures, and articles. Although simulations offered an alternative to the traditional model, the idea to use them in the classroom was a novel one (Ruben, 1999).

Some teachers implemented simulations at the elementary school level, but higher education embraced them. By 1968, simulations were the most popular innovation in teacher education programs (Cruickshank & Telfer, 1980). Cruickshank (1968) described one simulation that enabled teacher-educators to analyze student behaviors in a simulated classroom environment. The pre-service teachers adopted the role of "Pat Taylor." Taylor is a first-year fifth-grade teacher. The participants assumed her role and tried to solve 31 teaching problems presented through film. In this simulation there were no correct answers, but facilitators encouraged the teachers to experiment with different

solutions to curtail misbehavior. Like this simulation, most practitioners did not develop their own simulations and relied largely on commercial publications in the 1960's (Heitzmann, 1974). In the next decade, publications expanded even more.

The 1970's

Commercial materials multiplied during this decade. As a result, some editors wrote directories that included them (Belch, 1973; Charles & Stadsklev, 1973). One of the most popular ones was Horn and Zuckerman's *Guide to Simulations for Education and Training* (1977). The authors evaluated and listed over 1200 simulations for educational purposes, a triple increase since the first edition published in 1971. The major criteria for inclusion in the directory were the accessibility of a simulation for its potential users and the cost.

Simulations proliferated during the 1970's (Clegg, 1991; McCann, 1996; Ruben, 1980) to the degree that Hyman (1978) referred to simulations as one of the most popular trends in classroom teaching. Researchers thought experience-based methods would bridge the divide between theory and classroom practice and increase communication among the students. Consequently, researchers revisited Dewey's works, such as *Education and Experience*, as well as the theories of Jerome Bruner in the 1970's (Horn & Zuckerman, 1977; Ruben, 1980). Dewey and Bruner had advocated for experiential methods of learning and opportunities for student discovery.

Seidner (1978) proposed three events influenced the popularity of simulations in the 1970's. They consisted of the examination of the role of

socialization in education and the transition from more traditional methods, the emphasis on active learning and discovery learning, and the introduction of the simulation-game. Teachers and students touted the use of simulations and other types of experiential learning methods in the 1970's and early 1980's. Simulations offered an option to the traditional model of teaching and allowed for interaction, collaboration, and active learning. They cultivated complicated and divergent teaching and learning outcomes (Cruickshank & Telfer, 1980; Hyman, 1978; Seidner, 1978).

Designers of simulations studied the structure of simulations in more detail. As a result, national and international simulation organizations agreed that they needed to differentiate among simulations. They divided them into separate areas of interest such as education, health care, and the military (Dukes & Seidner, 1978; Klabbers, 2003). At that time, simulations focused on a particular subject area and were not interdisciplinary (Crookall & Arai, 1995).

The 1980's to the Present

Simulation designers decided that simulations needed more rigor in the early 1980's (Duke, 2000; Crookall & Oxford, 1986). Duke (2000) wrote that although thousands of practitioners used simulations, no standards delineated between effective and ineffective practices. In 1981, the Rackham Graduate School at the University of Michigan approved a certification program in Gaming and Simulation. Students enrolled in courses for different subjects and accumulated credits in this area. The University of Michigan's program enabled students to engage in interdisciplinary exchange and experimentation.

67

Nevertheless, after the surge in popularity during the 1960's and 1970's, teacher enthusiasm for simulations started to wane. This decline is evident in the availability of directories and handbooks on simulations (Morie, 1996). Since 1980, no other comprehensive directories or handbooks have been published. The exact reason why is unclear. McCann (1996) mentioned that simulations are a casualty of the proverbial pendulum swing since educational trends fluctuate. Jones (1987) suggested the educational emphasis on transmission of facts that dominated in the 1980's could have been a factor. Even still, simulations remained in use in some areas.

Reluctance to use simulations. Hess (1999) provided several reasons for the infrequent use of simulations. One of the major ones is that many teacher education programs do not address simulations in their classrooms. Therefore, pre-service teachers are not taught in how to use them. Even if teachers are aware of simulations, they could be deterred by the costs of commercial publications and do not have the time to create their own. Another possibility is that some colleagues perceive teachers who use simulations as outsiders because simulations are used infrequently (Crookall & Arai, 1995).

If teachers do incorporate them, some colleagues view simulations as fun but irrelevant. Jones (1993) claimed facilitators should approach the simulation as a serious endeavor and to consider relevant learning as more than factual knowledge. Motivation, human feelings, and values are also important in education. Each simulation should be evaluated on its strengths and weaknesses within the context that it occurs. The debriefing stage illuminates these points. On

68

the other hand, Jones (1993, p. 21) justified the criticism for a simulation's significance when students treat the activity as "fun and games" (Jones, 1993, p. 21). Other times simulations provide participants with a brief experience. They introduce the participants to certain events, but their scant content does not allow students to engage in a deeper level of choice, discovery, or learning (Millians, 1999b).

The outlook for simulations. Nonetheless, advocates of simulations remain optimistic. Bielecki (2000) and Lobuts and Beazley (1999) claimed simulations will expand in the twenty-first century because they blend classroom theory with real-world application. Others stated teachers should attempt experiential models in the upcoming decades (McCann, 1996; Ruben, 1999; Millians, 1999b). Current debates in the field include that more research should be conducted about simulations (Feinstein & Cannon, 2002; Gosen & Washbush, 2004; Ruben, 1999). In addition, teachers and trainers should be included in regional and national meetings on simulations to learn recent developments.

To summarize, I cited a brief history of simulations in order to relate how simulations developed in the field of education and how they have endured over the years. The previous section addresses the need for additional research. I analyze the studies that have been conducted in the next section.

Research on Effectiveness

A controversial area in the literature (Clegg, 1991; Crookall, 1995; Feinstein & Cannon, 2002; Gosen & Washbush, 2004; Jones, 1987; Morie, 1996), simulations are difficult to quantify. Researchers claim that evaluation

69

methods for simulations remain necessary but problematic (Gosen & Washbush, 2004). Almost all of the studies by simulation researchers have been administered in business courses at the college level (Clegg, 1991; Gosen & Washbush, 2004). As a result, the findings are not generalizable to other populations. In addition, the available research has not been written and distributed for a wider audience (Millians, 1999b) and is nominal compared to other fields (Duke, 2000; Gosen & Washbush, 2004; Ruben, 1999). In this section I analyze the literature published by researchers and classroom teachers that point to a need for further studies.

Evaluation in the 1960's

Boocock and Schild (1968) traced the evolution of simulations in the 1960's through three distinct phases. At the time, Boocock and Schild used the term simulation and games interchangeably. They titled the first phase "Acceptance on Faith." This stage lasted between 1962-1963. Teachers introduced simulations as "games," exhibited enthusiasm towards the technique, and carried them out with no evidence of their effectiveness. They claimed that their students' excitement and interest in the material warranted their use. Similarly, researchers studied the creation of simulations rather than their educational merit.

The second phase lasted from about 1963-1965. This stage, called the "Post-Honeymoon Period," defined how researchers decided to control experiments with simulations. The results were either negative or inconclusive. They concluded that possibly "games" teach, but they do not know how. In

addition, they could not distinguish between the design of a good simulation or a

poor one. One of the most important studies cited was by Cherryholmes in 1966.

Cherryholmes summarized and synthesized a variety of reports. One of the

major findings was that simulations might motivate students, but there was no

evidence that they were more effective than other teaching methods to teach

facts or problem-solving skills. Boocock and Schild called the final phase, from

1966-1968, "Realistic Optimism." While some researchers were discouraged by

their earlier findings, they continued to field test simulations in a variety of

educational environments. They discovered that simulations in isolation may not

teach content, but their potential to increase student interest and motivation in

the subject matter could facilitate learning. Therefore, they believed simulations

included considerable promise for education.

Evaluation from the 1970's to the Present

After the introduction of simulations to educators in the 1960's,

researchers carried out few studies on the efficacy of simulations. Little empirical

evidence existed (Charles & Stadsklev, 1973; Gibbs, 1974). For the studies that

had been completed, limitations included too short of a time period for

experiments and insufficient sample sizes (Clegg, 1991; Cruickshank & Telfer,

1980).

Some researchers evaluated simulations within commercial publications.

A fourth edition of Horn and Zuckerman's book, *The Guide to Simulations/Games*

for Education and Training, listed several hundred published games and

simulations on a variety of topics for the classroom (Horn & Cleaves, 1980). Horn

and Cleaves included 24 essays from facilitators who used simulations several times. They believed that the detailed description would provide a rationale for teachers to attempt them.

In particular, the directory focused on different aspects of communication like intrapersonal, interpersonal, and cross-cultural. For each simulation, the authors examined the following areas: significance, validity, reliability, flexibility, popularity, accessibility, and cost. They wanted to connect the use of simulations to the significance and validity of current research in communication theory. Also, they suggested that simulations are reliable in that teachers could expect particular outcomes. However, one discrepancy with this claim is that simulations do not have predictable outcomes (Bredemeier & Greenblat, 1981; Gosen & Washbush, 2004; Hess, 1999; Jones, 1987).

Besides Horn and Cleaves' book, Greenblat (1987) compiled a handbook for simulation design with 70 examples from the social sciences. Within the book she aligned teaching objectives to each simulation. The objectives included the following: (a) increasing motivation and interest, (b) teaching new information or reinforcing prior knowledge (c) skill development, (d) attitude change, and (e) self-evaluation or evaluation by others. Greenblat's approach is aligned with Gosen and Washbush's (2004) claim that teaching objectives should match experiential learning ones.

In addition, Clegg (1991) reviewed 800 articles, documents, and books pertaining to K-12 social studies simulations from the period 1955-1989. Most of the literature included anecdotal reports and general books on how to select and

use simulations. Clegg claimed that the majority of the research studies did not have a comparison or control group. If they did, researchers did not select random samples or clearly define "traditional" instruction. Based on his survey of the literature, Clegg suggested simulations offer great educational potential but researchers should strengthen their methods. Beyond that, he wrote that few studies have looked at interpersonal relationships during a simulation, how the teacher establishes a positive classroom environment through the duration of a simulation, and the effects of the teacher as a facilitator.

Researchers stated that the literature on simulation effectiveness is not relegated to one field (Feinstein & Cannon, 2002; Gosen & Washbush, 2004; Ruben, 1999). Separate researchers conduct studies on simulations but do not communicate their findings to one another. The fact experience-based instruction traverses many disciplines means the impact "is so pervasive yet subtle that it may easily go unacknowledged. The subtlety comes from the fact that the paradigm has been thoroughly integrated into the fabric of diverse activities in a wide range of fields" (Ruben, 1999, p. 501). The disparate nature of the studies makes the literature difficult to compare and contrast.

Hyman (1978, pp. 158-159) wrote,

While the research on simulation (sic) is still in its early stages of development, teachers will have to rely heavily on statements by educators that are not supported by research data. Some educators believe that due to the nature of simulation we will never get empirical data to support the claims of simulation users. That is to say, the

73

qualities which make simulations attractive simply are not measurable. Over two decades later, Hyman's assertion applies to how classroom teachers share their experiences with simulations. Gosen and Washbush (2004) stated that out of necessity most of the research to validate simulations will have to come from classroom environments. Moreover, they claimed the scarce studies posit a challenge for the learning assessment field. Millians (1999a) stressed that the most important goal for educators is to ensure that a teacher's choice of pedagogy benefits students and enriches their education. Prompted by this belief, he is one of many educators who contributed to the literature on simulations in education.

Classroom Teachers' Methods to Evaluate Simulations

For this review, I located 18 books and 25 articles published by either former or current classroom teachers. The majority of the authors explained how they taught through simulations with most of the articles published in journals for practitioners. The books provided numerous examples of simulations that teachers have implemented in their classrooms. Few sources included quantitative methods to support learning gains. Instead, the majority of teachers used qualitative measures such as observations, informal interviews, and document analysis to support their use of simulations.

Classroom studies. Millians (1999a) gave a pretest and a posttest for every simulation he conducted. For one simulation, he provided the test scores for 14 students. On average, the students increased from an 87 to an 89 on the posttest. Millians explained although the difference is slight, he mentioned that

74

students were motivated to do well on the test from the beginning. Later, they performed well on other tests such as geography and science that contained content from the simulation. In addition to his brief quantitative evidence, Millians supplemented his article with several journal samples from his students.

In another instance, Lee (1994) planned a field study with two fifth-grade classrooms. She wanted to determine if simulations affected student learning in a unit on labor unions in the 19th century. The control group of students studied the topic through a traditional lecture and textbook method. In contrast, the experimental one learned the material through a simulation. After the classes completed a test at the end of the unit, she concluded that both methods produced similar results. The only difference was the students in the simulation were more aware of the plight of laborers. Lee based this finding on the students' written comments. Lee's study corresponded with earlier research studies that found simulations complement other teaching methods rather than replace them (Boocock & Schild, 1968; Cruickshank & Telfer, 1980; Petranek, Corey, & Black, 1992).

Millians' and Lee's studies have weaknesses. They used small sample sizes and did not elaborate on their statistical measures in sufficient detail. These studies would be difficult to replicate with such minimal information. Moreover, both authors created their research instruments. The test items did not undergo any external tests for validity and reliability.

Anecdotal reports. Besides quantitative measures such as test scores, several teachers rely on qualitative methods to support the use of simulations.

Sometimes teachers neglect teacher observation and judgment as legitimate assessment tools. Yet, teachers are trained professionals whose observations should be an influential part of hands-on instruction (Flynn, Mesibov, Vermette, & Smith, 2004). Competent teachers assess students' learning in part by their informed observations of student behavior. Their daily judgments about students' needs guide their instructional decisions (Jarolimek, Foster, & Kellough, 2005).

In experiential activities, raw data explain what the students have learned (Lederman and Kato, 1995). In order to discover this information, teachers need to observe students and interview them. In a simulation, the roles are individualized and idiosyncratic. Consequently, students will have different experiences and feelings about the activity (Bredemeier & Greenblat, 1981). Some might have positive attitudes towards the subject while others do not.

Also, if students' roles require them to research a topic in more detail, then they will have specialized knowledge in certain areas. For instance, Millians (1999a) provided three examples from a simulation of the United States in the 1850's. One student, Kate, chose to investigate how she could adapt her farmland to a sheep pasture. With Millians' guidance, she studied oviculture (sheep farming) for two months. She applied her knowledge to her character as well as her end-of-year history and science projects. Two other students, Mark and Ben, read independently about the timing of the California Gold Rush. They wanted to learn how they could use the information for their characters in the action phase of the simulation.

Teachers might discover what students have learned from a simulation through observations and interviews. As an example, Blatt (1995, pp. 72-73) described the way she used continuous assessment in a simulation: "I am constantly watching and thinking and entering information about individuals into the storehouse of information in my mind. I carefully note how they react to each other, their written responses, what they say, and how they act." Likewise, Millians (1999b, p. 216) claimed that his "intuitive and anecdotal sense of their excitement, interest, and discovery" caused him to believe that simulations are effective. Also, he reported former students return to inform him that they remember specific content they learned through the simulation. Millians' and Blatt's comments are indicative of the way many teachers justify the use of simulations in the classroom. However, teachers' insights should be augmented with more concrete evidence to convince skeptics that simulations are viable.

A Need for Research

Since the development of educational simulations in the 1960's, researchers have articulated the need for more research (Clegg, 1991; Crookall, 1995; Feinstein & Cannon, 2002; Gosen & Washbush, 2004). Studies have been carried out in different fields, but researchers have not effectively shared their findings with one another (Feinstein & Cannon, 2002; Gosen & Washbush, 2004; Ruben, 1999). The research base includes studies that are not well-designed and have inconsistent research methodologies and varied constructs to evaluate learning (Clegg, 1991; Feinstein & Cannon, 2002). In addition, the context

specific environments of classroom studies do not allow generalizations to other settings (Lee, 1994; Millians, 1999a).

Hess (1999) recommended that teachers assess the strengths and weaknesses of a simulation. They should question if the simulation communicated the material to be learned and if the students interacted in a productive manner. The information teachers gain from assessment help them to answer these inquiries. In the literature, several of the authors praised the value of simulations in terms of increased student motivation, positive attitudes towards the subject matter, and for their ability to engage students in the content (Antinarella & Salbu, 2003; Blatt, 1995; McCann, 1996; Morie, 1996). They supported their claims with firsthand accounts. In order to provide more convincing evidence, future researchers should elaborate on their methodology. In addition, they need to balance their argument for simulations with the limitations of them. They should include comments from students who did not enjoy them or had difficulty in role.

Student Responses to Simulations

Jones (1987) stated that simulations are best defined not by titles or goals but by what happens in participants' minds. Students are on the inside of an event with the power and responsibility to deal with a troublesome situation. They are not merely reading a case study and making decisions about it. In a sense, they are the case study. Still, one of many areas underrepresented in the literature is what students have said about their experiences in a simulation.

This section is comprised of three parts. In my study, I interviewed and observed fifth-grade students. Therefore, the first section describes characteristics of fifth-grade students and how simulations should be used with them. The second discusses what students have said in the literature about their experiences in a simulation. The third explains techniques to elicit more detailed student responses.

Characteristics of Fifth-Grade Students

Simulations are a natural part of students' growth. The ages of 10-12 is an optimal time when students can benefit as a participant in a simulation (Millians, 1999a). To some degree teachers should be aware of certain traits if they would like to conduct a simulation with a particular age group.

Since I looked at students in two fifth-grade classrooms, I explain the characteristics of students in this age group. McCaslin (2000) described the traits of fifth-grade students in the following areas: mental, social, interests, and activities. Mentally, 10 and 11-year olds perceive the motivation for characters' behavior as important and are able to create characters with deep insight and comprehension. Moreover, they enjoy vocabulary. They can create appropriate dialogue for certain time periods and have increased problem-solving abilities. Socially, they are able to analyze feelings and work well in team events. Yet, they need guidance in how to communicate tactfully on others' work efforts. Fifth-graders interests are widespread. Often they are less interested in fantasy and fairy tales and more intrigued by real people and acts of heroism. Students could spend 40-60 minutes on a variety of events. They are spontaneous, yet, they are

able to maintain focus for extended periods of time. In addition, they are perceptive and thoughtful.

Knowledge of students' developmental traits informs the teachers' role as a facilitator. On the positive side, teachers should capitalize on students' abilities to think in a more abstract manner. Students begin to demonstrate interest in complex social relationships. However, teachers should be sensitive to the potential volatility of emotions and tension. They should plan on how they will introduce concepts such as change, death, power, family, and fears. In addition, some fifth-graders are hesitant to exhibit certain social or physical characteristics. Teachers need to understand the needs and personality of their particular group. At all times they should create a setting that students could participate in at their comfort level (Heathcote & Bolton, 1995; Millians, 1999a; Taylor & Walford, 1972).

Student Responses in the Literature

Adults have written most of the reports on simulations in the classrooms. The majority have not included many comments, if any, from the students who have experienced them (Hightshoe, 1997; Keech, 2001; King, 1996; Morris, 2002; Rothberg, 1998; Shields, 1996). If they did, the quotations are limited. For instance, in the simulation on elections, "Virtualville Votes," a fourth-grader wrote,

> We got to really feel how it would feel to be a real person in the real world. We learned how to write long paragraphs and to keep persevering. I even liked the election after I lost. I might have lost something on the outside,

but I gained knowledge in my brain (Kaldhusdal, Truesdale, & Wood,

1998, p. 35).

The author of the article did not elaborate beyond this statement. Older students are able to elucidate what they have learned in detail. As a result, the debriefing phase of the simulation is an optimal time for reflection. Teachers could use the students' comments to make adjustments for future activities. Later, these thoughts could be synthesized and presented in a description of a simulation.

In another instance, after a simulation titled "The Budget" for an economics class, eighth-graders wrote more humorous responses such as: "I learned that I am in no hurry to get married and I may NEVER have any kids!" and "Can I get the divorce now? My husband has been driving me crazy. He was so CHEAP" (Yalen & Magathan, 1995, p. 19). These students showed that they identified with their roles, even if they were not complimentary. Although comical, the comments do not reflect what content the students have learned.

In a separate study, Lee (1994) conducted a research project with two fifth-grade classes. The students studied labor unions, collective bargaining, and working conditions from the perspective of laborers in the beginning of the 19th century. Lee included a heading titled "Students' Preference for simulation (sic)" (p. 64) and cited 16 quotations from students. Most of the responses were one or two sentences long. They related to their favorite parts of the lessons and said that they had fun. Even when the students mentioned that they "had a better understanding," the responses did not elaborate why.

The articles that provided student responses have limitations. Some are too brief for a reader to comprehend the effect of the simulation on the learner. Others included only the references that supported the use of a simulation. Not all students enjoy simulations (Cruickshank & Telfer, 1980), and those students' voices were not represented. In order to depict a balanced perspective, authors should add comments from students who had difficulty or did not benefit from the experience. In this way teachers might learn how to plan for this possibility.

Implications for Questioning Students

In my study I interviewed students, collected work samples, and observed their interactions. I discussed how I collected and analyzed student data in the next chapter on methodology. However, in the previous section I provided a rationale for the guiding question, "What do students think about simulations?" for this study. In order to understand a more complete portrayal of simulations in the classroom, I believe it was necessary to consider diverse students' viewpoints. I included student responses from those who appeared to like simulations and those who did not. In addition, I chose students who were classified as "gifted" as well as those labeled "reluctant readers." Both populations benefit from simulations (Marks, 1992; May, 1997; Seidner, 1978).

On a related point, Darlington and Scott (2002) explain researchers do not often include minors in the literature because some do not regard student comments as reliable. Others believe it is too difficult to elicit information from them. Darlington and Scott offered certain guidelines when researchers collect data from students. They recommended that researchers should assess the

students' abilities. For my study, I rephrased interview questions if I perceived that they were difficult to answer. Also, I consulted with the teachers for input on students' reading levels and academic performance.

Second, Darlington and Scott claimed students need to feel that adults are sincere and care about their opinions. In order to create rapport, I maintained a positive relationship with the students and allotted time to listen. I did not add judgment to their responses. In order to facilitate more candid answers, I ensured that I asked open-ended questions and allowed time for students to answer. I believe my prior relationship with the students caused them to feel at ease. I had volunteered in the classroom once a week since September of 2004. I followed Mayall's (1999) notion that continuous consultation with older students creates more reliable data. Fifth graders, in particular, are further advanced in their language skills than younger students. I shared written summaries with them to verify my interpretation of their interview responses.

In brief, students comprise a central part of a simulation. In order to determine an appropriate simulation for a grade level, teachers should be familiar with the characteristics of a certain age group. Knowledge of student emotional, physical, and mental characteristics informs teachers on how they could modify instruction. In addition, student comments about simulations are not prevalent in the literature. One reason is that some researchers consider student data to be unreliable. However, researchers could use proactive techniques to elicit more authentic responses.

For this study, I analyzed oral and written student comments in order to understand how different types of individuals respond to a simulation. I talked to male and female students who differed in terms of their academic functioning levels, ethnicity, and behaviors. In the literature student responses favor the use of simulations. This awareness enabled me to include alternative perspectives. I compared my data with the prior research.

Summary

The purpose for this study was to look at what happens in two fifth-grade classrooms that use simulations. My guiding questions included why two teachers use simulations, how the two teachers implement them, how ten students respond to simulations, and what ten students think about them. In order to learn more about these areas, I organized this literature review into five major sections.

In the first section, Theories of Teaching and Learning, I discussed teacher beliefs' about simulations. I compared and contrasted the traditional model of teaching to experiential and constructivist theories. Also, I traced simulations to the work of theorists such as John Dewey (1900, 1915) and Jerome Bruner (1965, 1966) and connected Kolb's learning cycle (1984) to the design of a simulation. In the second section, Simulation Design and Implementation, I explained a simulation's structure in more detail and described how teachers' use simulations in the classroom to teach academic content. In addition, I mentioned how teachers assessed student learning and some advantages and disadvantages of simulations.

In the third section, History of Simulations, I briefly outlined how simulations developed in education and expanded to different disciplines. The fourth section, Research on Simulation Effectiveness, critiqued the studies that researchers and classroom teachers had conducted. The fifth section, Student Responses to Simulations, addressed how I will collect data from students. Moreover, I described characteristics of fifth-grade students and explained how they were underrepresented in the literature.

Although many classroom teachers and researchers have written about simulations, the weak methodology and paucity of research warrant further investigation. Student perspectives have been included in few studies. If authors incorporated student comments, they used data from students who reported that they had a positive experience. As a result of a diffuse literature base on simulations, many individuals do not understand what happens in classrooms in which simulations are employed. Some do not consider simulations to be relevant learning (Jones, 1993). This literature review informed my study when I entered the field and analyzed data. I increased my understanding of areas in need of further research. I applied this knowledge to subsequent chapters in order to understand how two teachers used simulations in their classrooms.

CHAPTER III: METHODOLOGY

Introduction

The purpose of this research was to describe how two fifth-grade teachers help students understand social studies and language arts concepts through simulations. A type of experiential learning, a simulation is a means to teach students about a particular concept or event. In a simulation, students use role play to gain understanding about a phenomenon. The teacher acts as a facilitator and allows students to experience what it might have been like in a certain place or time. For example, in a study of immigration to Ellis Island the students adopt the roles of immigrants. For several weeks they learn about the voyage to America through the perspective of a person from Italy, Ireland, or Russia. Through the characters they make decisions and explore feelings as if they were those people. Comprised of three parts, the briefing, action, and debriefing stages (Jones, 1993), simulations last several weeks (Jones, 1988; Marks, 1992; Morie, 1996; Wolfe, McIlvain, & Stockburger, 1992). Teachers write their own simulations or use commercial publications.

In order to understand what happens in two fifth-grade classrooms that incorporate simulations, I followed these guiding questions for this study:

1. Why do the two teachers use simulations?

2. How do the two teachers implement simulations?

3. How do the ten students respond to simulations?

4. What do the ten students think about simulations?

I observed the participants' interactions over an eight-week period, reviewed teacher resources and student work samples, and interviewed the subjects to report their attitudes and beliefs.

This chapter contains four major sections. The first, *Design,* discusses the theoretical framework of the study. The second, *Participants*, describes my role as a researcher and the individuals involved in the study. The third, *Data Collection and Analysis*, outlines how I collected, organized, and analyzed the data. The fourth, *Ensuring Quality and Credibility*, explains how I triangulated data sources to establish trustworthiness. I conclude this chapter with my timeline in the field.

Design

This section explains the theoretical framework of the study. I define qualitative research, terms, and assumptions that are inherent to the design. I apply these principles to my study and explain the relationship to my research questions. Also, I articulate my rationale for the choice of a descriptive case study with tenets of phenomenology as my guiding research approach. A descriptive account answered these two research questions: How do the two teachers implement simulations? How do the ten students respond to simulations? Beyond that, a phenomenological orientation allowed me to address the other two research questions: Why do the two teachers use simulations? What do the ten students think about simulations? I conclude this section with an

explanation of how a descriptive case study model and a phenomenological approach are reconcilable.

Definitions of Qualitative Research, Methods, and Design

Qualitative research is a systematic, observation-based method designed to answer questions about individuals in a specific, social setting. Qualitative researchers study participants in the natural environment in order to interpret phenomena based on the meanings people ascribe to certain events (Bogdan & Biklen, 2003; Creswell, 1994; Denzin & Lincoln, 2003; Locke, Spirduso, & Silverman, 2000; Patton, 2002). Qualitative methods enable researchers to study people and issues in depth and detail. The researcher utilizes an inductive approach to analyze data without preconceived categories in mind. As a result, openness allows the researcher to generate a wide variety of information about a select group of people (Janesick, 2003; Patton, 2002). I chose a qualitative approach for this study because it was the most appropriate method to answer my research questions. I was interested in how students responded to simulations, what they said about them, and how and why teachers used simulations as an instructional method. I could only determine answers to these questions through qualitative research methods. Therefore, I used qualitative data collection techniques such as interviewing, document analysis, and observations.

The qualitative paradigm includes many unique suppositions. These assumptions include the following: qualitative design is holistic, examines relationships within a system and strives to understand these interactions, occurs

in a natural setting, and relies on the researcher as the primary instrument of inquiry (Creswell, 1994; Janesick, 1998; Locke, Spirduso, & Silverman, 2000; Patton, 2002). These premises applied to my study in several ways.

I examined how teachers instructed through simulations and how the students responded to them over an eight-week period. My field notes, participants' interview transcripts, audiotape and videotape transcripts, teacher resource materials, and student work samples allowed me to write a comprehensive portrayal of simulations in two fifth-grade classrooms. Based on my field notes, I designed questions to clarify my observations. I followed an interview protocol for the teachers and students. These questions allowed me to gain insight about the experience of a simulation from the participants' viewpoints. I collected data in a natural setting, that is, two fifth-grade classrooms. As the research instrument, I used my senses to report what I had experienced.

Janesick (1998) explained that qualitative researchers employ their senses of sight, sound, touch, smell, and taste to collect data. Over time, researchers refine their method of inquiry to explore a sixth sense of intuition. This sixth sense allows researchers to investigate hunches that emerge from observations and interviews. In addition, writing in a journal enables researchers to contemplate these thoughts in more detail. I utilized my intuition and journal to explore emergent themes.

Descriptive Case Study

A case study encompasses detail. A case study is a type of research that examines a certain phenomenon such as a process, a social group, or a person (Gillham, 2000; Merriam, 1988; Yin, 1994). A descriptive case study in education is one that depicts a detailed account of a phenomenon. Descriptive case studies are useful in education because they illuminate areas where little research has been conducted, such as innovative programs and practices (Merriam, 1988). Because simulations have not been examined in detail, I chose a descriptive case study design. Two of my research questions asked how two teachers implement simulations and how ten students respond to them. A descriptive account answered these questions and illustrated what happened in two classrooms that used simulations.

Moreover, Yin (1994) believed "how" and "why" research questions are conducive to the case study method because these inquiries seek insight and discovery. In my study, I wanted to understand how teachers instructed through simulations, how students reacted to them, and why teachers used them. Through interviews and observations I gained awareness of how the participants felt about simulations.

Phenomenology as a Research Approach

Phenomenologists seek to report the lived experiences of a group of people by capturing and describing their perceived realities in a particular context (Holstein & Gubrium, 1994; Hopkins, 1994; Moustakas, 1994; Patton, 2002). Moustakas (1994) described phenomenological research as a way to understand

the meaning and essence of human experiences. Phenomenologists believe that an essence exists in a group's shared experience. In this tradition, researchers seek insight into others' experiences so that they can report a particular event from the participants' point of view.

The participants have "lived experience" for a particular event (Patton, 2002, p. 104). Their firsthand knowledge provides the data. In order to understand the experience, researchers gain entry to the place where the event occurs. They immerse themselves into the setting in order to conduct interviews, analyze written samples, and observe participants' interactions. They compare their field notes with interview transcripts and documents to learn how participants' make sense of their experience. After prolonged observation and analysis, the researcher reports the participants' experiences so that others can learn more about the area of interest.

A phenomenological approach is compatible with a descriptive case study for several reasons. Merriam (1988) stated that a case study allows researchers to investigate complex social environments in detail. The results depict a holistic and descriptive account of a phenomenon. In addition, the purpose of both is to report events as they unfold. The researcher does not manipulate variables in order to prove a hypothesis. A case study presents information from the perspective of several individuals in order to describe the complexity of a particular event. In order to ensure that phenomenology was the most appropriate methodological approach for this study, I read two books by Schutz

(1967) and Moustakas (1994) as well as several chapters on phenomenology to ensure that I understood the philosophical underpinnings.

In brief, for this qualitative investigation I chose a descriptive case study and a phenomenological research approach. Inherent in the assumptions of qualitative research was that as the research instrument I examined relationships within a natural setting. The data that I collected and analyzed allowed me to describe how two teachers incorporated simulations in their fifth-grade classes and how ten students responded to them. In addition, I reported why two teachers use simulations and what ten students thought about simulations.

Participants

In this section I share my background and beliefs about simulations, articulate my role as a researcher in the study, and convey the results of my pilot study on this topic. In addition, I describe the site and how I gained access to it, how I chose participants for the study, and how I secured letters of permission to conduct the project.

My Background and Beliefs

As an interpretive method, qualitative research encompasses the researcher's values, biases, and beliefs. Personal history, biography, and other people in the setting influence data collection and analysis (Creswell, 1994; Denzin & Lincoln; 1994). As a result, I share my background, beliefs, and prior relationships with the participants.

I taught eight years in the public schools. I worked four years in

sixth-grade as a language arts and geography teacher and three years at the elementary level. I instructed students in math, science, language arts, and social studies for one year as a fifth-grade teacher and two years in the fourth-grade. In addition, for one year I taught sophomore regular English, ESOL (English for Speakers of Other Languages) for grades 9-12, FCAT (Florida Comprehensive Assessment Test) Basic Skills reading to seniors, and Advanced Communications (Reading) to freshmen.

I believe that students learn when they are immersed in activities that foster active learning. Therefore, I utilized methods that required hands-on activities and cooperative learning. In addition, I employed constructivist practices and planned lessons that encouraged inquiry. Through my experiences as a language arts teacher I had facilitated different types of drama in education activities. For example, I had incorporated Readers' Theater, creative dramatics, and simulations in all of the grades I had taught. I discovered that the students' enjoyed these methods. They asked if I would implement more drama into the classroom because they thought it was interesting. Their enthusiasm prompted me to locate structured activities such as simulations that I could integrate into the curriculum.

When I taught fourth and fifth-grade for three years, I used simulations on a regular basis. Every year I planned three or four. Sometimes I wrote my own, and other times I used commercial materials such as Interact. I integrated social studies and language arts curricula with topics such as the United States presidential election process and Greek mythology. I realized that two other

teachers at the school where I worked also used simulations in their classrooms. We decided to plan together and combine our individual efforts to plan simulations among our classrooms. I worked with the two teachers involved in my study for two years. We planned three simulations together with a total of 90 students. They were Journey to America (Pilgrims), The Oregon Trail, and Immigration to Ellis Island.

My Role as a Researcher

As the instrument of data collection, I had a responsibility to report data in an honest and thorough manner. Janesick (1998) compared the role of the researcher to a historian. Like a historian, the researcher acquires permission to access sources of data and examines written documents, analyzes videotaped lessons, and composes interview protocols. When the participants trust the researcher, they are more inclined to be honest and candid with their responses (Berg, 2004). In addition, Glesne (1999) believed time facilitates more interaction. If the researcher has spent sufficient time at the site and effort in the creation of relationships with the participants, then they might be more forthcoming.

Involvement in the classroom. In July, 2004, I asked the teachers if I could volunteer in their classrooms when school began. They agreed. Therefore, to establish rapport with the participants in this study I volunteered in their classrooms two hours a week from September, 2004, to March, 2005, for a total of 50 hours. Each week I either taught, participated in, or observed different activities. At times I designed lessons for a group of five or six students. For instance, I reviewed the organization of persuasive and expository writing and

94

facilitated a group writing activity. Other times I conducted lessons in large groups on topics such as characteristics of persuasive speeches and the cycles of the moon.

When I began to collect data in April, I transitioned from the role of visitor to participant-observer. Patton (2002) wrote a participant-observer at times engages in the program under study. In this role I talked with the students about their experiences and perceptions throughout the simulation. Furthermore, Patton claimed that the participant-observer collects data through the observation of select social events. The researcher perceives the events that precede and follow a phenomenon and explains the meaning of participant behaviors before, during, and after certain occurrences.

Researcher reflective journal. To develop self-awareness and reflexivity, I kept a researcher reflective journal for every day that I observed in the classroom. Patton (2002) and Piantanida and Garman (1999) explained reflexivity is a means to encourage self-awareness and to acquire ownership of perspective. Schwandt (1997) claimed reflexivity requires researchers to engage in an ongoing analysis of what they know and how they know it. On a related point, Janesick (1998) stated journal writing enables researchers to increase their oral and written communication skills and helps to illuminate hidden subconscious thoughts and feelings. A journal serves as a resource to address specific questions and address issues that arise in the data collection and analysis process (Meloy, 1994).

In relation to a phenomenological stance, the journal enabled me to adopt the perspective of *epoche* (Moustakas, 1994). Epoche refers to the process that a researcher sets aside personal assumptions in order to see the experience for itself. Although it is impossible to obtain complete objectivity, epoche allows a person to suspend judgment. This journal enabled me to record my thoughts and to gain clarity about my experiences. Also, I compared my thoughts over a period of time and used the data to formulate conclusions.

I wrote in the journal every day. For my first entry, I described the opinions I had about simulations. Then, for later entries I explained what I had learned, questions I had, and thoughts that had occurred. I used guidelines from Progoff's (1992) text on journal writing. Progoff suggested a daily log enables individuals to record the mental and emotional reflections that occur on a continuous basis. Writing about a particular event or emotion enhances clarity. Successive entries build on one another and provide a context for a particular occurrence. My journal served as a resource as I analyzed and collected data.

Pilot Study

As part of course requirements during a doctoral course in qualitative research, I conducted a pilot study. My study examined why teachers use simulations in their social studies and language arts classrooms. I surveyed six fifth-grade teachers and asked them if they used simulations in their classrooms. From that survey, I chose two teachers, "Amy" and "Paula," who reported that they used them. One of these teachers, Paula, was the fifth-grade teacher I looked at in this study. I interviewed them in-depth three times over a span of

eight weeks. Each interview lasted 30-45 minutes. I selected this method

because Seidman (1998) claimed that each interview serves a purpose and

allows participants to reflect on their responses between meetings. Halfway

through my study, I realized that I should interview a teacher who reported she

did not use simulations or role play so that I could include divergent perspectives.

Therefore, I interviewed "Judy" two times for a total of 40 minutes.

Amy and Paula reported that they used simulations because simulations

helped students to understand and remember the content, interested them in the

material, and involved them in the subject matter. Judy chose not to use

simulations because she preferred a more controlled, structured environment.

She claimed she was uncomfortable with drama and thought that students acted

"silly" in dramatic activities. From this study I learned how to develop an effective

interview protocol. Also, I realized that I needed to observe in the classroom so

that I could understand the interview data more fully.

Description and Access to the Site

The site I selected for my study is located in the northeastern, suburban

section of a county in west central Florida. Opened in 1998, Miller Elementary

School was seven years old. One of the largest elementary schools in the

county, Miller served 1,018 students. The ethnic distribution of the school was as

follows: 60% Caucasian, 12% African American, 14% Hispanic, 6% Asian, 6%

Multiracial, and less than 1% American Indian. Compared to other schools in the

county, Miller Elementary was affluent. The free and reduced lunch population

was 23% whereas some other county schools had a 90% rate. Due to the

97

support of the Parent Teacher Student Association (PTSA) and fund-raising efforts, teachers received funds to purchase supplemental resource materials. Some of these materials included commercial publications for Interact simulations.

According to the No Child Left Behind (NCLB) Act, Miller made adequate yearly progress for the 2004-2005 school year. The criteria of NCLB stated that in order to make sufficient progress elementary schools must test at least 95% of their students, have at least 31% of students in grades 3-5 score at or above grade level in reading, and 38% score at or above grade level in math. In addition, writing, scores must improve by 1% from the previous year. At Miller, more than 75% of students in grades three, four, and five made sufficient progress in reading and more than 74% did in math. In grade four, 90% of the students achieved a passing score on the state writing test.

In addition, The State of Florida Board of Education assigns grades from A to F based on school performance. The grades reflect a variety of factors such as academic achievement, attendance, disciplinary referrals, and the number of suspensions. The school attained an "A" four consecutive years. Compared to the rest of the schools in the county, the school was above average.

In order to conduct doctoral research at Miller, I secured written permission from the principal of the school and from the director of the Department of Assessment and Accountability of the school district. I submitted the letters to the Institutional Review Board at the University of South Florida.

Selection of Participants

I used purposeful selection to investigate how two fifth-grade teachers implemented simulations. Purposeful selection is grounded in the theory that in order to gain insight into a situation researchers select a sample from which they can learn the most. The benefit of purposeful sampling is that it provides information in depth and allows researchers to investigate a certain area of interest (Berg, 2004; Merriam, 1988; Patton, 2002). In my study, I wanted to learn how teachers incorporated simulations into their language arts and social studies classes and what students thought about them. As a result, I needed to look at teachers who used simulations and talk to students who participated in them.

Teachers. The two fifth-grade teachers, Lindsey and Paula, I chose had used simulations in their classrooms for the past six years. These teachers had worked together for five years and had agreed that I could conduct research in their classrooms. Lindsey and Paula had organized approximately three to four simulations a year on topics such as The Oregon Trail, Immigration to Ellis Island, and Journey to America. Each simulation lasted approximately six weeks. They introduced a simulation on the Lewis and Clark expedition in April, 2005. I had never used this simulation in my classroom nor had I observed it before.

Students. I recognized that members of the Institutional Review Board perceived students as a vulnerable population. For this reason, Darlington and Scott (2002) explained that until recently minors have not been well-represented in research literature. Some researchers consider students' comments unreliable. Others believe it is too difficult to elicit information from students. However,

99

Darlington and Scott suggested researchers adhere to certain guidelines when they collect data from students. Guidelines include (a) to not over or underestimate students' abilities, (b) to like and to be comfortable with them, (c) to have genuine interest in their thoughts and feelings, and (d) to establish a positive rapport. In addition, students should have some control over the process, should feel safe, and may withdraw from the activity at any time. I followed these suggestions throughout my time in the field. For instance, one student asked me not to record a part of his interview. I respected that decision. Also, I talked to them in familiar environments, such as their classrooms or in an adjacent empty room.

I believe my prior relationship with the students enabled them to feel at ease with me. I noticed they spoke with candor and often included me into their conversations. Mayall (1999) claimed ongoing consultation with older students in particular may create more reliable data. I believe that my extensive time in their rooms increased trustworthiness. In the beginning, I observed all of the students in both classes, but I later focused my observations to two groups during the action phase of the simulation.

I chose one group of five students from each class to interview three times. I made notes of their interactions throughout the simulation and talked to them about their behaviors based on my notes. I included male and female students in the sample who represented diverse ethnicities and academic functioning levels. I selected eight students who appeared to enjoy simulations and two who did not. Throughout the study I spoke to the same students to

develop an understanding of their beliefs, responses, and thoughts over time. In addition, I examined their journals, pretests and posttests, and work samples.

Institutional Review Board. I gained permission to conduct this study from the Institutional Review Board (IRB) at the University of South Florida. I gave each participant an official letter of intent to conduct the study. I attached a letter to the permission form that explained my study in clear language. Since the student participants were younger than 18, I received parental permission for each student I interviewed, observed, or videotaped. I did not collect information from anyone who did not agree to be interviewed or observed. At all times I maintained the confidentiality of the participants through pseudonyms. For the teachers, I assigned names that were similar to their gender and ethnic representation. I encouraged the students to select a pseudonym for themselves, a task they enjoyed. I included students of different genders, ethnicities, and academic functioning levels to portray a more balanced perspective.

I made three copies of the signed forms. I gave a copy to each participant, kept another in a locked file cabinet in my office at the university, and the third in a locked file cabinet at my home. Beyond that, I assured the participants that the study was voluntary and that they could withdraw at any time if they were uncomfortable. However, no one chose this option.

In short, I was a participant-observer in this study. I had prior background with simulations and completed a pilot study on teachers' beliefs with simulations. I utilized a researcher reflective journal throughout my field experiences. I looked at two teachers and ten students at a suburban elementary

school. In order to meet Institutional Review Board criteria, I obtained approval for this study and from the participants.

<p align="center">*Procedure for Data Collection and Analysis*</p>

In this section I describe in detail how I collected and analyzed data. Qualitative data occurs in a variety of forms such as interview transcripts, field notes, documents, and audio-visual materials (Berg, 2004; Bogdan & Biklen, 2003; Coffey & Atkinson, 1996; Denzin & Lincoln, 1994; Janesick, 1998; Patton, 2002; Piantanida & Garman, 1999). For this study, I collected data from observations, interviews, audiotaped and videotaped lessons, teacher resource materials, and student work samples. The audiotaped and videotaped lessons, student work samples, and field notes enabled me to describe how the teachers used simulations and how the students responded to them. To gain insight into why teachers used simulations and what students said about them, I coded for themes and concepts through phenomenological analysis of interview data (Hycner, 1985; Moustakas, 1994). I used the data that I collected from fieldwork to explain what I had observed (Patton, 2002). I conclude this section with limitations of the design.

Observations

I observed in the classroom for 33 days over a period of eight weeks. I averaged three hours a day and was in the classroom for approximately 100 hours. Since the teachers had planning time for 30 minutes each day, occasionally I spoke with them about their lesson plans. I was curious how they planned to introduce the simulation, assign roles to students, and formulate

groups. I asked permission to include their informal conversations in my field notes.

In order to produce quality field notes, I wrote in a descriptive manner with specific and concrete details (Bogdan & Biklen, 2003; Gillham, 2000; Rossman & Rallis, 2003). I used Berg's (2004) criteria to create comprehensive field notes: cryptic jottings, detailed descriptions, analytic notes, and subjective reflections. Cryptic jottings comprise brief statements, sketches, and unusual phrases. When I reviewed my notes later, I noticed these intentional marks assisted in memory recall. Detailed descriptions include how people looked and what they said and did. They incorporate texture, sensation, and color. For example, they describe how the participants interact, the tone of the classroom, and how the environment looks. I kept analytic notes, or observer comments, separate from the actual narrative. They enabled me to consider alternate theories and make judgmental observations. In order to distinguish between the anecdotal evidence and analytic memos (A.M.), I wrote my analytic memos in parentheses. When I retyped the notes in the computer, I coded them in a light blue font. Subjective reflections are personal comments that have arisen as a result of observations. They consist of personal statements about surprising or disturbing emotions and thoughts that occur in the field. Like other researchers who keep this data separate from field notes (Bogden & Biklen, 2003), I used the researcher reflective journal to record these thoughts.

For every visit, I wrote my notes into a spiral notebook with the place, date, and time. After each observation I immediately retyped the notes on my

computer. I elaborated on cryptic jottings and analytical memos while my memory was still fresh (Rossman & Rallis, 2003). Based on repeated readings of my field notes I focused my observations on specific incidents and students. As an example, I noticed several students that I wanted to look at more closely. I recognized how the teachers structured the simulation into different stages. These notes were useful for subsequent interviews.

Interviews

I chose an interview approach that Seidman (1998) and Kvale (1999) described as in-depth and phenomenologically based. In this format, interviewers use open-ended questions to allow participants to describe their experiences for a given topic. The goal for the interviewer is to understand others' experiences and how they assign meaning to those events. Conducted over a period of several weeks, each interview serves a purpose and allows participants to reflect on their responses between meetings. The first interview investigates the focused life history of the participants, the second, the details of the experience, and the third, the reflection on the meaning.

As it pertains to the teachers, I modified Seidman's approach in the following manner. For the first interview, I asked them to discuss their background and where they learned how to use simulations. For the second, I inquired why they used them and to describe their beliefs. During this interview I asked the components of simulations that they did not enjoy and questioned if a simulation would succeed in a less affluent school. For the third, I asked them to

reflect on the simulation after it ended. In addition, I asked questions that evolved from my classroom observations and previous interviews.

Teachers. I conducted three interviews over a span of eight weeks with both teachers. I used an interview protocol for each interview (see Appendix A). Since Berg (2004) stated preparation is important in interviewing, I designed a tentative outline for each interview and interviewed the teachers in their classrooms during or after their scheduled school hours. I studied my interview questions to ensure that they were open-ended and not leading questions. Each interview was face-to-face and lasted between 30-45 minutes each session. After each interview I transcribed the data verbatim and made two copies for my records. I assured Lindsey and Paula that their actual names would not be used in the paper.

Students. I chose ten students to interview based on my observations and consultation with the teachers. I recognized that some students would be reluctant to share their thoughts. Seidman (1998) mentioned that some students might not be as candid with their teachers because their teachers have power over them. However, I believed my position as a participant-observer and not as their teacher enabled them to be more outspoken. I ensured the students were willing participants and that their parents had signed consent forms. I interviewed each student three times for a total of 30 interviews. For each session, I prepared an interview protocol (see Appendix B). I conducted the first interview before they entered the simulation and the second when the simulation had ended. I compiled a two-page summary for each student based on the prior interviews.

Then, I interviewed them a third time to review their summaries and to ask follow-up questions.

I used my field notes to design open-ended questions. I looked for students to interview that appeared to be interested in the simulation as well as those who did not. I chose a heterogeneous group of students in terms of gender, ethnicity, and academic functioning level. My population consisted of five females and five males. Their ethnicities included Caucasian, African, Hispanic, and Native American origins. The teachers classified the students as follows: three gifted, three above average, two average, and two below average with Academic Improvement Plans (AIP's). Their behaviors ranged from unsatisfactory to excellent and from reticent to extroverted.

Audio-Visual Material

Videotapes and audiotapes provided oral and visual documentation that supplemented my field notes and interviews. Almost every time I was at the site I spoke with the teachers during their planning period. I learned when they planned to introduce certain lessons. Based on this information, I taped critical incidents. In a case study approach, Patton (2002) referred to critical incidents as major events that comprise self-contained descriptive data.

I videotaped two 45-minute sessions. I taped one in each room during the action phase of the simulation. I asked a student trained in audio-visual equipment to tape the debriefing in Lindsey's classroom. Both were important components of a simulation, and these two events provided rich information.

Prior to the videotaped session, I obtained written permission from the teachers to tape the lesson and from every student's parents.

To supplement my observations and interviews, I audiotaped three 30-45 minute teacher lessons with a portable tape recorder. I recorded Paula when she introduced the simulation for the first time and when she conducted the debriefing with her students. I taped Lindsey when she reviewed her expectations before the students entered the action phase. I transcribed the audio-visual material verbatim.

Teacher Resource Materials

In order to understand how teachers implemented simulations, I made copies of the resource materials that they used for their lessons. I requested copies of student handouts and the teachers' grade logs. I kept these papers in a binder and dated each document. For the commercial materials, I secured permission from the Interact company to include select handouts as appendices. The documents supplemented my daily observations and informed my interview questions. Because the teachers used numerous non-fiction and fictional books and magazines, I created a bibliography of the literature and purchased three of the class texts for my reference.

Student Work Samples

For each student that I interviewed, I copied the work that they completed during the simulation. I made copies of their journal entries, pretests and posttests, expository essays, art work, and other projects. I removed their original names and replaced them with their pseudonyms. The students chose their

pseudonyms and selected names compatible with their genders and ethnicities. I compared their work samples with their interview responses and their actions from my field notes. I included several of these items in figures and appendices.

Data Analysis

As suggested by several qualitative researchers, I analyzed data as I collected it (Berg, 2004; Gillham, 2000; Merriam, 1988; Patton, 2002; Wolcott, 2001). I followed Merriam's (1988) guidelines for data analysis of case study research. For the interviews, I used phenomenological analysis (Hycner, 1985; Moustakas, 1994). I believe the combination of these methods resulted in a more accurate and descriptive portrayal of the phenomenon of simulations.

Case study research. A descriptive case study approach was appropriate for two of my research questions: How do the two teachers implement simulations? How do the ten students respond to simulations? To answer these questions I arranged the data into a narrative report of the findings. Every day that I observed I retyped my notes onto the computer. Over eight weeks I collected a voluminous amount of data: field notes, student work samples, teacher resource materials, and transcripts of audiotaped and videotaped teacher lessons. I kept the field notes for each teacher, interview protocols, and my researcher reflective journal in a one-inch binder that I called my "Discovery Folder." I filed the other sources into labeled sections of an expandable file. Throughout my time at the site, I reread the information several times. In the margins, I made comments and adjusted earlier notations. These jottings informed future observations and interviews.

I wrote the case study in chronological order from the teachers' introduction of the simulation to the debriefing stage at the end. Each stage of the simulation, such as, the briefing, action, and debriefing, structured the case study. In addition, I integrated patterns of teacher and student behavior and themes from the data. All of the data sources informed the case study. I included interview excerpts, student work samples, teacher resource materials, and sections from the audiotaped and videotaped lessons. My detailed notes enabled me to remember what had occurred for specific events. As I wrote the case study I shared drafts with Lindsey and Paula. They pointed out areas that I needed to elaborate on or clarify.

Phenomenological analysis. I used phenomenological analysis methods to answer the other two research questions: Why do the two teachers use simulations? What do the ten students think about simulations? Part of the purpose for this study was to understand the meaning of a simulation from the teachers' and students' perspectives. This section explains how I analyzed the interview data.

I conducted three interviews for each teacher and student. Therefore, at the end of the data collection I had acquired six teacher interview transcripts and thirty student transcripts. For every interview, I transcribed the audiotape verbatim and typed the date, time, and length of the interview on the first page. I kept copies of the transcripts in separate folders. In order to distinguish among the transcripts, I used an abbreviation followed by the person I interviewed and a number. For instance, I coded Paula's teacher interview with "IT (Paula) #1." The

abbreviation "IT" represented "interview transcript," "Paula" alluded to the pseudonym, and "#1" referred to the first interview. I followed the same procedure for the students.

I analyzed the interview transcripts through the steps of phenomenological analysis: epoche, phenomenological reduction, imaginative variation, and synthesis of texture and structure (Hycner, 1994; Moustakas, 1994). First, I read through the written data numerous times. Then, I adopted an inductive approach, epoche, in order to eliminate preconceived notions and to attend to the participants' exact words. Epoche is a continuous analytical process rather than a singular event (Patton, 2002).

Following the epoche stage, I entered the second stage of analysis, phenomenological reduction. I read through the data several times to gain a sense of the participants' words. I bracketed the key words and phrases that constituted general units of meaning (Moustakas, 1994) with a pencil. Hycner (1985) defined general units of meaning as words, phrases, sentences, or paragraphs that convey distinct, coherent meanings separate from the information that comes before or after it. Then, I compared the general units of meaning to my research questions. At this time I *horizonalized* the units of meaning (Moustakas, 1994). The term horizonalize means to spread out the data so that each meaning has equal importance. If the units of meaning related to the research questions, I coded the concept as relevant. If it was irrelevant I did not record it. These relevant meanings served as my initial categories or themes.

After that, I clustered the units of relevant meanings to tentative themes while I continued to look for connections and patterns in the data.

After I had identified the emergent categories, I organized them through an index system (Hubbard & Power, 1993). I used different colors to represent each initial theme. I had already coded the data with a pencil. I returned with a marker and underlined the words and phrases that corresponded with each theme. I wrote the interview transcript letter and page number where the category is located. For example, under the category "active learning" I wrote IT (Lindsey) #1: 2, 3, 7, 10. This notation meant that the theme "active learning" appeared on pages two, three, seven, and ten of Lindsey's first interview transcript. As I collected data in subsequent interviews I continued to read through the transcripts. I integrated the categories into a larger framework and looked for patterns and properties that connected the participants' words together. On the computer, I updated the changes. However, I kept copies of every index draft so that I could track changes over time.

As I examined the data over several weeks, I participated in an important stage of phenomenological analysis, imaginative reduction. This stage enabled me to examine possible meanings through different perspectives and frames of reference that required playfulness and imagination (Hycner, 1985). Hubbard and Power (1993) wrote that creative insights enable researchers to be open to discovery. In this phase, I tested different possibilities and rearranged the themes into different categories. I sketched diagrams and charts to experiment with other patterns.

Participant access to the data is an integral part of phenomenological

research (Hycner, 1985; Moustakas, 1994). However, I did not want to influence

participant thoughts or behaviors by sharing the data prematurely (Miles &

Huberman, 1994). After I interviewed the teachers three times, I asked them to

review my themes to determine their thoughts. I gave them each a three-page

typed summary so that they could write their comments on them. I returned to the

computer and typed in their written thoughts with a different font color. I printed

out a revised copy with my original text in black and their feedback in blue. This

process allowed me to compare what they had added to my original draft.

For the students, I followed the same procedures as the teachers, but I

read the summary reports with them and recorded their comments on the paper

during the third interview. Throughout the session, I asked if my report made

sense to them. For instance, I said, "Have I left something out? Does this sound

like what you meant? I wasn't sure here, did I get this part right?" I used simpler

language for the student summaries and studied their body language when I

spoke with them. At times, I rephrased questions or gave them additional time to

respond. I used the statement "Tell me more" to elicit additional information. After

the third interview, they signed and dated a statement that read, "This statement

truthfully summarizes my beliefs about how I feel about simulations as reported

in interviews with Ms. Gauweiler." I included a sample student interview summary

in Appendix C.

In the final stage of analysis, I synthesized the themes as a means to

understand the participants' experience (Moustakas, 1994). I summarized each

major theme in order to describe the experience of being a part of a simulation. I included two sections for this report, one for the teachers and the other for the students, in chapter four. Part of phenomenological methods is the opportunity to share my notes with the participants. Their verification of the data added rigor and validity to the investigation.

To summarize, I collected and analyzed data over a period of eight weeks. The data included field notes, transcripts from interviews, videotapes, and audiotapes, teacher resource materials, and student work samples. I wrote what I had observed through a descriptive case study and used phenomenological analysis methods to code the interview data. I coded for emerging themes and concepts, summarized my findings, and shared the information with the participants. I wrote the results over a period of several weeks and shared my findings in the next chapter.

Ensuring Quality and Credibility

In this section I discuss how I addressed the issues of dependability and validity with the data. I explain the concept of trustworthiness and how it relates to this study. In addition, I describe how I triangulated the data, compared my findings with a critical friend, and shared the data with participants through member-checking. I conclude this section with the limitations of the study and my timeline for data collection and analysis.

Trustworthiness

In qualitative research, validity refers to the accuracy and truthfulness of the findings. As the research instrument, the researcher ensures that the findings

are credible. Credibility equates to the accuracy of the data. In part, a researcher could distort the findings of a study in four major ways. They are (a) reactions of participants in the setting to the researcher, (b) changes in the fieldworker during the data collection and analysis processes, (c) the perceptions and biases of the researcher, and (d) researcher incompetence (Patton, 2002). Also called reactivity, the presence of an outside observer affects the participants' behaviors. Occasionally researchers become personally attached to the participants and lose their focus of occurring events. Although researchers bring preconceptions into the field, some distort their findings through a partial stance. They do not reflect how their perspective influences others. Other researchers demonstrate incompetence in that they do not follow data verification and validation procedures throughout their study. Consequently, I had considered several ways to establish validity and maintain credibility for this study.

Validity. In qualitative research, validity centers on the credibility of the skill, competence, and rigor of the researcher (Patton, 2002). First, I believe that the time I had spent in the field as a visitor established trust and rapport with the participants. My prior professional relationship with the teachers facilitated more forthright conversations. Second, a key assumption to qualitative research is that I was the primary instrument of data collection. Therefore, my perceptions and beliefs were integrated into the research process and formulated my findings and conclusions. However, I attempted to avoid bias in that I transcribed the data verbatim and kept a researcher reflective journal. The journal enabled me to reflect on my observations and evaluate my perspective as a researcher. As

114

much as possible, I used the participants' words to create themes and categories and asked open-ended questions in interviews.

Third, I had completed a pilot study in a doctoral course in qualitative research. For the study, I applied what I had learned in data collection and analysis. I developed a coding system that enabled me to analyze interview transcripts for emergent themes. In addition, Patton (2002) claimed that qualitative inquiry works best for those with a high tolerance level for ambiguity. My personality and divergent thinking style complemented this trait.

Triangulation of data sources. The use of triangulation, or multiple methods, demonstrates the researcher's goal to acquire an in-depth understanding of the phenomenon in question (Bogdan & Biklen, 2003; Denzin & Lincoln, 2003; Patton, 2002; Rossman & Rallis, 2003). Triangulation adds rigor, breadth, and depth to the investigation through multiple lines of sight (Berg, 2004; Flick, 1992). I collected data through many sources: interviews, observations, audiotapes, videotapes, and documents. The combination of these types strengthened the validity of the findings (Berg, 2004). I compared the data to one another to look for consistency and inconsistency. I reported these findings in an honest and thorough manner in the results section of the dissertation.

Critical friend. I asked a critical friend (Hubbard & Power, 1993; Rossman & Rallis, 2003) familiar with qualitative research to review my field notes, transcripts, and results. Rossman and Rallis (2003, p. 69) stated the purpose of a critical friend, or peer debriefer, is to serve as an "intellectual watchdog" as the

researcher modifies decisions, develops categories, and explains the phenomenon of interest. Rossman and Rallis suggested that triangulation, prolonged engagement, and a critical friend are three ways to enhance credibility and rigor.

   Member checking. As part of phenomenological research, I provided the participants access to the data (Hycner, 1985; Janesick, 1998; Moustakas, 1994). The last week of data collection I returned to the participants with my written summaries and themes. I reported these findings in the results section. As adults, the teachers were able to articulate their thoughts more clearly than the students. Although they agreed with the major themes, they pointed out minor discrepancies with their background histories and elaborated on some areas. In contrast, all of the students concurred with almost every paragraph of my summaries. A few pointed out minor changes. In general, they seemed excited by my reports and pleased with the attention. I did ask questions like, "Is there anything else I should include? How do you feel about this description?" I attached the participants' summaries to the original transcripts and filed them.

Limitations

   One limitation of this study was the time constraint due to state mandated testing. I was unable to collect data until after the examinations in March. I began to collect data the first week of April and continued until the last week of May. This amount of time allowed me to study one simulation on a specific topic. Second, my thoughts and interpretations were integrated into the study. I attempted to avoid bias through a researcher reflective journal and conversations

116

with a critical friend and the participants. However, I could not extricate myself from the data.

Third, although appropriate for a qualitative study, the sample size for my study did not allow generalizations to other teachers who used simulations in their classrooms. The findings contributed to the research on simulations but were not transferable to every population that used simulations. In other words, the experiences of participants in this group were unique and could not be replicated in an exact manner. However, the findings met a need in the research for how a simulation affects participants in depth and detail.

A fourth limitation might be my prior relationship with the teachers and my previous use of simulations. I warded against bias through the practice of reflection and a critical friend's perspective. Beyond that, I verified my findings with the participants. As a teacher who had used simulations, I studied how other teachers implemented simulations rather than examine my practice. On the other hand, my familiarity with simulations focused my attention to critical areas such as the action and debriefing stages. I recognized pivotal moments due to my understanding of simulation design.

Timeline

This study was time bound since I collected data from the beginning of April to the end of the school year in May. I began data collection on April 4 and continued through May 24. Although the simulation ended prior to May 24, I allotted additional time in order to conduct member checks with the participants and collect work samples. Throughout the entire period of data collection I

117

analyzed the data as I collected it. I reviewed my field notes on a daily basis and tracked changes on the computer. I transcribed interviews, audiotapes, and videotapes on a weekly basis.

Summary

In this chapter I discussed my procedures for data collection and analysis. First, I defined qualitative research and explained my rationale for adopting a qualitative paradigm. I justified how a descriptive case study coincided with a phenomenological research approach. Second, I communicated my background, beliefs, and role as a researcher. I shared my previous relationship with simulations and the participants. Prior to this project I completed a pilot study and volunteered hours 50 hours in the classroom. These experiences facilitated my access to the site. I described the elementary school and how I chose the participants. In addition, I explained how I gained approval for this study through the Institutional Review Board and protected the anonymity of the participants.

Third, I shared how I collected and analyzed data through observations, teacher and student interviews, audiovisual material, teacher resource materials, and student work samples. I discussed how I coded for themes and concepts through phenomenological analysis of interview data and transformed my field notes to create the case study. I shared select field notes with the participants to verify my findings.

Last, in order to protect the quality and credibility of this study, I considered many aspects when I collected and analyzed the data. Through the triangulation of data sources, a peer debriefer, and member checking, I

established trustworthiness. Moreover, I practiced reflective techniques on an ongoing basis, reported the findings in an honest manner, and compared my findings with others. I allotted substantial time to complete the dissertation over a period of several months. I adhered to a structured methodology that enabled me to complete this project. At the end of my time in the field, an overall pattern to the data began to formulate in my mind. This shape enabled me to create meaning from my experiences and to inform others.

CHAPTER IV: RESULTS

Introduction

They called it the Corps of Discovery, the trip that President Thomas

Jefferson commissioned in order to examine the territory west of the Mississippi

River. Two men, Meriwether Lewis and William Clark, led a 47 member crew

2,500 miles from Camp Wood, Missouri, to Fort Clatsop at the edge of the Pacific

Ocean. The sole female on the trip, a 15 year-old Shoshone named Sacajawea,

served as one of their interpreters. The explorers faced hardships and obstacles,

yet, they accomplished their mission and established their place in history.

I perceived my role as a participant-observer to be analogous to an

explorer. Like Lewis and Clark, I ventured into an environment with some

preparation. In the beginning, the obstacles that I would encounter or the issues

that would arise were a mystery. At times, I felt bewildered. Other moments, I

experienced elation. After 100 hours in the classroom over an eight-week period,

I accumulated hundreds of pages of field notes, audiotaped transcripts, teacher

resource materials, and student work samples. Just as Sacajawea translated for

her team, I interpreted my data so that I could explain the practice of simulations

in two fifth-grade classrooms. I adopted a phenomenological orientation in order

to understand what happened in the participants' minds as they learned through

a simulation.

My initial research questions guided this study during my time in the field. I wanted to learn the following:

1. Why do the two fifth-grade teachers use simulations?

2. How do the two fifth-grade teachers implement simulations?

3. What do the ten fifth-grade students think about simulations?

4. How do the ten fifth-grade students respond to simulations?

To present the results for this study, I organized this chapter into five major sections. The first section states the teachers' beliefs regarding why they use simulations. I synthesized the major themes from three separate interviews for each teacher. The second through fourth sections comprise the case study. I describe how two fifth-grade teachers implemented simulations and how ten fifth-grade students responded to simulations through a descriptive case study. I integrated the participants' thoughts from interviews to illuminate the data. The fifth section summarizes the students' thoughts at the end of the simulation.

The Teachers' Beliefs

In this section, I report why the two teachers, Lindsey Romano and Paula Williams, used simulations in their classrooms. I adopted a phenomenological orientation and conducted three interviews over a period of eight weeks with each teacher. I used an interview protocol for each session and transcribed every interview. The protocol provided a framework that enabled me to compare the teachers' beliefs. I applied Hycner's (1985) guidelines for phenomenological analysis to synthesize the major themes. The interviews lasted between 30-45 minutes, and I gave the teachers a summary of my findings after the final

interview. The teachers agreed that my summaries reflected their beliefs. I chose not to give them a summary after each interview because I did not want to influence their behaviors or perspectives (Miles & Huberman, 1994). If they read the emergent themes prior to the final interview, I thought that the data could be compromised. I believe that my decision enabled them to speak more freely without the concern that I would record everything they said.

The final themes that emerged from the three interviews resonated with the positive attributes of simulations. Later, in my classroom observations I noted disadvantageous aspects that the teachers had not mentioned.

Lindsey Romano

Lindsey Romano, 30 years old, exuded energy and confidence. She maintained high expectations for her students' academic performance and behavior in the classroom. Lindsey graduated from the University of South Florida in 1996, with a Bachelor of Science in Elementary Education. She had been employed in Windsor County for eight years. She taught for two years at Shepherd, an inner-city school, and then transferred to Miller Elementary. At Miller Elementary, she taught fourth grade for five years and fifth grade for one. She was Miller's Teacher of the Year for 1999-2000 and won a "Celebrate Literacy" award through a local reading organization for her work with simulations.

When Lindsey was younger, she stated that she was "ADHD (Attention Deficit Hyperactive Disorder) before there was." The only thing she remembered about elementary school was a school play she participated in as a sixth grader.

She recalled, "I can't tell you a cotton pickin' thing about elementary school. I remember sitting there. I remember opening up a social studies book. I remember doing questions. I remember feeling like I was going to become unglued."

Although Lindsey thought that it was always in her "to be a type of teacher that encourages an active learning environment" she thought her teaching style had changed over the years. She began at Shepherd Elementary and spent most of her time learning classroom management techniques, managing paperwork, and teaching social skills. As a PEP (Personalized Education Program) dropout prevention teacher, she started taking risks with the students. She realized "when they weren't just sitting there and I had them doing things like community service projects" that she noticed improvement in their performance. Later, when she transferred to Miller Elementary, she met Paula. The following summer she and Paula learned about simulations at a national reading conference. At the conference she attended a workshop facilitated by two co-teachers who used simulations in their intermediate classrooms. The teachers introduced her to Interact, a company that publishes simulations. After that conference six years ago, she and Paula decided to implement a Pilgrim simulation in their rooms. She stated that after that, it just "blew up from there" and they have used simulations ever since.

In interviews, she spoke with candor and passion about her involvement with simulations. At times, she paused several seconds to consider the question before responding. Her thoughts about simulations remained consistent over the

three interviews. Four major themes emerged in Lindsey's interviews. She used simulations in the classroom because they (a) allowed her to integrate content through immersion, (b) met individuals' learning styles and the multiple intelligences, (c) created an active learning environment, and (d) informed her through student and parental feedback that students retain information over time.

Integration through immersion. Lindsey stated that she's a "firm believer in integration" and defined simulations as "an integration of curriculum whether it be science or math or history with a definite aim to immerse." Throughout the interviews Lindsey mentioned the terms integration, connection, and immersion to explain how she blended the social studies and language arts to meet the Florida Sunshine State Standards and county benchmarks. Although she purchased Interact materials, she did not follow the guide exclusively. Instead, she incorporated additional non-fiction and fictional texts to augment the simulation and address curriculum expectations for reading and writing. Lindsey reiterated the "key word with a simulation is immersion."

She explained that immersion meant that teachers do not skim over the content. She stated,

> To me, the intensity of the simulation goes into the speaking, the singing, the what they would do, how they would live, how they would write, especially for a historical simulation. That's different than, 'Okay, I read about a Native American tribe and now I'm going to make a tipi.'

124

Lindsey recalled that she and Paula integrated lessons before they used simulations, but their activities were not as in-depth and more at an "elementary level and not very academically driven."

Lindsey used the metaphor of immersion to describe how students are "dunked" into every facet of the content and that she and Paula "took the plunge" when they introduced simulations for the first time. She commented through simulations she and Paula could explore content "deeper than just pen to paper all the time." On a simulation for Pilgrims, she explained how students experienced the subject. She stated, "They read it, they wrote it, they watched it, they became it, they dressed it, they did Webquests on it."

Lindsey enjoyed teaching when subjects were interconnected and students made connections between school and home. She provided the example, "They'll come in and say, 'Last night a *Jeopardy!* question said, What was the other name of the Pilgrim boat? I knew it was the *Speedwell*.' That's just proof of the pudding that that's going on in their head."

Learning styles and the multiple intelligences. When Lindsey began to use simulations she did not know why they worked so well. She attended workshops through the National Writing Project and discovered brain-based learning (Jensen, 2000; Wolfe, 2001). She defined brain-based learning as the "idea that learners learn differently and the brain functions differently."

As a result, she believed she needed to make an effort to plan activities that met the different learning modalities and incorporate the multiple intelligences. She felt simulations were "powerful" because the different learning

styles and the multiple intelligences embedded within the simulation enabled teachers to facilitate student learning. She claimed, "Every child reaches a higher level regardless of where they started. Their learning potential just skyrockets."

In addition to the simulation in the classroom, Lindsey commented on the culminating activity that she often incorporated at the end of a simulation. The culminating activity adopted different forms and was not predictable. It might have been a play, a museum, or a re-enactment. She described the culminating activity as an exposé of what students have learned. Student participation in the final activity "goes back to those multiple intelligences. Some of those children are going to learn it because of the entertainment, the dance, the kinesthetic part of it" and "it's a very important component because for those children who are your actors and actresses, your kinesthetic, your musically talented children, that's a huge part of it."

Active learning environment. Lindsey considered simulations as incomparable to a traditional way of teaching. She said in a simulation teachers do not sit behind their desks as students raise their hands to speak. Instead, simulations allowed students' minds to be engaged in the content. She stated the trite phrase "actions speak louder than words" served as a testimony that simulations attracted students' interest. She explained when adults entered her room they observed how students "are engaged in something. Not because I'm walking around with a pitchfork but because they are truly interested."

Lindsey allotted a month in the beginning of the year to teach classroom

procedures. She claimed this investment enabled her to implement simulations

throughout the year. She regarded herself as:

> A believer in active, controlled learning. They have to be involved -- it can't
>
> just be me running the show. However, there has to be a happy medium in
>
> my belief. There has to be safety, they know the consequences of
>
> crossing a line. They know what those lines are. *That management* is so
>
> crucial because you can't do this if there are not boundaries.

> *Feedback from students and parents.* Since Lindsey had taught in the

same area for six years, several of her former students were now enrolled in high

school. Many times they visited her at extracurricular events or when they

attended Open House with their younger brothers and sisters. She explained that

her former students' responses "let me know of the why." The students had

informed her that they remembered what they had learned through simulations.

As an example, she shared,

> One of my students, Blake, he's now a football player at Shambaugh High,
>
> he was like, he remembers, I mean they *remember*. And they're like, 'Uh, I
>
> was so goofy', and you know they're at that stage where they're like 'Grrrr,
>
> I can't believe I was a puffer fish!'

Besides students, she mentioned that former and current parents told her

that their children recalled what they had learned in her class. Impressed that the

students shared what they had learned at school, parents wrote her letters or

expressed positive comments. Their feedback validated her rationale to use

simulations. Often, students brought in resources from home. When I interviewed Lindsey the second time, she gave me a letter she had received that day from a parent. The complimentary letter stated that her son, Brian, had become a "history buff, thanks to your wonderful teaching" and that he "takes an interest in current affairs and wants to read/watch about our world's history."

The letter reinforced one of Lindsey's long-term goals as a teacher. She wanted them to have a broad understanding of history and to make connections beyond basic information. She explained, "My hope is that when they're sitting in their high school history class they already know some of this. I want them to learn and hold onto it."

Paula Williams

Paula Williams, 58 years old, had the appearance and mentality of someone younger than her chronological age. An accomplished teacher who had taught elementary school for 25 years, she described herself as someone who was "very willing to try new things." She remained current on educational trends through in-service trainings and subscriptions to professional journals. Like Lindsey, she maintained high expectations for her students' academic performance and behavior in the classroom.

Paula Williams graduated from college in 1967 with a Bachelor of Science in Elementary Education. She earned a Master's of Education degree in Elementary Education in 1972. Since then, she had accumulated twelve graduate credits in reading. She had taught in Windsor County for nine years. She taught for two years at Granger, an inner-city school in Fairview, and then

transferred to Miller Elementary. At Miller, she taught fourth grade for five years and fifth grade for two. She was Miller's Teacher of the Year for 2000-2001 and won a "Celebrate Literacy" award through a local reading organization for her work with simulations.

When Paula was younger, she remembered traveling with her family to historical places such as Plymouth Plantation, Ellis Island, Jamestown, Willamsburg, and Gettysburg. She believed the family trips instilled an interest in history that had continued through adulthood. As an educator, she had always integrated historical fiction with social studies. When she taught history, she encouraged her students to visit the actual places that they discussed in class for family vacations.

Paula considered herself to be a thematic teacher even when she taught at a more traditional Catholic school in Connecticut in the 1980's. She recalled,

> I *always* liked to teach thematically. I didn't have any simulations at that time, but I always was a thematic teacher. I didn't call them simulations, it was just thematic units like a World War II theme, Westward Movement, and Pioneer theme. I always tied literature and some kind of art or music.

Like Lindsey, she credited the workshop at the national reading conference with introducing them to simulations. She compared simulations to thematic teaching in the 1980's, but she thought simulations relied more on primary sources, explored a concept in-depth, and incorporated role-playing. After the conference, she and Lindsey began a simulation on Pilgrims and have implemented numerous simulations in math, science, art, and social studies since then.

129

During the interviews, Paula spoke at length with clarity and confidence. Often she provided examples to illustrate her points. Her beliefs about simulations remained consistent across the interviews. After I applied phenomenological analysis methods, three major themes emerged from the interviews. She used simulations in the classroom because simulations: (a) involved the students in an authentic content, (b) targeted different learning modalities, and (c) enabled students to learn the material and retain the information over time.

Involvement in authentic content. Paula defined simulations as a means to involve students "so that they become part of that era. They are role-playing, if you ask them to do writing, it's authentic writing from that perspective. You're taking them and immersing them into that time frame." One of the major reasons she used simulations was that students were involved in an authentic manner. She commented in every interview that learning should be relevant.

Instead of reading out of a textbook, students made applications and simulated what happened in history. Paula stated that in Lewis and Clark, the students followed the same trail and met the exact challenges that the original explorers faced. She claimed the journal entries students read were "really primary sources because those are replicas of the real deal."

Then, students wrote as if they lived in that time frame and performed a certain job. Paula modeled how to adopt a certain persona and shared primary sources with the students. As an example, she explained that for a unit on slavery the students wrote from the perspective of a slave in a slave journal. For

a simulation on Sail America, students researched and read about the Thirteen Colonies. Then, the students represented one of the colonies in order to attract visitors from England. She described the event:

> The kids dressed in Colonial attire and had to make a showboard that included information on the geography, government, agriculture, and interesting facts. They talked about why you should come, as they were trying to get people to come to America. They brought foods that you would find in the Carolinas or you would find in Georgia. They made replicas of a plantation so they could show them. They did Southern fans, and made all kinds of different things. But, there again, it was research, it was writing, they had to sell their colony, that was the whole premise of the thing. They had to write a letter in that one, to someone in England and tell them about the place where they lived and what was so wonderful about it and why you should want to come to Pennsylvania, New York, Connecticut, or Rhode Island.

Paula believed that teaching through simulations fostered interactive and purposeful learning. For Lewis and Clark, the students researched Native American tribes and encountered dilemmas that the original explorers faced. They worked as a team to brainstorm a solution. Learning in this way enabled students to comprehend what life was like in that time period as they became part of the expedition.

Targeted different learning modalities. Paula felt simulations allowed students to express themselves in different ways. Like in the Sail America

excerpt, students engaged in writing, research, role-play, and art. This belief

connected to her teaching philosophy to "touch every single child." Paula claimed

the Lewis and Clark simulation attracted different types of learners such as

readers, researchers, and artists. She said, "The kids who have a difficult time

researching about Thomas Jefferson, well they can make a rain stick. So,

therefore, you know it will be able to be effective with everyone."

Sometimes participating in a simulation motivated students to extend

learning beyond the classroom. She commented,

> A lot of them really get into it and they'll go to the media center and get
>
> books about what we're studying about or they'll go online. It's kind of like
>
> different modalities, they'll be something for the writer, or to create, and
>
> they really bring in a lot of cool things.

As a teacher, Paula made a concerted effort to engage her students' interests

and plan activities that met their needs. She stated,

> It's all about kids…it's taking each child and trying to meet each child's
>
> specific needs, and involving them in many different ways. Some are
>
> visual….some are auditory, so you try to incorporate all those different
>
> modalities into your teaching.

In addition, she mentioned that every student should feel part of the group.

Whether students were high-achieving or not, she maintained that she had a

responsibility to educate them.

Learn the material for long-term retention. Paula believed that simulations

allowed students to learn a substantial amount of information, and she hoped

that they would retain what they had learned for an extended period of time. She

based her claim on her observations as well as student and parent feedback.

When she reflected on the Lewis and Clark simulation in the third interview, she

said, "I can't help but think…that they will…that is something that they know *so*

much information about. They did a lot on their own, they found out a lot, they

found out how difficult it was."

 In previous interviews, she reiterated this belief and commented three

separate times that she was unsure if the students realized how much they had

learned from simulations. As an example, she mentioned, "They learn more than

they really realize that they're learning…which is the cool thing."

 I asked her how she knew that students had learned. She credited her

observations, student and parent feedback, and pretests and posttests. For

instance, sometimes students had referred to earlier simulations when they

studied a later one. She had circulated around the room and had listened to

student conversations when they were involved in the simulation. Sometimes she

had overheard her students as they discussed simulations on the bus ramps

before school. When I questioned why Paula used simulations instead of other

methods, she stated because "the kids love it and they're learning." She believed

learning through a simulation was more effective than opening the social studies

textbook and answering five questions.

 Besides her current students, former ones had shared with her that they

remembered their experiences with simulations. Although she was pleased that

they had "fond memories," she preferred that they would remember what they

had learned when they studied American history in eighth grade. Parents often informed Paula that they had visited certain places such as Ellis Island or Plymouth Plantation. At these sites, their children had spoken to them in detail about what they had learned in Paula's class. She remembered for an earlier Lewis and Clark simulation, one student's family traveled West. The student recognized historical places on the journey and "told their parents everything they wanted to know and more about it."

Like Lindsey's comment, Paula stated the "the students were immersed and it made it real." As a result, they could recall what they had learned in the simulation. This comment related to their involvement in the simulation, the first theme that emerged from Paula's interview. She mentioned again in the final interview that if "you involve them, they'll remember it." These two themes supported Paula's belief involvement facilitated learning.

Even though I interviewed the teachers separately, the teachers' themes shared similarities. Both believed that simulations addressed students' learning styles and claimed parent and student feedback informed them that simulations fostered retention of information. Lindsey expressed how simulations fostered an active learning environment and allowed her to integrate content across the subject areas. She addressed the multiple intelligences and connected them to student learning styles. In Paula's interviews, a theme of involvement in authentic content informed her decision to use simulations. She believed that the primary sources and replications of historical events generated meaningful learning. In my observations and perusal of teacher resource materials, I found that the

teachers' beliefs coincided with their actions in the classroom and comments to their students.

The Early Stages of the Simulation

This section is the first of three to describe what happened in a simulation titled "Lewis and Clark: A Simulation of the Corps of Discovery" (Vargas, 2000). In order to collect data, I spent eight weeks and 100 hours in Lindsey and Paula's classrooms. I used my field notes, excerpts from teacher and student interviews, teacher resource materials, student work samples, photographs, audiotape and videotape transcripts, and my researcher reflective journal to complete this case study. I have organized it chronologically and included major themes and illustrative incidents from the data.

Entering the Field

Since I had taught at Miller for three years from 2000-2003 and volunteered weekly since September, 2004, I did not perceive the school as an unfamiliar venue. Yet, when I entered the field on April 4 to collect data, I examined the site with a researcher's lens. I examined the entrance of the school and the direction to the teachers' classrooms with an analytical perspective. I photographed Miller and the classrooms in order to transform images to words.

Miller Elementary. Miller Elementary stands in a wetlands area of West Central Florida. Established in 1998, the two-story, white stucco building with light-green trim encompasses several acres. A billboard sign anchored by two brick posts greeted visitors with the message: "Welcome to Miller - Home of the Bobcats."

135

Upper-middle class homes surrounded the school on three sides. An eight-foot, white privacy fence separated the school from residential housing on the east and a chain-link fence divided the school from the brush on the north. An extended sidewalk stretched from the entrance and wrapped around to the bicycle rack in the front of the school. Scrub pine trees nestled among bushes and palmetto branches towered above the school. Although the majority of the 1,017 students that attended Miller traveled by school bus, a large percentage rode their bicycles, walked, or arrived by car.

Eight spaces provided visitor parking in the front of Miller. Faculty, staff, and other adults parked in the lot behind the school. A locked gate inhibited visitors from parking after 8:30 a.m. Instead, they created parking spaces on the well-maintained lawn. These spaces were brown and patchy compared to the bright green of other areas. Across from the faculty parking lot, a covered walkway extended from the combination cafeteria and multi-purpose room to a winding staircase. Two concrete, crescent-shaped courtyards allowed for outdoor performances. Statues of bobcats and potted palm trees decorated both sides. Eighty yards away, three portable classrooms and two playgrounds covered an open field. On the patio opposite the basketball courts, six tables with blue-green umbrellas invited students and teachers to eat outside. Two additional staircases and an elevator provided access to the second floor.

Paula's classroom. As a fifth-grade teacher, Paula's classroom faced the faculty parking lot on the second floor. Two 8' x 8' bulletin boards showcased student work on both sides of the hallway towards Paula's room. On the right

side, two third-grade teachers had stapled three-dimensional butterflies to the board. The students had decorated the butterflies with red, blue, and green tempura paints. On the left side, Lindsey and Paula had displayed their student's slave narratives on the Underground Railroad. The edges of the papers curled to represent scrolls. When I entered Paula's room the first day, I realized that the class had departed for lunch.

In preparation for the simulation, Paula had arranged the students' desks in U or L-shaped designs with approximately five students per section (see Figure 2). Colorful bulletin boards adorned the walls with headings such as "Celebrate America" and "Lewis and Clark – Go West!" On the dry erase board chalk tray, books on the Lewis and Clark expedition stood upright like sentries. Atlases, spiral notebooks, and colored pencils covered the students' desks. Student-created mobiles depicting a 1777 map of the United States hung from the ceiling. Four yellow note cards attached by yellow, blue, and red yarn waved slightly. As I looked closer, I noticed the mobile represented the Thirteen Original Colonies. George Washington's outline swayed in the center of the yellow cards.

Other posters reminded the students "Explore…Dream…Discover" and "A journey of a thousand miles begins with a single step." I considered how the quotations served as a metaphor of what the students were about to experience as members of a simulated Lewis and Clark expedition. Towards the back of the room, a countertop stretched from the wall to the sink. A door led to a student

Countertops

Area Rug

Over-head Proj.

Table

Paula's Desk

Bulletin Board – Lewis and Clark

Computer

Window
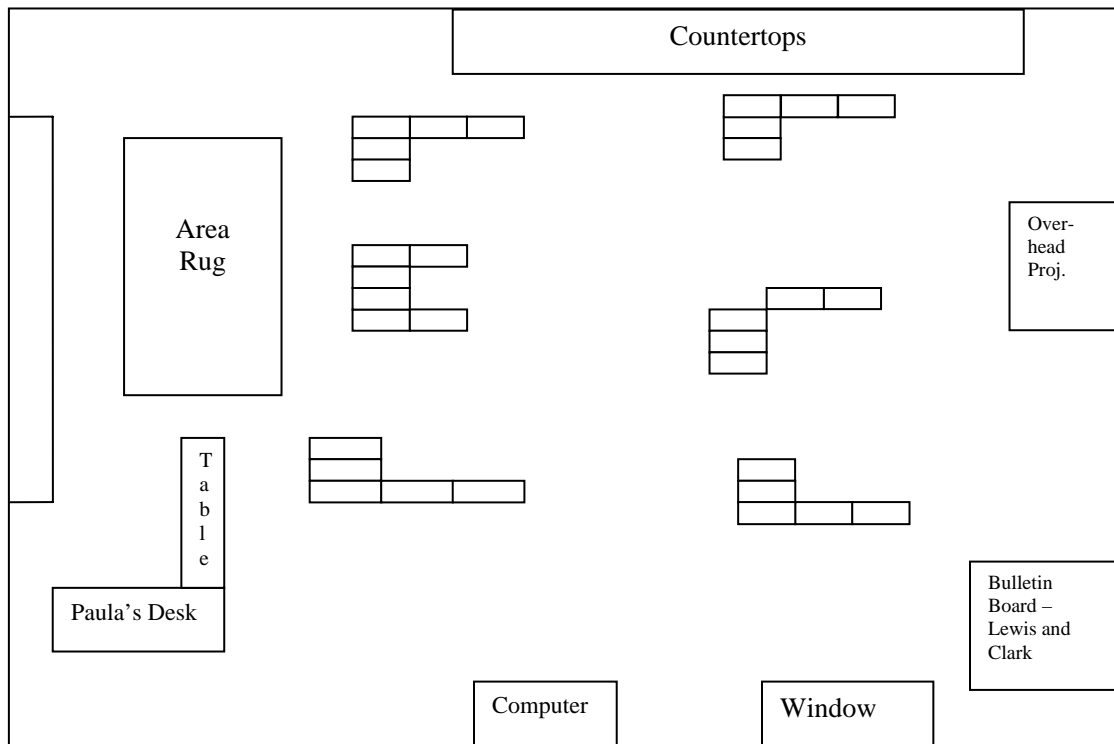
Figure 2. Diagram of Paula's Classroom

restroom, and a 10' x 8' area rug covered the off-white tile. The colorful rug

depicted the seven continents with images of animals and plants on the

appropriate locations. Paula had placed her desk in the rear corner of the room.

A rectangular table served as her workspace. I noticed that she had piles of

manila folders and crates of books on the table and floor about Lewis and

Clark.

Teachers' preparation and collaboration. Before Lindsey and Paula

introduced the simulation, they spent several hours shopping for supplies,

making copies of resource materials, and planning for the six-week simulation. I

noticed that both teachers had two milk crates replete with items, such as, clay,

rice, construction paper, cardstock, popsicle sticks, paper towel holders, toothpicks, markers, tempura and watercolor paints. The crates sat on the countertops with the cellophane on the materials intact. They had purchased the supplies at a local Wal-Mart. Paula estimated she spent over $200.00 and Lindsey did not know how much she had paid.

Besides cost, the simulation demanded their time. In the first interview, I asked Lindsey if she wanted to add any other comments. She hesitated before she said,

> The simulation can, it requires *a lot* of extra time and a lot of extra preparation...There are times like, when, I'm, 'Okay! I want them to open to page whatever and do the questions (laughs) because I need *five* minutes....'.I think what's very frustrating is the perception of the 3:05 thing. 'Cause…no. (shakes head) It's the 1:00 a.m. thing. People need to know that.

Lindsey added that after her one-year old son went to sleep, she and Paula planned every Friday night from 7 p.m. to 12:00 a.m. for the following week. Besides that, "We spend hours on the phone talking about things. After school we're at stores or we're here."

Lindsey and Paula's relationship as friends and colleagues had developed over the six years that they had worked together. Their classrooms connected with a shared door, and often their classes fused into one. In the beginning of the year, the teachers told their students' parents that they were a "duo." Indeed, the two functioned as a well-maintained unit. The first week I collected data, Lindsey

attended to her mother who was in the hospital. At times, Paula combined the two classes to provide the students with background information and to prepare them for the simulation the following week. She said that they had to "press on because of time."

Lindsey mentioned to me in our second interview that she thought it was important that I addressed how the two collaborate. Because of their close relationship, I felt that I could visit either classroom in the simulation and still have a consistent portrayal of ongoing events. In my journal, I noted,

> I know that Lindsey and Paula are a unified front. I guess that's what
> happens after teaching together for so many years. Things just tend to gel.
> Today, for instance, Paula didn't seem to be bothered at all that Lindsey
> was going to be out for a week. In fact, she is kind of even, steady, I can't
> put my finger on it yet. I think that it's like she's sedate. At the same
> time, I can see a glimmer in her eye when she talks about history. I can
> tell that she still thinks it's fun. It must be to put in as much time as they do
> for preparation.

Preparation began before the academic year. Paula explained that she and Lindsey had planned the Lewis and Clark simulation over the summer in 2004. At Open House in August, they told their students' parents that they would conclude the year with a Lewis and Clark simulation. Paula showed me how she used the Interact teacher's guide and pointed out the students' books. They included two class sets of *How We Crossed the West: The Adventures of Lewis and Clark* (Schanzer, 1997), *Lewis and Clark and Me: A Dog's Tale* (Myers,

2002) and *History Alive!* (Bower & Lobdell, 2003) social studies textbooks. Each class set contained 30 books. Behind the cover, the texts had a number from 1-30 printed with a black, permanent marker. Paula said that she and Lindsey received a complimentary classroom set of *History Alive!* textbooks. They attended a two-week grant funded workshop over the summer in Williamsburg, Virginia, and Fairview, Florida. A parent and a grant from the Miller PTSA (Parent Teacher Student Association) sponsored the trade books.

Paula stated that Myers chose to tell the story from the Newfoundland dog, Seamen's, point of view. Seamen, Lewis's dog, accompanied the explorers throughout the expedition. I paused to write down the titles and asked if I could borrow copies. She accommodated my request and waved her hand dismissively when I told her that I would return them. Paula stated, "Don't worry about it."

Still, I purchased copies for my reference and returned hers a few weeks later. Paula opened an Interact teacher's guide titled *Lewis & Clark: A Simulation of the Corps of Discovery* (Vargas, 2000). Narrow, yellow and blue post-it notes extended from the edges of the one-inch black binder. She pointed out folders of different tasks that the students would complete. The folders had been recycled from past years. She had highlighted selected passages and the directions with a yellow marker. Paula explained, "It was a lot of work to put the folders together, and I'm going to keep them from year to year."

With 40 days left in the academic calendar, they began.

Building Background Knowledge

Due to Lindsey's absence, Paula merged her class with Lindsey's to prepare the students for the journey. Before she started, she gave the students a pretest to assess their prior knowledge of the subject (see Appendix D). After that, four times over three days the joint classes listened to Paula's instructions for approximately 40-45 minutes each session. Paula introduced them to the texts, explained the roles, and assigned the groups. In addition, the students read about Native American tribes in their *History Alive* books and completed a two page prereading activity on Native American cultural regions. The handout displayed various regions, tribes, and artifacts and included plant and animal symbols. During the simulation, the students conducted extensive research on the tribes in the Great Plains, Northwest Coast, and Plateau sections of the United States.

Paula shared with me that earlier in the year she and Lindsey decided to combine a study on Native Americans with Lewis and Clark. Besides prereading activities, the students read a story from their basal reader called "The Way West." Paula showed them two videos titled *The Lewis and Clark Expedition: The Voyage of Discovery* (Delphi, 1992), and *Lewis and Clark: The Journey of the Corps of Discovery* (Burns, 1997). She said,

I was trying to give them a historical background before they actually

began. I don't think you can just jump into something. I think you have to

approach it and get them ready so they're really, really excited about this.

You have to give them some background information.

142

She added the videos helped them to visualize what they would experience. Also, a picture storybook read aloud, *Lewis and Clark: Explorers of the American West* (Kroll, 1996) gave them "a preview so they can see where we're going with this."

During the first day of background information, Paula reminded the class that "Mrs. Romano and I like to give you background knowledge that you will need to know when we are in the simulation. I need you to focus in since we will shove off on Monday."

The students listened politely and faced the front of the room where she spoke. She stated that if the students misbehaved they would sign the clipboard, and she would not give another warning. The clipboard was their behavior management system. If the students signed the clipboard more than three times in one week then the teachers assigned consequences. They might call parents, send a note home, or require the students to write an essay. However, I observed that the students were extremely attentive, and that she did not have to admonish the students once throughout her 40 minute lesson. I admired how she had taught her classroom procedures and asked how she had created that environment in a later interview. She replied,

> The first four or five days of school they'll probably go home and say, 'Ugh, this is boring', but we spend oh, oh, oh, oh, so much time on procedures…I just start at the very beginning of the year. This is the way it's going to be. It's either my way or the highway. I mean, they *know*. I mean the parents know, and I have the clipboard. I have a behavior

143

calendar and I mark that they signed the clipboard and what the reason was. If things continue then I do call parents. You know, talk to them on a frequent basis if need be.

Visualizing the journey. The second day, Paula held up a copy of *How We Crossed the West* book that she had distributed earlier in the day. She reminded the students that they should keep their books in the pocket of their three-prong Discovery folders. Only one class had used the books before, and Paula stated that she wanted the books to be in the same condition when the students returned them. Opening the book to the first two pages, Paula asked the students to examine the route of Lewis and Clark from May 1804 to November 1805. Crooked red and blue lines connected the beginning of the journey at Camp Wood and concluded in Washington at Fort Clatsop. Illustrations of Native American tribes such as the Arikara, Shoshoni, Flathead, and Chinook bordered the trail. The Interact guide provided a similar map for the student's reference (See Appendix E).

Paula asked them to examine the Mississippi River and how Lewis and Clark traveled on boats. Then, she connected this thought to earlier in the year when they studied the slaves, settlers, and the Thirteen Colonies. They compared how the territories had changed since then. While she instructed, the students traced their finger along the route in their books. Some raised their hands to answer her questions about President Jefferson. Paula mentioned, "Lewis and Clark couldn't get on Delta 'Ready When you Are' and travel along I-80."

As the students laughed, I realized that Paula made comparisons with the students' lives to the past. Throughout my time in the classrooms this was a recurring pattern with both teachers.

Paula rapidly read the introductory paragraph of the book *How We Crossed the West* (Schanzer, 1997, p.1). She read, "President Thomas Jefferson sat in the White House thinking. Far beyond the 17 states he led, and farther still beyond the muddy Mississippi River, lay another world, a world of mystery."

She trilled her voice when she arrived at the phrase "a world of mystery." Several students giggled. She reminded them that the settlers traveled with their journals and wrote and drew pictures of plants and animals like Lewis and Clark did. The students would draw pictures in order to describe what they observed and mail the postcards to President Thomas Jefferson.

An invitation and a warning. The third day, Paula combined the classes again and continued to teach in a mode of direct instruction. She told the class that in 45 minutes she would review the student guide so that they would know what to expect in the coming weeks. She distributed 20 guides and asked the students to share. She read the letter from the "Student Guide" (Vargas, 2000, p. 1) from Meriwether Lewis to William Clark. She read,

> My plan is to descend the Ohio in a keeled boat thence up the Mississippi
> to the mouth of the Missourie, and up that river as far as its navigation is
> practicable with a keeled boat…and if practicable pass over to the waters
> of the Columbia or Origan River and by descending it reach the Western
> Ocean.

After she finished the passage, Paula stated, "The vocabulary is more difficult and that letter was written as they spoke back then. They don't say, 'Hey, do you want to come along for a ride?'"

She asked the students what Lewis meant by "Western Ocean." Many students volunteered "Pacific." I marveled at their ability to infer that answer, and I noted that I thought this group consisted of bright students. She pointed out the nonconventional spelling such as "mouthe of the Missourie." She stated that Lewis asked Clark to travel with him and then said, "I'm inviting *you* to go on this journey with us. Now let's get down to language we understand."

She turned the page and mentioned that they would have a quiz tomorrow to ensure that they "are all on the same page." The students seemed less enthused as time passed, but they remained polite. Paula explained that how the students completed their activities would determine their success in the simulation. Each person would have a job description and that "each day there will be a dilemma…oh, we *love* those dilemmas."

She read a portion of the first dilemma and commented that each one actually happened (see Appendix F). Paula continued, "Each journal writer finds a solution. You have a dilemma, you find a solution, you do some research to compare whether you came to the same decision as Lewis and Clark did."

She also stated that, "If you don't cooperate, you won't be participating. You can work by yourself out of a separate text. I have those *Our America* texts sitting right over there. Some of us really have to work on that."

In the first interview, Paula reiterated her concerns about some students. Although she said that the majority of the class was cooperative, she said,

> I *guarantee* you somebody will be, and I can think of three or four people right off the bat, I'll probably pull out for a day or do something with because there'll be the same old issues and they're the same people that it always is.

I had noticed three students, including a boy named Ryan, that some might describe as "challenging." I decided to study them more closely in order to understand their motives. By the end of the simulation, Paula's prediction proved to be correct.

Description of Roles

Paula informed the classes that she grouped the students in teams of four or five. Each person would complete a task as the captain, journal writer, interpreter, or private. In a group of five, there would be two privates. For every day that they entered the simulation, the students would rotate the jobs in order to experience every role (see Table 1). As a complement to Paula's explication, the Interact guide equated the student grouping to role-playing. Each job symbolized the tasks and responsibilities the Corps of Discovery performed. The rotation "ensures equitable participation and balanced exposure to the curriculum and activities" (Vargas, 2000, p. 10).

Captain. In this role, the person would calculate the team's mileage and location on the Captain's Log and lead discussions of the Daily Dilemma. If a conflict ensued, the captain would decide how to handle the problem. Paula said,

"If you are the captain one day you won't be able to say 'Yippee, I get to do this' and be Bossy Britches because the next day you will be something else. The group will change daily."

On an overhead transparency, she displayed a transparency of the Model Captain's Log (see Appendix G). She underlined the headings for "latitude and longitude" and "total mileage earned" as she instructed what the students should complete. A week later, the teachers gave the teams a blank copy of the log to record their daily progress.

Table 1. Rotation of Tasks for the Action Phase of the Simulation

Role	Captain	Journal Writer	Interpreter	Private	Private
Day One	Hunter	Trevor	Chelsea	Raven	Harry
Day Two	Harry	Hunter	Trevor	Chelsea	Raven
Day Three	Raven	Harry	Hunter	Trevor	Chelsea
Day Four	Chelsea	Raven	Harry	Hunter	Trevor
Day Five	Trevor	Chelsea	Raven	Harry	Hunter

Journal writer. Paula explained the journal writer would read the Daily Dilemma, take notes on the group member's thoughts, and record the group's decision to the dilemma. She stated that the students would write their own opinions and had the freedom to disagree. She encouraged them to include sketches with their journal entries. As she held up a black and white composition book, she explained that the students would write their entries in the shared

148

journal. For every dilemma, the journal writer would research Lewis and Clark's original decision and compare it to the team's. They would locate the answer in their books, resources at the media center, or from the Internet.

Interpreter. Paula asked if anyone knew what an interpreter was, and one student raised his hand and answered, "Someone who interprets different languages of natives, or pretty much translates stuff."

She quickly read the description for the interpreter from the Interact student guide. As the interpreter, the students would inform the president of the team's findings based on the surrounding areas. Interpreters would research the flora and fauna as they travel and describe the geographical areas on a postcard to "Thomas Jefferson, not George Bush."

By this time, I noticed the students seem fatigued. Some rested their heads on their arms while she read.

Privates. Paula continued to describe how the privates would complete several tasks. She picked up a handful of manila folders about a foot thick. She told them, "This, my friend, are the activities that you are going to do."

Some students' mouths opened into an "O" while others made groaning sounds. By that time, the fifth-grade resource teacher, Amy Radley, had entered the room. As she listened to Paula describe the arts and crafts activities, she uttered words like "Ooh, fun!", "Wow!", and "Exciting!"

Some of the students sat up in their desks straighter and turned as Paula walked over to the art supplies in the back of the room. Paula said, "There will be

149

activities such as flags to paint, pockets to sew, and what nots. There are all

kinds of cool things you get to do."

Paula mentioned that they would have separate activities because she

could not have "twelve rain sticks and twelve painted mountains" and that

"everyone doesn't like to do the same thing." Some students raised their hands to

ask about the private's activities. Paula summarized that a lot of writing, art, and

music would be integrated into the simulation.

My Reflection

When Paula finished the directions, she walked over to the table where

Amy and I sat. She wryly said, "Two years ago when we did this, they ran around

like a bunch of kooks, but I don't care."

I considered her comment to be interesting in contrast to the subdued

students I observed in the room. I wondered if teachers enjoyed the simulation

more than the students. I wrote in my researcher journal the following thoughts:

At this point, I think that I have an emerging understanding of what is

going on. I actually have only been observing for three days now, so I

need to realize that it's going to take some time. Also, I am laughing at

myself somewhat that the kids are not jumping out of their seats with

excitement over the prospect of doing a simulation. I guess I thought that

they would show more engagement or interest. Instead, they seem either

jaded or tired. I can't really tell. Would they rather just do a worksheet and

be done with it? I would love to know. It's like they have their own world

and adults can't really break into it. It's interesting. In fact, it makes me even more curious about how they really feel towards simulations.

In the journal I questioned the difference between a simulation and a simulation-game. In her discussion with the students, Paula explained that there would be a race as "There's always a race," and "Your goal is to be the first corps to reach the Pacific Ocean. You want to get to the Northwest first."

I initially felt concerned. I realized that simulations, simulation-games, and games were three different genres. To clarify this thought, I asked her in the second interview if she considered the Lewis and Clark simulation to be a game. She adamantly said no. Paula explained,

> It's not really a game on the Lewis and Clark, it's on the quality of work
> and how much thought you put into the whole process and what your
> finished project is -- how much care and determination you have to do the
> best you can.

Mileage. Still, I mused about the point-scoring devices. For each day that the students entered the simulation, they received a certain number of expedition cards for their efforts from the previous day. The teachers assessed their work and assigned one, two, or three points for each product. The total number of points resulted in the number of expedition cards they earned. Each expedition card displayed the mileage ranging from five to 75. Students could also earn bonus or penalty points for their entries.

Paula had informed the students that the captain would move the team's "canoe" along the laminated 30" x 48" Lewis and Clark map on the bulletin board.

A colored pushpin distinguished among the six teams. Paula explained that the expedition cards and the penalty cards were tied to behavior and that the students would move backwards if they were uncooperative. She stated that they could move faster on their journey if, "You go above and beyond and use vocabulary appropriate for the time. You can bring in resources to earn bonus cards."

I considered that instead of a game, the points enabled teachers to assess the students' work and manage behavior. In my field notes, I had written this epiphany:

I'm having a major brainstorm here. At first, I was concerned about the point-scoring devices, but now I realize that if students don't work together then what is the motivator? I can see how points serve as a motivator for classroom management and for more mileage. This is relevant and a real life task. In reality, if Lewis and Clark didn't work together they wouldn't have made it. For something as complex as this simulation, classroom management is very important. I can see the value now.

I adhered to Paula's belief that the Lewis and Clark simulation was not a game. I questioned, "Do the points cause students to work harder?" Throughout the simulation, I watched how students competed and cooperated. I explored these observations in student interviews.

Motivation. In one of her discussions Paula told the students that she and Lindsey conducted research on the computer for the simulation. They brought in additional resources for the students to peruse. She encouraged the students to

152

research additional information on the Internet to benefit their team. A week later, I noticed Lindsey uttered a similar sentiment. "Mrs. Romano is constantly looking for resources to bring in and share with you. This is a grown up magazine, *Time*. Some of your parents might subscribe to it at home."

In the magazine she pointed out an article on Lewis and Clark as well as an article from *Boy's Life*. Both issues from 2004 commemorated the 200th anniversary of the expedition. As she held a *Yale* magazine, she explained that the Yale library contained the original map from the Lewis and Clark expedition. She showed them the picture of Lewis' creation. She reminded them that the Internet, magazines, and books were resources that they could use to help them with their sketches. She said, "There's a lot of resources out there – go look."

Throughout the simulation, students did locate information for their teams during class time and at home. I pondered the difference between intrinsic and extrinsic motivation. I wondered if the students were intrinsically motivated to learn about the topic or if they were more interested in points. Paula had stated in the first interview that:

> A lot of them really get into it and they'll go to the media center and get books about what we're studying about or they'll go online and then bring stuff in…I had two kids go the media center and one of them got a book on Sacajawea and the other books on Lewis and Clark.

Similarly, Lindsey mentioned the students were "self-motivated" in a simulation. She said, "I give challenge projects and say, 'Okay, if you *want,* this is what you

can do.' I have almost 100% turnout of 'Oh, I made a log cabin' or 'I made this' or 'I found on the Internet this.'"

I asked if the projects were connected to bonus points. She shook her head and replied, "They just…they go out and find it." I decided that I would explore this issue more when students entered the action phase.

Lindsey Reviewed Latitude and Longitude

After I spent four days in Paula's room, I visited Lindsey's room for the first time. I noticed that her room looked similar to Paula's. She had several of the same posters, bulletin boards, and art supplies. She had arranged the students' desks in a similar manner to Paula's, with five to six desks clustered throughout the room as tables. I watched Lindsey with curiosity because I had not observed her teach before.
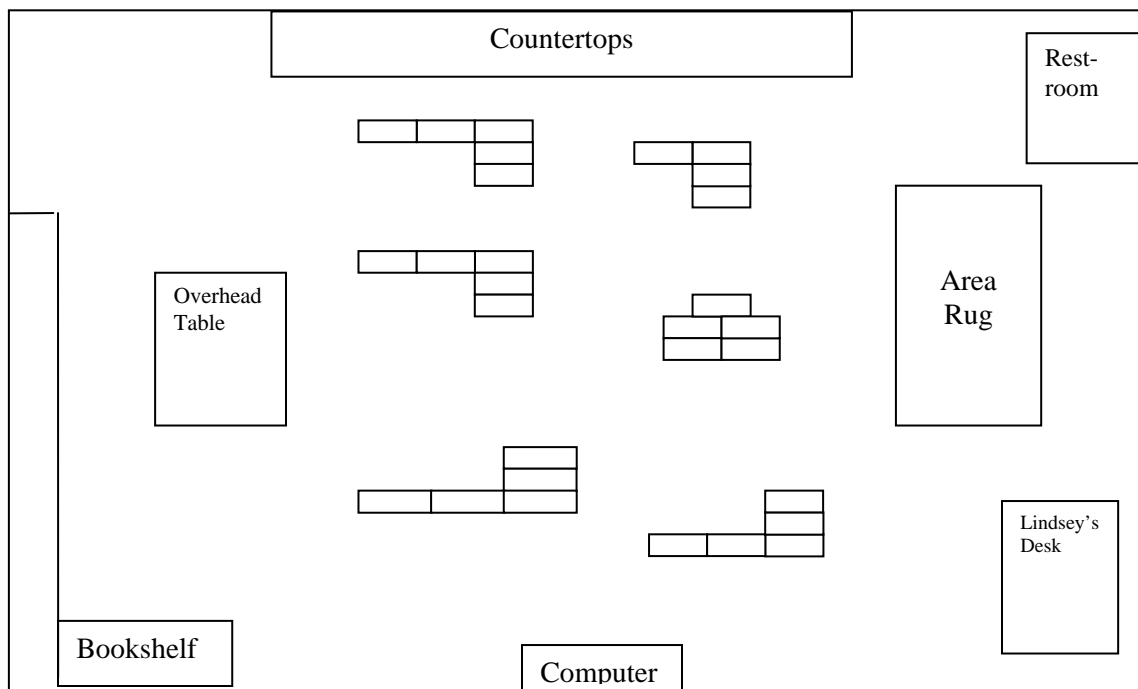
Figure 3. Diagram of Lindsey's Classroom

The students sat cross-legged on a 10' x 8' royal blue area rug, the same style as the one in Paula's room. Students seated near the rug remained at their desks. The students balanced sticky notes, pencils, and their books *How We Crossed the West* on their knees. Lindsey sat in a dark blue chair and directed them to their books. They studied the antiquated map that Paula had introduced the previous week. She directed them to mark "Our Start" at Fort Mandan with a sticky tab. She warned them, "Be careful not to write in the book – I asked you to flag it."

She explained that professional football players prepared for practice by exercising and training for the big event. She connected this analogy with the knowledge students needed to prepare them for simulations. She stated, "When we do simulations, we have to have great imaginations because we have to travel back. Before we take off on this big event we need to remember certain things that we've studied before."

She informed them that they would practice latitude and longitude, a skill that they used during the simulation. After several minutes, she asked them to return to their chairs.

Revisiting location. I noticed when Lindsey taught, she spoke clearly and projected her voice with confidence and enthusiasm. She darted to different sides of the room as she questioned aloud, monitored students' behavior, and wrote key points on the board. I had to write quickly to keep up with her movements and dialogue. Meanwhile, the students listened attentively. For every

155

transition, they did not talk or barely whispered. In the first interview, I asked her how she established her classroom procedures. She replied,

I guess it's…the clear…clear, specific explanation of what you want. At this age, the *why*, because they need to understand it's not because I have a black pointed hat and I ride a broom at night…and the understanding that there are consequences…It's more about *you* than it is them…because they can read you…I think that's where it starts. Day one, you have it clearly stated, you set that tone. You constantly – I would say for that first month I would eat, sleep, and breathe it – constantly repeat it, repeat it, repeat it, practice it, if it's a line that you want you better make them have it, *and don't one time not do it.*

In her lesson, Lindsey stated that the students needed to "pretend that they're like Lewis and Clark," and at times, had to be detectives. Then, she reviewed the directions that lines of longitude and latitude ran. Meanwhile, I observed the students as potential groups to include in my study. I noted their gender, ethnicity, and behaviors. Lindsey provided an example of, "How might I describe to a cartographer how to find where I am if I'm in Texas?"

She pointed to a city on the map, and then in a Southern accent imitated, "Oh, you go down thar a way, then turn right a hitch, by the cow pasture…?" she trailed off.

I noticed no one laughed or responded. She hinted, "What is the general range for latitude might we say."

Again, no one raised their hands. She said, "I'll give you a second."

She paused several moments. As students visibly struggled with her question, she tried another strategy. Lindsey told the class, "Let's do this – let's talk about longitude – it goes so far back to the beginning of the year."

The students remained quiet. I heard the sounds of rustling papers as she moved over to the overhead and illuminated a Mercator Projection. With a green wet-erase overhead pen, she drew a line across the middle of the map. She asked what the 0 degree line represented. Still, no answer. One student said, "I'm kind of confused."

She replied, "I'm confused about your confusion. You did a whole madoodler on it. This should not be that difficult."

Then, more hands shot into the air as one student recognized it was the Equator. Quickly, she marked another line to signify the Prime Meridian. She directed them to focus on the area west of the Prime Meridian. She pointed to North America and said, "This is where our focus will be. That's where our simulation will be taking place."

She referred the students to their Interactive Student Notebooks (ISN's) and mentioned that they "reflect back to your own creations you did back in chapter one."

The ISN was a resource that contained notes, maps, and handouts for the History Alive program. The students organized their papers in a half-inch spiral notebook. A table of contents in the beginning of the notebook chronicled the topics that the students had studied (see Appendix H). I realized that like

Paula, Lindsey made connections from earlier in the year to reinforce prior knowledge.

A team exercise in research. Lindsey instructed that the students should work in a team of four or five. She explained, "You and your team quickly talk about what place 45 degrees North, 20 degrees West refers to."

The students turned around and whispered to one another. After a minute or two, Lindsey asked for correct answers. After a couple of incorrect responses, she exclaimed, "Hail Mary, full of grace!" and looked up at the ceiling.

The students laughed, and she called on a small boy with shaggy, sandy-blonde hair to respond. He shuffled over to the overhead and looked back at his team and smiled. He circled the correct location, and she replied, "Okay, excellent!"

She pointed out that they should focus on one area and "take a puzzle piece away because it makes it easier to read" when they looked for points of latitude and longitude. After additional practice, she stated, "Good detective work…you have to be a detective." She mentioned that if they received a question during the simulation that asked them to turn their boat around at 60 degrees West they needed to know where to steer.

Then, she distributed a handout called "Latitude and Longitude Challenge" (see Appendix I). The handout reviewed the geography skills that the students needed as captains and traced the trail of Lewis and Clark. The activity required the students to compare current and antiquated maps. She said that the students should work as partners and then share their answers with their teams. Lindsey

158

placed them in pairs based on their proximity to one another. She gave two students handouts to distribute and said, "Like lightning, go…get out there!"

As the students delivered the papers, she asked the class, "Why use the word 'challenge'? Where would you rank its difficulty from a scale of one to ten?"

One student responded with "eight" because "it's not so easy that you breeze right through it but it doesn't take an hour to do it."

She agreed that the activity should "get your cartographer's brain a-workin'."

A possible team. While she taught, I continued to observe the students' behavior. After several minutes, I focused on one team seated towards the back of the room. They attracted my attention because of their enthusiasm. Four of the five students seemed to enjoy working together. I noticed a tall boy with blonde hair and braces seemed somewhat detached from their conversation. Other groups contained only four students and were not as heterogeneous by gender and ethnicity. This group included two females and three males, one who was the small boy at the overhead. I learned that his name was Harry Hoffman. The tall boy's name was Hunter Allen, and the others were Raven Blossom, Trevor Johnson, and Chelsea Snow. I moved my chair closer to the group of five.

As Lindsey circulated to their group Harry mentioned to her that he thought a challenge was also "a test of mental awareness." I noted his comment and wondered how that thought related to his personality. Later, I learned that Harry thrived on competition. The students murmured as they flipped pages among several resources such as, their ISN's, atlases, and their *How We*

Crossed the West books. They compared various maps to infer the location of ten places. Harry and Raven worked together as partners, and Hunter, Trevor, and Chelsea formed a triad. Their desks formed a L-shape with Harry and Raven seated perpendicular to the other three.

Twenty minutes later, Lindsey told the class she would check the first few answers and said, "It's going to be worth some major grub – you can't go wrong with Willy Wonkas."

She rummaged through a neon-orange Halloween pumpkin that contained her candy. She stated, "I'm going to be a detective. I'm looking for clues to see how you're working together."

I studied my group and noticed that Trevor and Hunter discussed a point on a map of 1804-1805. Trevor said, "It's not 45 degrees, it's a little lower." The students examined their maps intently.

Lindsey asked, "If you continue on the Missouri River which state will you be in?"

Harry and Raven suggested one possibility, and Trevor quietly looked towards Lindsey and uttered, "I'm not sure how they got that."

Then, he turned to Raven and Harry and said, "I'm not sure how you guys got that."

Harry shook his head.

Trevor whispered, "You guys went the wrong way."

Harry replied, "No."

Trevor shrugged. Three seconds later, he looked at Harry again and stated bluntly, "It's the wrong way."

Harry shook his head again.

Exasperated, Trevor said, "She just said it is!"

Raven concurred, "We went the wrong way."

This incident was one of many that typified the discussion that this team had during the action phase. Both Harry and Trevor debated frequently, and their interchanges grew animated in the coming weeks.

Lindsey told them, "Your success in the simulation isn't going to be one book. It's going to be by being a detective and a researcher and using different sources." For instance, in order to find one place some students compared and contrasted the surroundings such as the location of the Missouri River and the Rocky Mountains. Lindsey said, "There are lots of different ways to get an answer…like math."

I asked her in the second interview why she used the phrase "be a detective." She replied,

All through the year, and I don't know where that actually stems from, but I think, I try to do a lot of metaphorical things with them as far as making real life connections…They need to understand that although I might provide them with the sources, they have to go and be a detective, research, find the, the clues…I feel like that's so much of being an active learner as being a detective. You're not just sitting here waiting for it to plop on you, on your desk.

Her comments corresponded to her beliefs about active learning. Even before

the simulation began, she urged them to rely on themselves and each other to

locate information. She had created an environment of autonomy and

collaboration. Within the simulation, the students worked on a continuum

between these two behaviors.

The Teams

By the time Paula introduced her teams, I had observed in her classroom

for five days and in Lindsey's for three. In both classes, I studied the students'

behavior to select groups that would represent how students responded in

simulations. The teachers had strategically grouped students based on their

knowledge of personalities, academic functioning level, and gender. Lindsey

described her class academically as "*Very, very, very* heterogeneous and more

lopsided on the average, below average."

From a class size of 30 students, she had 12 on Academic Improvement

Plans, or AIP's. Paula had eight students with AIP's and one with severe

emotional problems. The student, diagnosed as bipolar, took daily medication to

temper her illness. Paula described how she formulated the teams:

> I have a very interesting class this year. I have not had to deal with this so
>
> much in the past. I have to look at who fits well with who personality-wise,
>
> specifically, this year. This particular one involves journal writing…Not all
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> the people in each group are going to be wonderful writers, but I have to
>
> put a very strong writer in each group. I try to put a person who gets along
>
> with everybody. I have one of those peacemakers probably in every

group. And then…(smiles) some are just not the most pleasant people to work with. I have to separate them and look at who's going to be in their group and how well does this one get along. I don't look around and say, 'Well, Susie and Mary are BFF's (Best Friends Forever) so they're going to be in the same group.' That's not happening…I look for somebody who enjoys doing research or looking up things. I try to look at the different jobs that they have to do and then make sure I disperse the kids and group them accordingly.

Lindsey and Paula's deliberate grouping helped me to choose two teams. I decided that I would follow each group throughout the simulation. Besides Lindsey and Paula's criteria, I selected students based on their behavior in the classroom and their ethnicity. I did not want to include only well-behaved students because I thought that would be partial. As a result, I included one student that Paula defined many times as "passive-aggressive."

Ryan signed the clipboard often, and I was curious to examine how he performed in the simulation. In addition, I considered a student named Becky, a studious girl, who demonstrated perfectionist traits. In my journal, I wrote,

I already have an idea of the kids I would like to study. I know Ryan may be a 'troublemaker,' but I think he's interesting. I would like to talk to him and Becky. I think it'll be a great comparison. What motivates them? Not everyone loves to write! They can't enjoy everything! I know that there are some students who don't feel as inspired…What do they like the most? Least? It has to be a lot of things. I hope their parents are okay with me

163

talking to them and observing them. If not, I can always have a back up plan. Should I allow the kids to choose their own names? Will it make a difference? I don't know.

The students in Paula's room. I met with Paula at the rear table as the students worked in their ISN's. We discussed the groups that she had created. I mentioned the following students: Becky Foster, Ryan James, Jasmine Jones, John McNeil, and Amanda Woodruff. She agreed that those students would be a representative group, except that she had reservations about Ryan. She shook her head and said, "I don't know about that one. Are you sure you want to include him?"

I nodded. She copied their home phone numbers onto a piece of paper. She realized she didn't have Ryan's current number and called him to the table. I noticed he seemed suspicious.

Ryan asked, "Am I trouble? Are you going to call home?"

Paula answered, "Don't worry about it."

The next day, I spoke with four of the five students because John was absent. On a related note, John was absent the first three days of the simulation due to illness. After the rest of the class exited to the computer lab, I pulled a chair close to their desks. I told them I was from the University and described my study. I explained, "I'm curious about what kids think about simulations so others can learn more about it."

They nodded their heads and exchanged glances at one another. When I showed them the IRB forms, their eyes opened wider. I explained that I would need their parental permission. All of them agreed immediately.

One asked, "Are we going to be like characters in a book?"

I answered, "You could look at it that way. Each of you needs to choose a fake name for yourselves, a pseudonym."

I was concerned that John might not want to be involved. They unanimously answered that he would want to be included. Becky stated, "He won't mind. John will be okay with it."

The next day, I received papers from four of the five students. When I shared the forms with John the following day, he studied me for several seconds. Then, he said, "You're talking about attention. Does this mean extra attention? I love attention! Where do I sign?" He returned his the following day.

In order to characterize each student, I compiled a brief description based on my student interviews and observations.

(a) Becky was a slender, hard-working student who liked her materials organized. She preferred a harmonious classroom environment and strove to promote peace with everyone. As a learner, Becky felt she learned best when she could re-enact what she had learned with her peers. Sometimes she enjoyed dressing up to play the part of someone else. Becky stated simulations were more fun than just reading information from a book. Although she liked working in groups and hearing other people's opinions, she sometimes preferred to work alone.

(b) Ryan was active and outspoken. He enjoyed building objects and participating in hands-on activities in school. He preferred to spend time outdoors and thought that his class should go outside more often. He believed games helped him to learn and considered a simulation to be a type of game. He said in the Lewis and Clark simulation the students competed to go to the Pacific and then raced back to Virginia. He thought writing neatly was difficult and did not like writing. Ryan was African American and also stated he was part Native American.

(c) Jasmine was a polite, friendly student who liked to talk and loved writing. Jasmine often spent time outside of school making crafts. Originally from Virginia, Jasmine had traveled a lot, especially along the East coast from Maryland to Florida. As a learner, Jasmine claimed she was a visual person and that she preferred to see what she was learning whether through a demonstration or a book. She liked to read, and said that she won't "get it" if she just heard about the material. She did not mind working in groups but sometimes would rather work independently. Jasmine was African American and believed she might be part Native American.

(d) John was a humorous, talkative student who was in the gifted program. John defined simulations as "experiencing what the people in history experienced except in a different time with a more safe environment, better guidelines, and more know-how."

He provided the example that teachers were not going to arm students with shotguns so they could hunt for bears behind the Museum of Science and

Industry (MOSI). In the classroom, John preferred to learn by doing. He clarified that he liked to experience the content as well as read about it. John's ethnicity was Italian and Puerto Rican, although he only spoke English.

(e) Amanda was the most reserved student in the group. She spoke barely above a whisper. In the classroom, she completed her assignments on time and tried to cooperate with everyone. As a learner, Amanda felt she learned best by doing activities. She liked "to play and get dirty" and enjoyed working with clay because it's "squishy and it feels good." Amanda thought art was fun but said, "I don't think I'm very good at it." Amanda was Caucasian.

In my field notes, I designed a chart to examine the diversity of the group (see Table 2).

Table 2. Comparison of Student Characteristics in Paula's Classroom

Student	Gender	Ethnicity	Academics	Behavior	Personality
Becky	M	Caucasian	Above average	Excellent	Diplomatic
Ryan	F	African-American	Average	Unsatisfactory	Outspoken
Jasmine	F	African-American	Average/AIP	Very good	Compliant
John	M	Puerto-Rican/Italian	Gifted	Excellent	Enthusiastic
Amanda	F	Caucasian	Above average	Excellent	Quiet

The students in Lindsey's room. My initial concerns that the students might not want to participate in my study had dissipated by the time I convened with Lindsey's students. I believed that they would feel "important" and would want to be included. I was correct. The day after I talked to Paula's students, I

met with the five students from Lindsey's class in the adjacent teacher's lounge. I began to explain that I was a doctoral student at the University, and Harry and Trevor said, "Yeah, yeah...we know that already."

Like Paula's students, they were not concerned about the permission forms and asked several questions about the study, such as when would it be "published" and where could they purchase a copy. Harry laughed and told me, "I have to check with my agent and then I'll get back with you."

When I mentioned that they would choose a pseudonym, Trevor asked, "Can I be Batman?"

I told him to try again, and he said he would think about it. The next day, he asked if he could be "Trebor," a variation of his real name. We negotiated on "Trevor" for readability. The following day, I received the IRB parental forms from all five students. Based on student interviews and observations, I describe each student.

(a) Hunter was an easy-going, respectful student in the classroom. He had moved to Florida from Colorado a few months ago. As a result, he had adjusted to a new school and different teachers. He complimented Mrs. Romano on how she taught through simulations and said, "She makes us *understand* it so we don't zone out and we know what they did and discovered."

The youngest of four children, Hunter was close to his family and reported that he loved nature. Hunter was Caucasian.

(b) Raven was a good-natured, helpful student in the classroom. She liked working with smaller children and learning. When she left school she recorded

what she had learned at home in a journal she had titled "New Learning Stuff."

However, in school she struggled in reading and did not like to read aloud in

class. She felt nervous during tests and did not score well on them. Raven

enjoyed creating original musicals with her friends, sewing, and sleepovers.

Raven was African American and Mexican.

(c) Harry was a confident, creative student who liked school. He especially

enjoyed interacting with his classmates and being in plays. Harry compared

simulations to Civil War re-enactments, events that he had attended with his

family. Outside of the classroom Harry competed in several sports. He had two

pets, a cat and a boxer, who "get along well." He was enrolled in the gifted

program. Harry was Caucasian.

(d) Trevor was a humorous, friendly student in the classroom. He enjoyed

acting and thought it was "cool" that they were able to participate in plays and

simulations in the classroom. He defined simulations as when "you are in the

shoes of somebody else. *You* would do what they did and try to get an idea or

glimpse of what it's like to do what they did."

Outside of school, Trevor liked to climb trees with his friend Kevin. Like

Harry, he was in the gifted program and was Caucasian.

(e) Chelsea, a quiet, polite student, cooperated well with others and was

very responsible. As a learner, Chelsea felt she learned best by doing activities,

acting out the content, and looking at things instead of just reading in a textbook.

Outside of the classroom, Chelsea enjoyed being outdoors, going swimming, and

playing with friends. Sometimes she traveled to amusement or water parks and liked to shop at the mall. Chelsea was Caucasian.

I created a similar chart for the students in Lindsey's group (see Table 3).

Table 3. Comparison of Student Characteristics in Lindsey's Classroom

Student	Gender	Ethnicity	Academics	Behavior	Personality
Hunter	M	Caucasian	Average	Excellent	Quiet/polite
Raven	F	African-Mex. American	Below average/AIP	Very good	Secret life/reflective
Harry	M	Caucasian	Gifted	Satisfactory	Outgoing/funny
Trevor	M	Caucasian	Gifted	Satisfactory	Outgoing/funny
Chelsea	F	Caucasian	Above average	Excellent	Quiet/shy

I wrote "Secret life" for Raven because when I interviewed her she transformed from a shy student to an outspoken one. She spoke at length for every question and described how other students, including teachers, did not know how she was inside. In the first interview she said,

> You know how you go to sixth grade and you think that you're all cool and you're like, 'Oh, yay, I get to say bad words?' But, I'm like, I was telling my friend this, because she always thinks I'm the kind of person who would actually go and do that. I'm like, *I'm not that type of person.*

I sensed that she was lonely, and I made an effort to listen even when she wandered from the original interview questions.

Forming an Identity

Lindsey and Paula asked their students to devise a name for their team as they traveled through the simulation. I observed both groups on separate occasions as they created a name and symbol for themselves. This practice modeled how Lewis and Clark called themselves the "Corps of Discovery." As the students experienced the simulation, they adopted the roles of historical figures: Captain (Lewis), Journal writer (Clark), Interpreter (Sacajawea), and Private (York).

Paula's team. When Paula directed the students to choose a name for their team, I moved my chair closer to listen to the group's conversation. Everyone was present except for John, who was still absent. As a result, I watched how the other students debated a name. Amanda, Jasmine, and Becky seemed to take this task the most seriously. Amanda and Becky examined the Lewis and Clark map from *the How We Crossed the West* book as Jasmine skimmed through her *Sacajawea* book. Ryan slumped down in his chair and studied them. The girls suggested "Shoshone."

Ryan interjected, "Naw, man, that sounds like a girl's name!"

The others protested and said there was nothing wrong with the name, but Ryan was adamant. He said that "It's not fair" that John was not there and that they should not decide when there was a majority of girls. Becky, the person I perceived as Paula's designated "peacemaker," calmly said, "Okay, let's look at some other names," and scanned the map again.

They offered variations on Native American names like the "Arikara" and "Sioux," but Ryan did not comply.

Ryan sat up, turned to me and asked, "Don't they sound like girls' names?"

I mentioned that when I think of Native American tribes I pictured all kinds of people, not just girls. Amanda, Jasmine, and Becky nodded their heads in agreement and exclaimed, "Exactly!"

Jasmine said, "Let's just call it Shoshone."

Ryan shouted, "Hey, this is a cooperative activity!"

Becky pleaded, "We have to have this done by today!"

Ryan responded with, "I don't give a crap!" and slouched down in his chair again.

Paula reminded the class that they only had a few minutes. Becky suggested, "We could be the Blackbirds."

Ryan laughed and said, "Ha, ha, you can be Black!"

Becky stared at him coolly.

Jasmine stated, "That's not nice. I'm Indian, too."

Ryan leaned over and said, "Well, so am *I* !" He softened his statement with, "I'm just kidding."

As Paula directed the class' attention for an announcement, Jasmine wrote another suggestion on a sticky note. She held it up for them to review. The name read "Teepeeshon." Apparently, this name was viable because the rest

172

nodded their heads in agreement. Ryan waved his arms like a lopsided Egyptian dancer and repeated "Teepeeshon, Teepeeshon, Teepeeshon."

Other groups in the class named themselves: The Corps of Columbia, Big Beavers, Clatsop Adventures, and Cement Corps. As Paula spoke, Amanda sketched a Native American dream catcher logo on their team folder. Becky watched her and smiled with approval.

Lindsey's team. When I entered Lindsey's room, the five students I had chosen waved me to come over. I sat beside Raven, and Harry leaned over to inform me that they had named themselves the Trailblazers. I said, "That's a cool name."

Harry replied, "It was Trevor's idea. I wanted to be The Patriots because of America's new freedom, but I like Trevor's idea better."

I considered how Harry applied his prior understanding of the American victory in the Revolutionary War to this unit. I heard Lindsey tell the class, "Be sure that you have chosen a name for your team if you haven't already done so!" My group smiled at one another proudly.

Lindsey reminded them that their names should match the time period and she did not want "the Range Rovers or the Cadillac Escalades because the names should be appropriate for the time."

Harry slapped his hand to his forehead and cried, "Oh, no! We said Trailblazers!"

Lindsey walked over, and he asked if it was all right if they used that name. She said that she liked it, and it was fine. He sighed in relief. Raven asked

173

why it would be a problem, and Harry mentioned a Trailblazer was a type of car, a Chevrolet. Lindsey asked each group to share their team name. The other groups' names included "Yellowstone Bears," "The Mohawk Corp," "Wolf Pack," and "Water Wavers."

I mentioned that I liked the Trailblazers name to Trevor. Harry interjected that he told me that Trevor had come up with it. I asked Trevor how he thought of it. He said, "I'm not sure. It just kinda popped into my head."

After thinking a few moments, he elaborated that he pictured a trail that was being traveled for the first time and imagined that it was on fire. I repeated that I liked it and thought it was a good name. He replied, "Well, I can't take credit for it." A split second later, he laughed, "Actually, I can!"

Lindsey asked the students to design a symbol for their teams. Trevor said, "Let's all take out a sheet of paper and draw a symbol, and GO!"

Raven sketched a knife and told me that she cannot draw well. Harry, Raven, and Trevor informed me that Chelsea was the artist in the group. She modestly smiled and took out a sheet of paper from her red Discovery folder. Trevor laughed and said that he was "artistically challenged."

Harry contemplated a symbol. I suggested a Chevrolet automobile. He comprehended the joke, and said, "Yeah, I'll draw the Chevrolet sign!"

They chose Trevor's symbol – an arrow with fire blazing from the tip. After Lindsey copied their symbols on the white board, Raven mentioned, "We should have done something with lightning – that would have been better."

After extensive preparation and two weeks of background knowledge, the teachers completed the preliminary stages. By this time, I had gained comfort in their classrooms and moved between the two rooms seamlessly. Instead of an imposition, I felt like a welcome member of their classrooms. They shared their insights with me and showed concern that I would obtain the information I needed. I believed that I had chosen ten students who would inform my study with diverse perspectives. With 30 days in the academic calendar remaining, they continued to the next phase.

The Middle Stages of the Simulation

The action phase of the simulation occurred over a period of four weeks when the students departed from Fort Mandan, North Dakota. The students encountered eight dilemmas and rotated their roles after they completed each one. Each dilemma represented one day of the journey. However, many times one dilemma spanned two or three days of class time. Occasionally the teachers adjusted their schedule to discuss the students' progress or accommodate fifth-grade events. During the action phase, Lindsey and Paula communicated their expectations for student work and encouraged them to share their privates' tasks with the class (see Appendix J). The tasks included art, writing, speeches, songs, and sign language. Moreover, they integrated mini-lessons on writing and incorporated experiences in shared reading. In this section, I describe the major events that occurred during the action phase, the central component of the simulation.

Before they introduced a Daily Dilemma, Lindsey and Paula allotted 20-35 minutes for briefing, or direct instruction. The teachers believed that students should understand the rationale behind the simulation and their roles within it. Although the students replicated the Lewis and Clark expedition, the teachers emphasized the historical accuracy of the content. As they planned their lessons, I noticed authenticity was important to both of them. Prior to the action phase, Lindsey asked Paula, "Why are we starting at Fort Mandan? What is the reason why we're doing that, historically speaking?" Paula answered that the crew spent the winter there and then departed West.

A need for realism balanced the imaginative aspect of the activities. Throughout the simulation the teachers reinforced that the students should conduct research to complete their assignments. For each session, they reviewed the activities from the previous day. They synthesized what the students had learned regarding the roles, latitude and longitude, and resource materials. Lindsey and Paula's support reminded me of Vygotsky's (1978) gradual release of responsibility theory. They modeled their expectations and allowed the students time to practice throughout the action phase.

Paula's review. The day before the students received their first dilemma, Paula reminded them of their responsibilities. She distributed their Corps folders and stated that they contained a Captain's Log and a student guide. She said that the guide included their job descriptions and that they should refer to the handout until they learned their roles. In addition, she told them that they should

176

have their group name written on their folder. Ryan repeated, "Teepeeshon, Teepeeshon, Teepeeshon" to himself.

Paula commented, "You need to make sure everyone in your group agrees. This is a cooperative activity. Don't put on your grumpy shorts if you don't get your way and it doesn't happen for you the way you wanted it to."

Amanda looked pointedly at Ryan.

Ryan replied, "I like Teepeeshon."

Paula declared, "I'm making a Thomas Jefferson decree, and I'm going to crown as captain for day one the person who received the manila folder."

Ryan complained that all of the captains in the class are girls. Paula asked the captains to write the students' names for each role on the Captain's Log. She added, "I don't want any scallywag handwriting on this. I want you to write like you're sending this to the President."

The students debated over the jobs for day one. Becky, the captain, diplomatically asked each person what they would like to be. Ryan immediately said, "Private."

After some discussion, Amanda decided to be the interpreter and Jasmine the journal writer. They considered which role John should have because he was absent. Ryan said that "the interpreter is the most boring job."

Amanda whined, "My brain hurts."

Almost the entire time Paula instructed, Ryan muttered comments to himself. Paula walked towards the rear of the room. She picked up a blue milk crate that contained research folders for the interpreter. She said that she

downloaded expository text from the Internet on different Native American tribes. The papers would help the interpreters conduct research. When the students recognized the stack of folders, they gasped. Ryan exclaimed, "That's at least nine inches thick!"

Amanda whispered, "Oh, my gosh!"

Ryan asked, "Who's the interpreter?"

Amanda stated, "Me."

Ryan said, "You've got some work to do."

When Paula mentioned a sign language activity the private may complete, he signed an "L" and said, "Loser." He commented, "I don't know if I'm doing that!" Amanda, Becky, and Jasmine ignored him.

Paula pointed out the materials the privates would use. The students seemed curious and craned their necks to obtain a closer view. She displayed some of the items on the rug. They included clay, markers, books, rice, paper towel holders, toilet paper rolls, twine, crayons, cardstock, and toothpicks. My group leaned over their desks to examine them. Paula suggested that one possibility was for the private to make a keelboat.

One student said, "That sounds like fun."

She replied, "It is."

Ryan stated, "What's a keelboat?"

When Paula described it, he remarked, "Keelboats will be the most popular."

178

Then, he decided that he would make one and sang, "I'm going to be a private for two days!" Amanda groaned and stared at him.

When I interviewed her a few days later, she mentioned, "The part I like the most are the people who are the privates. They get to go and can make these keelboats out of clay and stuff…but someone already did that, so now I can't do that anymore."

Paula had stressed that after a private's task had been recorded on the Task Log (see Appendix K), then someone else cannot replicate it within the group. This rule would be a source of contention in the following weeks.

Lindsey made it real. Like Paula, Lindsey reiterated each role in detail before the first day of the action phase. Her class seemed interested and asked several questions. I noticed she emphasized empathy and teamwork as she compared Lewis and Clark to the students' lives. She said,

> In the simulation, we have to be able to feel what Lewis and Clark felt
> when they were going out on their own. They didn't know if they were
> always making the right decision. They only had their team to rely on.

Lindsey stressed the journal writers should focus on the Daily Dilemma and record possible solutions. Beyond that, they should research Lewis and Clark's original decision. Likewise, the interpreters would locate the Native American tribes that they encountered along the trail. Then, they would discuss how they communicated with them. For each postcard to President Jefferson, the interpreters would describe plants and animals that were indicative of the

179

geographical region. She provided the example, "You're not going to find a palm tree in Antarctica."

Lindsey informed the students that they should undergo research to inform their writing throughout the project and that they "can't just pull out facts in order to pretend they were something." She praised them and said, "You asked some fantastic questions. I'm very impressed. I don't think we're going to have any problems tomorrow."

She extended her discussion with the *How We Crossed the West* book. Lindsey read two letters that Lewis and Clark wrote to each other from the book. She compared Lewis and Clark to astronauts. She stated, "Just as astronauts ventured into space, Lewis and Clark set out to explore an unknown place."

Then, she pointed out the date for both letters. Lewis' letter was dated June 19, 1803, and Clark's letter was marked July 18, 1803.

She said, "This was not a speedy postal system. What inference can you make about travel and communication for that time period?"

Chelsea answered, "It's not fast to get the mail there."

Lindsey provided another example. "Let's say Clark breaks his leg in Montana. Can they call Bayflight and send a helicopter to help him? Can he call his mom on the cell phone or send her an e-mail and tell her what happened?"

The students laughed and shook their heads. She mentioned the astronaut analogy again and stated, "You'd be scared, right? You'd have to stay there. As you travel when you're in the simulation, remember the astronauts.

Think about how they felt as they explored an uncharted and unknown territory. In fact, astronauts are like pioneers."

On a related point, in my interview with Harry, he mentioned how simulations enabled him to "feel like you're really them." He referred to the culminating activity from an earlier simulation titled Explorers Expo. He said as Matt from *The News*, "It was weird. I like…I was…the news reporter that found the time machine. And, all these other people they came out dressed as Explorers (laughs). And so, I almost felt like I was them."

He compared his role to another titled Thirteen Colonies. He said, "That one was a little bit more dramatic because I was pretty sure I wasn't George Washington." As the action phase intensified, I recognized that some students like Harry seemed more able to transcend the classroom to an imaginative locale.

Lindsey integrated texts. In conjunction with the briefing phase, every day Lindsey read to the students through a read aloud titled *The Journal of Augustus Pelletier from the Lewis and Clark expedition -- 1804* (Lasky, 2000). The fictional account captivated the students' interest as several students informed me that they thought the book was "cool." Within guided reading groups, she selected a book on the West to portray a Native American named Winnemuca's perspective. She told the students, "Like Winnemuca the land was undiscovered to who? It depends on the point of view of who's talking. If this were the Native Americans, was it undiscovered? Not to them, but to us."

Like Paula, she read every day from picture storybooks, the basal reader, or shared texts. On one occasion, she read about how Lewis and Clark prepared for their journey for a section on "Building the Keelboat" (Schanzer, 1997, p. 4). The passage mentioned that the captains were angry because it took the workers 12 days to pile the rowboats because they were "drunkards." She asked them to consider the word "drunkards." She directed their attention to the illustrations that depicted caricatures of men dressed in Western attire leaning on logs and drinking out of bottles.

She asked, "What's in that bottle? Is that maple syrup? It's probably not Kool-Aid."

One student volunteered that they were drinking alcohol.

Then, she pointed out the "List of Requirements" that the explorers needed for their trip. The list included items such as, copper kettles, ink powder, pick axes, iron spoons, crayons, mosquito curtains, spirits, and rifles. She stated, "They're not going to Target or Wally-World in Montana." She questioned, "Why are they taking rifles and pick axes?"

I noticed she waited several seconds for the students to think.

Hunter replied, "To protect themselves, to hunt, to chop wood and stuff."

Lindsey asked why they would have to chop wood.

Harry stated, "They don't know who's out there. You don't know what certain tribes will do or say. They may have to cut down a tree."

Lindsey said, "Why would you want to cut down a tree?"

Harry answered, "If a rabbit goes up a tree and you want it, you have to cut it down."

She nodded curiously. As the discussion continued, she related, "The journal people are very important because their jobs meant that they had to take notes and draw pictures." She said that they "needed crayons to draw because they can't take pictures for the President to see." Another item included spirits. She questioned what "30 gallons of spirits" meant. "What do you think that is, pom poms? Megaphones?"

The students laughed. Raven mentioned, "I think it's some kind of drink."

Chelsea stated, "It's alcohol."

Lindsey summarized, "You're going to be in the Discovery team. *You're* going to be in the Corps of Discovery. You need to know this information to help you as you make your journey." She asked,

How are you going to pick people to go with you? Are you going to say, 'Oh, I like him, because he has great hair, and oh, I'm going to pick her because she's so sweet, and um, let me see, he has great clothes'?

The students giggled. She stated that Lewis and Clark needed people who had specific gifts and talents. They chose the members for a reason.

Lindsey turned to the page that illustrated eight of the original members of the Corps of Discovery. They included a sergeant, an interpreter, a slave named York (the only African member of the expedition), and a riverman. She asked students to read brief paragraphs that described each person. She questioned why a man such as George Drouillard, a hunter and woodsmen, would be a good

candidate. The students remarked that he would help them find food. She whispered excitedly, "He can sense where animals have been. He can see the scrape of a deer's antlers on a twig."

Lindsey pointed out York. She mentioned that when they conducted the unit on slavery they learned that sometimes slaves became like members of the family. They slept in the same house, ate and played together. In part, York's description read, "Faithful slave of William Clark…Clark's playmate as a child on the Virginia plantation" (Schanzer, 1997, p. 5).

She said, "York and Clark are like BFF's (Best Friends Forever). He picked his buddy. They had each other's back." She compared that the river the crew had to cross was not like the Windsor River that was about as wide in some places as their classroom. She said, "The expedition was about life and death. It didn't matter how much money a person had. Lewis and Clark needed people who could talk, hunt, and build things. It was like the T.V. show *Survivor.* This is it. Right here!"

The Dilemmas

The Daily Dilemmas encompassed a significant part of each group's discussion during the action phase. For each dilemma the teams expressed their opinions and formulated a final answer. When they made their decision, they assumed their responsibilities as privates, interpreters, and captains. That is, the privates started their tasks, the interpreter studied the tribes they encountered, and the captain recorded their mileage. The journal writers included the team's

thoughts and decision about the dilemma when they composed their entries. In addition, they researched Lewis and Clark's original choice.

In the Interact teacher's guide, Vargas (2000, p. 39) suggested teachers read the dilemmas aloud "with great seriousness and dramatic expression." I noticed that Lindsey and Paula read in this manner. Also, they asked questions to clarify the students' understanding of the main idea and vocabulary. Because each dilemma was historically accurate, the students learned the challenges the original members of the Corps of Discovery met. I realized that this component was a critical part of the action phase. Each team handled the discussion differently. Many times, they did not agree. As a participant-observer, I opted to only observe. I never interjected my opinions because I did not want to influence the team's discussion. I realized that while some students enjoyed the verbal interchange, others experienced withdrawal and isolation. I report the discussions for each team separately since they had unique interactions.

The Teepeeshon discussed early dilemmas. I chose two dilemmas to characterize how the Teepeeshon members responded to the action phase of the simulation. In the beginning, the team agreed on their decisions. Becky wrote in the second journal entry that "Our group has been working together like we should be" (see Figure 4).

Day 2

December 10, 1804

Dear Journal,
   We have just been informed
that 1 man has been killed, and
two wounded by the Sioux &
Panie. Indians. Our chief says
"Move on and do the best you can".
Are some of us having second
thoughts?
   My corp thinks we should
not go and fight because we
may lose more people and make
it even worse. Although I agree
we should not let them get away
with this. Our group has been
getting along pretty well, we
are working together like we
should be.

   with all do respect,
      Huan McNeal

Figure 4. Becky's Journal Entry.

A few days later, the team members had to decide whether to follow the

Yellowstone River or the Missouri River. President Jefferson had instructed them

to follow the Missouri River and to take the shortest route. In contrast, the

Hidatsa Native American tribe informed them that the Yellowstone River was the

shortest route to the Pacific Ocean. After Paula read the dilemma, she asked

186

them to locate Yellowstone River on the map in their *How We Crossed the West* books. Paula stated, "Put your finger on Fort Mandan and travel West until you find a fork in the road. What is a fork in the road?"

A student answered correctly, and she pointed out the Missouri and Yellowstone Rivers. She told the students to decide what route to take.

All of the members of the Teepeeshon group except for Ryan huddled together. Immediately, John said "Yellowstone."

Jasmine cautioned him, "Don't talk too loud."

As he stood in front of the others, John placed his finger on the map and proceeded to talk rapidly about why they should take Yellowstone. He contended,

Yellowstone is fast – in real life probably five football fields away. You wouldn't have to walk much. There is not a straight route you can take without picking the boat out of the water if you take the Missouri. This is the only way!

He referred to the book as he continued to argue the reasons why the team should choose Yellowstone.

Yet, the other group members did not concur. Amanda, Jasmine, and Becky wanted to take the Missouri. Ryan sided with John. He seemed to respect John's verbal skills and leadership. Also, I thought Ryan thrived on his perceived dichotomous relationship of boys versus girls. I noticed that in the early days of the simulation, Ryan allied himself with John. However, John did not share Ryan's sentiment of gender polarization. During the second interview, I

mentioned Ryan's claim of "boys against girls." John countered that he did not

feel that way and stated "the only time there was ever boys against girls for me

was in third grade when we did boys against girls. Like, boys chase girls, girls

chase boys….I've grown up…I'm more mature now."

John continued that on the Missouri the group would encounter rapids.

Ryan said, "Maybe the rapids are faster, you know."

John shook his head and replied, "On the rapids, you'll smash!"

Ryan responded, "Yeah, I want them to get smashed!" and laughed.

Almost the entire time the group discussed the dilemma Ryan leaned back

in his chair, placed his hands behind his head with his arms akimbo, and

stretched out his legs. He said frequently, "It's good to be captain. I don't have to

do anything."

The rest of the group ignored him and did not coerce him to participate.

However, John and the girls continued to discuss the alternative routes. John

explained, "The men have to carry their canoes either way…is there a straight

route?"

Becky looked at me, smiled shyly, and said, "I'm confused."

He passionately continued to state why they should start at Yellowstone.

Ryan commented, "John, you would make a good lawyer – no offense!"

By this point in the discussion, Jasmine was considering that John may

be correct about Yellowstone. John exclaimed, "I hooked her! I've tooken her off

the Missouri part!"

Becky seemed worried that they would not make the correct decision.
John said, "We're doing a simulation. They're not going to write something in
there so the whole thing fails. Either way we're going to get there."

Ryan repeated, "I'm not doing anything."

John and Amanda continued to debate the merits of Yellowstone versus
Missouri. She argued with him quietly but persistently that she thought they
should take the Missouri. Becky sighed, "We're not working together very well."

John, wide-eyed and braces gleaming, continued to mention that they
should take Yellowstone. He said, "What are you worried about, mosquitoes?"

The girls laughed. Jasmine said that she wanted to take the Missouri so
that they could meet the Shoshone. Becky said she was unsure. Ryan leaned
forward and asked, "Becky, can you vote so that we can go on with our lives
already?"

Jasmine said, "We're doing Missouri, and that's final."

Ryan opened the Captain's Log, and asked, "What's our latitude and
longitude?"

John replied, "We don't know yet because we don't know which way we're
going."

At that moment, Paula mentioned that she needed a member of the
Teepeeshon group to go the Lewis and Clark map and choose a colored pushpin
to track their movements West. John walked over to the bulletin board. In the
meantime, Jasmine and Amanda talked to Becky. When John returned, Becky

said that she wanted to take the Missouri. He pressed, "What?! Hey -- what did they do to you? They got to you, didn't they?"

He opened the utility pouch he had sewn as a private and extracted a "Miller Dollar," artificial currency that students spent at the school store.

He exclaimed, "I'll give you a Miller Dollar if you take Yellowstone!"

Amanda tried to snatch the dollar from John, and the group giggled. John shoved the dollar into the pouch.

The group decided that they needed to take a vote on which direction to travel. Amanda and John chose a number from one to ten. Becky recorded a number in her notebook. Amanda selected four and John eight. The number was five, so Amanda guessed closest. As a result, the group would travel the Missouri. John raised one finger and said, "I can still convince you! I strongly disagree and so did our Captain (Ryan)!"

He walked over to his desk, sat down, and pulled out the team's journal. As the journal writer he said he would describe their decision, however, he told them that "*I'm* not doing the Missouri and I'm going to write that down, too" (see Appendix L).

Ryan said, "Me, either." Then, Ryan sat back into his chair again, stretched, and said, "I'm not working either, ya'll are going to do my work." He noticed Paula, and he sat upright.

Paula told Ryan, "I know you've been absent, so let's see where you are." She examined the Captain's Log and reminded him how he should complete the daily activities and record the latitude and longitude.

Three days later when I interviewed John, he mentioned the debate. He recalled,

We're doing our best to work together, sometimes it gets hard with two boys and three girls. And the fact that me and the other boy strongly agree with one thing and the other girls, and two of the girls strongly agree on one and one can't decide which way on some things. Like, you know how we did that part about how you could go down the Yellowstone in the keelboat?…At one time we convinced the unsure one that she should come with us, but it got so she was neither way, so she just decided we'd do a vote. You know the vote thing? And, we ended up going along the Missouri 'cause of the vote. And in the end, she (Becky) said, 'Let's do it again, let's do it again, just in case.' 'Cause I was complaining about it, and she said, 'Let's do it again,' and I said, 'No, I'm gonna go, I'm just saying I'm not going to be happy about it.' 'Cause I'm not, I'm not really one to be a whiner. My brother is, though, but I'm not.

The Teepeeshon experienced conflict in later dilemmas. In contrast to the light-heartedness in early dilemmas, in the later stages conflict embroiled the team. At times, Ryan remained aloof. After Paula explained another dilemma, Ryan said, "What are we doing now?"

John asked, "Were you listening at all?"

Ryan laughed and said, "No."

191

John asked for a decision on whether or not they should jump into the water after their pirogue filled with water. Becky said she did not know, and Jasmine and Amanda immediately said yes. Ryan and John said yes.

Ryan restated, "Yes. Yes for what?"

John said, "For what? The dilemma! Should they go into the water or not?"

Ryan said, "I wasn't listening at all. I never listen."

Becky questioned, "What if they aren't skilled swimmers?"

John answered, "In this fantasy world, Lewis and Clark are skilled swimmers."

Becky sighed and said, "We disagree again."

Ryan remarked, "Yes, we agree. I don't even know. I don't give a crap."

A beat later, John stated, "Hands up if we agree."

They all raised their hands, and Ryan muttered, "Whatever."

Another day, Ryan told Amanda, "Good thing I'm an interpreter today. We don't want to repeat Amanda's mistake." Amanda had received a penalty card for not including certain information on her postcard.

Amanda retorted, "Will you stop criticizing people?" and proceeded to shuffle the expedition cards. John asked what they wanted to do for the dilemma because they had to decide whether to travel North or South. Becky said that she did not understand what happened. John moved over to her seat and paraphrased the dilemma. Jasmine walked to the bulletin board and studied the map.

Ryan said, "What are we going to do?"

Jasmine came back and said, "You just don't listen." The group seemed more interested in beginning their tasks than making a decision.

Ryan said, "Hell-lo! What are we going to do? Go North or South?"

John said he wanted to go South, and Ryan agreed. Becky, Amanda, and Jasmine said that they wanted to go North.

John said, "I guess we're going North."

Ryan exclaimed, "There's more girls than boys, that's not fair! It's always going to be three against two. It's going to always be that way! We had to do it your way last time!"

At that moment, Paula walked over and asked the team what they had decided. Ryan told her that it was not fair that the girls always chose what they wanted to do. She calmly replied that when the group could not decide, then the captain made the final decision. He argued with her a minute longer, and she restated the directions. She moved to another group, and Becky said, "I'll go South."

Ryan said, "Ha! We beat you!"
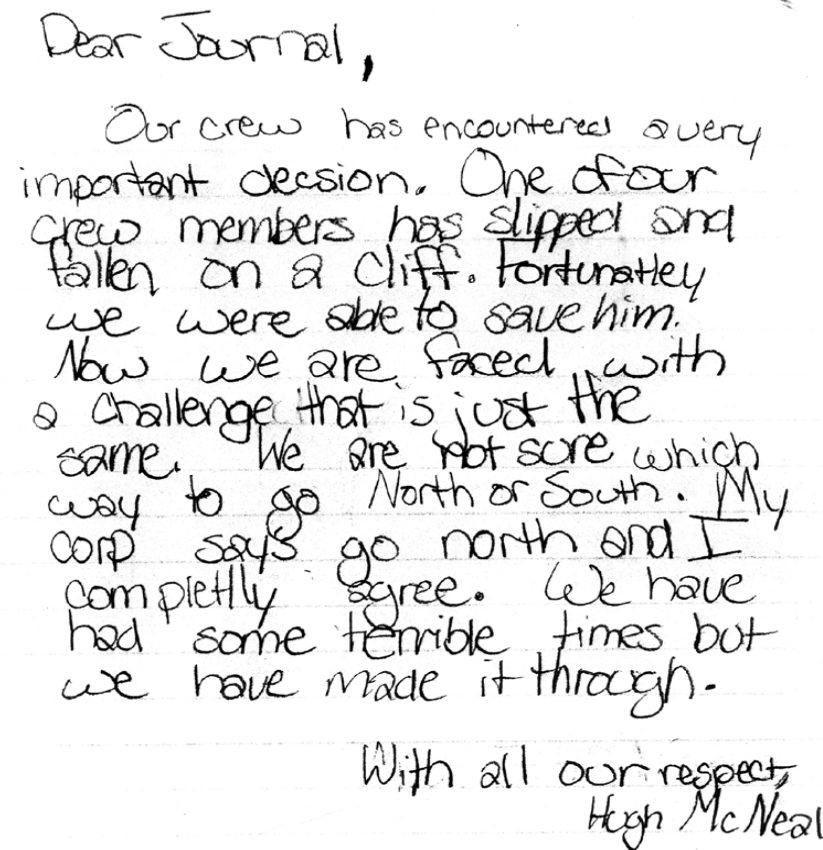
John mentioned to Becky, "But, I didn't have time to convince you!"

Amanda looked at Becky, and Becky muttered, "I just want to get it over with." She appeared uncomfortable.

Amanda turned to Ryan, and said, "That's exactly why. It's because of your attitude."

Ryan told her, "I don't give a crap!"

Amanda reacted. I could tell that Amanda was not satisfied by the decision. Yet, she did not vocalize her frustration. Instead, she wrote. I compared her feelings through her journal entries and my interviews with her. As the journal writer, she documented their decision and included the statement, "We are not sure which way to go North or South. My corp says go North and I completely agree. We have had some terrible times but we have made it through" (see Figure 5).

> Dear Journal,
>
> Our crew has encountered a very important decision. One of our crew members has slipped and fallen on a cliff. Fortunatley we were able to save him. Now we are faced with a challenge that is just the same. We are not sore which way to go North or South. My corp says go north and I completly agree. We have had some terrible times but we have made it through.
>
> With all our respect,
> Hugh McNeal

Figure 5. Amanda's Journal Entry

Her tone tended to be more positive in comparison to the separate letter she

wrote for her team members and teacher to read. She placed the letter in the journal. The separate letter read,

Everyone in the Teepeeshon Corps needs to read this! My group (besides me) wants to go south but people are being really obnocious [sic] about it. I voted to go North and so do did the other girls until Becky just said South so we would stop fighting and now Ryan is acting like an

_____! He's all you suck, and I don't give a _____ and all that now. All the girls are against me and it sucks! It can be boys with girls and girls with boys when it comes to voting instead of all girls against all boys.

For the blank lines she had written "idiot" and "crap" and then erased both words. Still, they were visible. In a later interview, I asked her about the letters. In a low voice that was barely comprehensible, she uttered, "I was really mad. Yeah. So…he can be really hateful."

I asked how she handled the argument. She replied,

Well, basically I completely ignored him and anything he had to say because it wasn't anything that we needed to hear. Because I wrote a little note and I put it in our journal and then Mrs. Williams read it, and then she had to go talk to him.

I asked if she had wanted her teacher to read the letter. She commented, "Yes, and I wanted everyone else in my group to read it too." At first, she said that she thought her note would help because they could hear Paula yelling at Ryan outside the room. However, she mentioned Ryan did not change his behavior.

195

Paula intervened. The day after this incident, I compared Paula's reaction to the conflict that affected the group. As soon as I arrived in her classroom she told me that she had planned to remove Ryan from the simulation. However, she decided to give him another chance. She said that she had a talk with him about bullying the girls and that he needed to stop. I did not understand why she changed her mind, so I asked her about her decision in a later interview. I inquired why she did not remove him. She replied,

> To be honest with you, I don't like to do that. Life doesn't always end up being everybody gets along, you're going to have to learn how to live with, and, unless it's, *so bad…*I've never, ever changed a child from a group in all of these things I've ever done. It's like, okay. And I guess there would be a situation sometimes where I might have to do that, but it's usually always worked out, they've worked out through the bumps in the road.

I noticed the last day of the action phase Paula removed him from the group on a behavior issue unrelated to the simulation.

Yet, the day that she talked to Ryan the students seemed frustrated. I asked how the team, "How's it going?"

Becky looked up at me, smiled wanly, and shook her head.

Jasmine said, "It's hard now, because everyone's arguing." Amanda seemed fatigued and put her head on her desk frequently. She and Ryan continued to argue with each other. At one point he stabbed her with his pencil because he wanted to see her paper.

My reflections on conflict. In my researcher reflective journal, I considered how the conflict affected the simulation. After the tension within the Teepeeshon group, I tape recorded my thoughts when I left Miller. I transcribed the following:

What else came up today? A lot of issues with conflict within the group. I'm thinking how to balance the truth with the good, the bad, and the ugly - not necessarily a glowing report which it won't be! Especially with some of the things that have happened lately among the team and things of that nature…The dynamics of the group are really interesting, there are a lot of factors involved, and that's a real implication. The personalities of the class are different and it will affect the outcome of a simulation like this.

I realized that the Teepeeshon were not the only group to experience tension. The Trailblazers' ideas collided several times over the weeks.

Harry and Trevor led the early discussions. Like the Teepeeshon group, the Trailblazers disagreed on several dilemmas, yet they punctuated their debates with humor and passion. Harry and Trevor utilized persuasive reasoning to argue their points. Instead of choosing a number to make a decision like the Teepeshon, Harry and Trevor brainstormed reasons to support their opinions. Often, I noticed that the team members reread the dilemma and used their background knowledge from the books they had read and videos that they had viewed.

In an early dilemma, the students had to decide whether or not to avenge the murder of a Native American chief's daughter. I noticed that after Lindsey read the dilemma, Harry and Trevor shook their heads. Then, Lindsey directed

them to discuss the issue in their groups. Trevor said no, because if they left to seek revenge they would lose members of the expedition. Harry added that the dilemma stated that, "they just wanted to show the firepower of the United States and that's not our concern." Raven agreed with Trevor. Hunter asked what Chelsea thought, and she concurred. As the students talked, Chelsea drew two columns in her journal. On one side she wrote the students' names and their opinions on the other. Harry stated, "That's our decision" with confidence.

The journal writers chronicled the debates. Harry and Trevor vocalized their thoughts the most often as Hunter, Chelsea, and Raven interjected occasionally. Hunter was the most reserved member of the group. For the first dilemma, Harry interpreted Hunter's reticence as being uncooperative and recorded this behavior into the journal entry (see Figure 6).

Fort Mandan
 Sept. 4, 1803

   Private Hunter Allen was not cooperating.
He would not transport his workspace
closer to the corps, which would make
for easier communication, which brought
distress to our team. Our corps final
decision was to take lady sacagawea +
charbeneough with us for Father
Jefferson wanted us to make peace
with the tribes and it would be
easier with them. Two corps members
went out scouting unknown lands

                    Trail Blazers Journalists
  Lewis and Clark   *Harry Hoffman*
  were pursuaded to
  take sacagwea with
  them to talk to   Other members
  the shoshone   captian Chelsea
                       Interpreter Trevor
                       Privates
                         Raven Blossom
                            Hunter Allen

Figure 6. Harry's Journal Entry

199

He explained why he wrote about Hunter in an interview:

> When we first got the dilemma we were all going to huddle up so no other teams could hear us but Hunter wanted to stay in his seat, so we, like…we didn't exactly have an argument we were just trying to get him over here and he wouldn't listen. And, so…we had to, like write that down. I mean, because Mrs. Romano said if you…if anything happens we had to write it down and send it to Thomas Jefferson.

In contrast, when I interviewed Hunter, he explained that he could hear the team's discussion. Therefore, he did not feel he needed to move his desk closer. He did not understand why Harry was upset with him. He recalled,

> I was really mad because I was just sitting at my desk, and then he (Harry) just wrote me in the journal and I was kind of mad at him. But, after that, then it was fine…I don't know why Harry was so mad at me. 'Cause I was just…I could hear him perfectly…It worked out fine. Um, I'm not so mad at them anymore.

The two-day dilemma. In later dilemmas, Harry and Trevor argued extensively. By this time, most groups could make a decision in about five to ten minutes. On one occasion, Harry and Trevor's disagreement continued over a span of two days. This example illustrated how involved the discussion of the dilemma affected the team, even as they entered their roles. The team had discussed whether or not they should retrieve the items that fell into the water.

Hunter believed that they should jump into the river and salvage the items they could. Trevor agreed. Raven took out a pen and recorded each person's

thoughts. Harry disagreed and stated, "That doesn't sound very wise just to jump in the water. What if you're not a good swimmer?"

Trevor said,

We need to think about what they would have done. Think about it -- all their important documents, their journals, are floating away. That's like taking this notebook and putting it in the dumpster or sending it through a shredder. What's the point?

Chelsea quietly volunteered, "They wouldn't have anything if they didn't save it."

Raven nodded. She added, "Their trip would have been for nothing. Besides, we have the journals now, so they had to recover them."

Trevor said, "Well, it doesn't matter what you guys think, because I'm the captain and I'm going to do what I want." He pounded his fist on the desk, and then tempered his statement with, "I'm just kidding."

Harry put his hand in his hair and said, "But aren't there strong currents?"

Trevor replied, "But they survived. And there was only like one gust."

Harry protested and said, "The currents picked up." He referred Trevor to a passage in the dilemma that stated that fact.

Raven opened the *How We Crossed the West* book and examined an illustration that depicted the scene when the pirogue tipped over. In the picture, Sacajawea retrieved a box of flints with one hand as she held her crying baby with the other (Schanzer, 1994, p. 23). Raven said, "Why wouldn't they go into

the river? They need their stuff. It's like throwing $100.00 into the river. The whole point of the trip is to see what's going on."

Harry waved his hand, and said, "It's going to be ruined anyway because it's written in ink and the water would have destroyed it."

The next day, I asked if they had resolved the dilemma. Trevor, as the captain, assisted Raven with her journal entry. Raven said that they would retrieve the materials from the water. Harry looked up from his private's task and said, "When did you decide that?"

Trevor said, "We put that it was an almost unanimous decision."

Harry shook his head, and said, "Well, I disagree."

Trevor responded with, "Yeah, we're going to write that." Although Harry was supposed to be working on his private's task, he kept talking to Raven and Trevor as they wrote a draft for the journal.

I noticed that Trevor acted as the reporter, and Raven served as the scribe. She seemed to struggle with composing her thoughts and relied heavily on Trevor for ideas. Trevor did not seem to mind and brainstormed different phrases aloud. In the meantime, Harry continued to intervene. At one point, Trevor half-joking told him to "Shut your mouth. Work on your own task."

Trevor told Raven to write, "We wanted to salvage as much as our own treasures as possible." Then, Trevor examined the list of items that they should include in their journal entry. He asked her, "Was anyone uncooperative?"

Raven pointed her thumb to Harry.

A short time later, Raven, Harry, and Trevor were arguing. Raven seemed frustrated and said, "I don't know what to write!"

Harry said, "I'm trying to help you."

Raven told Harry, "You're good at everything, that's why nobody helps you. You don't need it."

Harry began to tell her how she should begin a sentence. Trevor said, "Harry, please, do your task. You're busy interrupting us."

Raven said, "How about I start with Private Harry keeps interrupting? That's a good beginning."

Harry pleaded, "I'm just trying to help us get more expedition cards!"

Trevor said, "That's *my* job! Do your task! We're not going to make you look bad on purpose."

In cursive handwriting, Raven wrote, "I believe that private Harry was being very interuptful [sic] while trying to explain his reasons to stay in the keel boat" (see Figure 7).

I realized that Harry glanced at me as I wrote in my notebook. Therefore, I sidled over to Chelsea so that I could still hear the conflict but not be overt.

Dear Journal,

I believe that private Harry
was being very interruptful while
trying to explain his reasons to
to stay in the keel boart. We
have decided as a corps to jump
over board to salvage as many
"treasures" as we can, such as
gold flints, glass beads, journals,
ect. Lacagawea with one free hand
grabed as much treasures as
she can with her baby in
the other hand.

your friend,

Raven Blossom

Figure 7. Raven's Journal Entry

As the private, she pounded crimson clay and examined a picture of a keelboat.

I asked her, "How's it going?"

She replied, "It's hard to form the shape because the clay is hard."

I traveled to Paula's room again. When I returned, Hunter and Harry had switched seats so that Harry was not sitting next to Raven and was adjacent to Chelsea. Harry's eyes were red and his shoulders slumped. I heard Raven tell Trevor, "I usually don't make boys cry."

Trevor said, "If it's the truth, you have to write it."

Chelsea softly told Trevor, "You don't *have* to write it."

I noticed that Harry glanced often at Raven as she wrote. Occasionally he worked on his essay, but for the most part he was distracted by Trevor and Raven's writing conference. I noticed that Raven mainly copied Trevor's ideas and rarely contributed hers. Lindsey walked over to ask how they were working. I waited to see if the group was going to tell her about their conflict, but no one said anything. After Lindsey left, Harry whispered to Chelsea, "They're trying to say bad things about me. Does that make any sense?"

Chelsea continued to shape the sail of her keelboat, shook her head slightly, and mouthed "No."

Hunter looked up and said the only comment I heard him say for 45 minutes, "Now you know how I felt, Harry."

In the second interview, Harry recalled the incident. I had asked him how he thought his team interacted. He stated,

> The only time we had any problem was in her (Raven), one of her journal
> entries when, I was arguing against Trevor and her about what she was
> putting in it, and um, that that got, like…that um…that, that's pretty bad,
> but…um…me, and Trevor and Raven we all got over it.

The conflict seemed to affect his later behavior. He chose not to intervene when Chelsea wrote her journal entry. He said,

> I had a lot of the different opinions and I didn't say anything. When I was
> private one time, um, I had…I wanted Chelsea to mention something

205

about the celestial observations, and, um, I didn't really say anything, because like it's her job. I was private and I'm just supposed to be doing my own work. If I was captain I would have mentioned it, but, I just…I let her do it.

The unfinished dilemma. Another day, Trevor and Harry debated whether they should travel North or South. Harry mentioned that they should scale the mountains before it snowed. Raven clarified that they would encounter mountains either direction.

Harry said, "We should go the South side and go down. It'd be cool to ride down a mountain in a canoe."

Raven said, "I'd rather go down, climb up, and then go down again."

Hunter and Chelsea listened while Harry and Trevor discussed further.

Trevor said, "We should go North."

Harry countered, "It might snow."

Raven pleaded, "Guys…".

Chelsea mentioned that they did not want to venture too deep. Raven reached for a *How We Traveled West* book to see what Lewis and Clark decided, and Trevor said, "It doesn't matter what they did at all."

Trevor suggested that they should travel North because they would be trapped in a ravine. Harry argued that ravines are at sea level and that they would be fine. Trevor asked the group to raise their hands if they wanted to move North. Raven agreed with Trevor because she thought the ravine would be filled

with snow. Trevor located where they were on the map, while Harry asked her why she agreed with Trevor. She replied she was confused.

Harry said, "Would you rather get trapped on top of the mountain or stuck in a hole?" Trevor and Harry discussed the technicalities of a ravine.

The group asked Chelsea what she thought, but she remained noncommittal. Harry asked her if she'd rather die from drowning or high altitudes. Trevor retorted that was an unfair question. Hunter suggested that they could make kayaks. Raven wanted to know how they would transport the canoe to the other side. Then, Chelsea said that they should travel North.

Harry said, "Why do you want to go North? Everyone else is doing it the steep way."

Trevor replied, "It doesn't matter what they have done because we haven't done it yet. We can do what we want to do."

Harry exclaimed, "But they took South! I've been reading about it. It's the right way!" As a matter of fact, Harry was correct. Lewis and Clark were the only members of the team who wanted to travel South. Their choice constituted a crucial decision the captains made (Vargas, 2000).

Hunter, Raven, Trevor, and Harry, looked through their books while the debate continued. Trevor and Harry searched for other points to discuss. Harry said, "Look at the dotted black line on the map! I told you they went South! Besides, about the snow in the ravines, snow can't go below sea level. Even if it does, it will melt and we can swim."

Still, Trevor would not change his mind. He left to study the Lewis and Clark map on the bulletin board, and Harry said that he was stubborn. He turned to Chelsea and said, "Now that Trevor's gone, will you listen to me? I want to convince you that we should go South. It's the best way. We won't die. It'll be faster. Look at the map, it's the same way they traveled."

Trevor returned and told Harry, "Die? We won't die of altitude."

Harry said that they didn't have mountain climbing tools.

Trevor countered with, "What do you need to mountain climb? What do you bring? Laptops?"

Harry told Chelsea, "We're safe if we go South. Why don't you listen to me?"

Chelsea responded, "I've been listening."

Harry asked, "Then why don't you agree?"

Trevor said, "Because it's the wrong answer."

Harry said, "How do you know?"

Trevor replied, "It's the wrong answer if you end up dying. I'm pretty sure that's wrong."

They debated how an avalanche or landslide could happen in a ravine. Later, Trevor muttered, "I think Harry's an idiot to go South."

Harry would not give up even after Raven began to paint her American flag in red and blue poster paint, and Hunter examined a map for his private's task. By that time Chelsea, as captain, decided that they should go North. Still, Harry asked Trevor, "What if they're afraid of heights?"

Trevor answered, "Then they shouldn't be going on the expedition."

Raven told Harry, "You're the only one who cares anymore."

Hunter added, "It's Chelsea's choice. You lost."

Trevor said, "We went through the same thing before."

Chelsea said, "Why are you arguing about arguing?"

Harry and Trevor reflected on their debates. Harry and Trevor described how they disagreed on almost every dilemma when I interviewed them a second time. Harry said, "Me and Trevor almost always fought (laughs). But, we never really got mad at each other. It's just, arguing, I mean, we never really thought the same about a dilemma. And sometimes it was just us being stubborn (laughs)." When I asked if he thought stubbornness was the reason, he continued,

> Well, not, sometimes. I think it was just us not wanting to agree, but um, because we didn't want to admit the other person was right sometimes I guess. I don't know…After you look at it you can be like, well, I guess I could have done that.

I told him that I thought at times he and Trevor seemed to enjoy the debate. He paused a moment, and said, "Yeah. I, I *love* arguing. I mean, I *love*…arguing. I will always argue until my point is proved…And, um, I watch a lot of *Law and Order* and stuff. So…I know how to make people change their mind."

Like Harry, Trevor mentioned their disagreements in the second interview. When I asked how they worked together as a team, he said, "In the beginning,

we weren't that good. Like me and Harry, *you* know, you saw it. Harry was always arguing and one time we spent all of our time arguing."

When I asked why he thought they argued, he replied, "I don't know. Me and Harry are like really good friends, but, it's just, me and him have completely different opinions about things."

Like Harry, I suggested that a part of him enjoyed the verbal interchange and that they enjoyed brainstorming persuasive arguments. He nodded and said, "I like that. I like getting into big arguments with people, you know?...Now that I look back on it, it was kind of fun being, trying to convince him."

Hunter asserted his authority. I noticed in the second to last dilemma that Hunter demonstrated a more active role. Instead of conceding to Harry and Trevor, he stressed that Lewis and Clark should exchange their rifles for horses. Although several group members agreed with him, Harry did not. Hunter explained that they could not cross the Bitterroot Mountains without the horses. He said, "How are we going to take up stuff?"

Harry countered, "The same way. We put it on our back."

Hunter told Harry, "We can't get over the mountains without horses. We need those horses."

Raven said, "It doesn't mean you're going to win this time, Harry!"

She turned to Hunter and Trevor and said, "If he starts crying again, I'm not into this. I don't want to be responsible for that."

Harry contended that the team did not have the proper materials to care for the horses.

Hunter said, "We'll lose valuable time if we don't take the horses and we don't have the energy to climb the mountains ourselves."

Harry replied, "What about their feet? We can't fix their horseshoes."

Raven looked bored and then frustrated. She shouted, "Horses!"

Lindsey gave the group a two-minute warning and said, "You need to worry about the time you have in order to complete your tasks."

After that, Raven mentioned, "I didn't even get to start on my thing (private's task). We are the only group again who still didn't make a decision."

Hunter said, "We're doing this. We're trading for horses." Hunter's decision was correct as the Corps of Discovery could not have continued without them (Vargas, 2000).

Distinguishing reality from fantasy. In Hunter's second interview, I asked him about his decisiveness to trade the rifles for horses. I perceived that part of him believed that their decision would have actual consequences. In comparison to his more reserved stance, he adamantly replied,

Harry was complaining that he wanted to do that, and I was like, '*Dude*, this is serious not like fake. You need to, it's…40 people can't carry the luggage up**…**We'd lose so much time. It's not worth it. We had lots of guns, we had uh, 15 rifles, and we had two pistol guns. We just had to give one pistol gun away, and a couple of knives, and ammunition, and we could make knives out of rocks, so…I don't know we could just trade stuff with the Indians. I think it was a great trade. It was 20 horses for one pistol and knives and stuff. Then with those horses that's pretty much, that's

basically *money* to the Indians like you could trade the horses after that

'cause. I mean they're going to be in perfect health, I mean, he (Harry)

was talking about their legs are going to fall apart or something like that. I

was like, what are you talking about? Their legs are sturdy!

Hunter's role as captain enabled him to make the final decision for their team. I

noticed that until this dilemma he adopted a more passive stance. I felt proud that

he adhered to his opinion and was proven correct.

Lindsey and Paula Communicated their Expectations

Throughout the action phase, Lindsey and Paula designated extended

periods of time for the students to work in their groups. On a typical day the

students had 45-70 minutes. As a result, Lindsey and Paula expected that they

would produce quality work on their journal entries, interpreter cards, and

privates' tasks. To ensure that students understood their requirements, the

teachers allotted time for mini-lessons. Many times they combined their classes

and instructed through a co-teach model. They read samples of exemplary

journal entries and interpreter cards to the class. They illuminated transparencies

of model writing and pointed out students who had "gone above and beyond." I

realized that they upheld high expectations for their students. When I observed

the teams in their groups, I noticed several students emulated their standards.

My observations coincided with Lindsey's thoughts in the second

interview. She defined her role in simulations "as a manager, a deliverer of what

is required but also an expectation setter." She added,

I don't know if those are typical *role* titles that you would give something.

You know I definitely try to explain it, present it, mediate, but I don't at the

same time just look at this, the guidelines, explain them, and then let them

go willy-nilly. I just feel like constantly I have to spiral back and set those

expectations. Because if not, then the academic part of it, *could be,*

jeopardized. So, I guess that would be it.

On a related note, I remembered how Paula explained how they teach writing in

an earlier interview:

Most of the time, I tell you, a lot of times I model. Because, to me, that's

the best way to get…if I just say, 'Okay, we're going to write this…'. No,

you have to model and then the ball's in their court. Many of them -- you

have to build it up, and make it exciting, you have to model it -- and then

they'll do a pretty decent job. Sometimes they 'borrow' phrases and stuff

that you've used in your modeled writing, but that's okay. A lot of times I

will type those up and give those writings to them for them to put in their

folders that we're keeping all the information so that they can see that

piece of paper.

A model journal entry. As an example, in one session with combined

classes Lindsey related their expectations for student performance. She

mentioned that the Interact student guide provided some explication for students'

roles. However, she said that she and Paula wanted to "challenge you as writers

and push you to your limit. You are applying what you know as you are put back

213

in time. You need to use great voice in your writing. The key is you are time travelers."

Paula nodded in approval. She stood towards the back of the room as Lindsey instructed.

Lindsey distributed a handout of a model journal entry she and Paula had written (see Figure 8). She projected a transparency of the handout on the overhead screen. She explained, "We want to show you what we are looking for in your entries. You should capture what it was like being in the West."

As she held up the *Augustus Pelletier* novel, she demonstrated how journal entries appeared in that period. Then, she read their entry from the persona of "James Hurley." While she read, she underlined how they wrote about their feelings with an orange marker.

After Lindsey finished, she encouraged the students to "push yourself" and to elaborate with detail and authenticity. When she mentioned Fort Mandan, she said that Lewis and Clark did not want to leave at first because it was winter. She asked how long they stayed, and Harry correctly answered five months. In her sample, she said that "James Hurley" referred to "a man and his wife." She asked, "Who are those people?"

The students recognized that they were Charbonneau and Sacajawea. She said that the voice demonstrated how the speaker did not know their names yet, and the journal writer should document the frustrations of the team. "You want to capture things that make you mad, concern you, get you excited, make you *feel.*"

214

She mentioned a few students' names who had written the best entries from the six groups. Harry was one of them.

Sample for the Journal Writer on the Lewis and Clark expedition

Fall 1804

Dear Journal,

We have had a very busy month trying to get ourselves settled for the winter here at Fort Mandan. The natives that we have met have been helping us gather food and establish shelter for the winter months ahead. We are now at the edge of the uncharted lands so we will camp here, as travel during the next few months will be extremely dangerous. As we ready for our encampment, a man and his wife have approached our Corps asking Lewis and Clark to allow them to join in the expedition when we depart in the spring. Toussaint Charbonneau the man whom I am writing about and would be an interpreter for our group. His wife speaks both Shoshone and Hitdatsa and Charbonneau can translate these languages into French to Drouillard who is a member of our Corps. Drouillard can then translate to Lewis and Clark in English. We have had a meeting of the Corps to discuss the matter. Since it is extremely important to be able to communicate with the Native Americans, we have decided to allow Charbonneau and his wife to join us on our journey west. As for the keeper of the journal, I agreed with the decision of the rest of the group. I know the next few months will drag by, but hopefully spring will find us all well and ready for the adventure to begin!
Lewis and Clark decided to allow Charbonneau and his young Indian wife to accompany them during the spring of 1805. As you can see, our group resolved the first dilemma in exactly the same way that the Corps of Discovery did some 200 years ago.

Respectively submitted,

James Hurley

Figure 8. Lindsey and Paula's Sample Journal Entry

Lindsey reminded the students that they should compare and contrast their team's decision for each dilemma with Lewis and Clark's original solution. Laughing, Lindsey said that she and Paula were going to ask for compliments from their model entry because, "We have no shame, we love compliments."

Paula nodded and smiled in affirmation.

Lindsey asked, "What are some great writers' tricks that we used here?"

One student mentioned, "Voice." When Lindsey asked what that meant, the student replied, "It is expressing how I feel in a way that I would talk to someone else."

Visibly impressed, Lindsey repeated what the student said to ensure that the whole class heard. She told the student, "Voice sounds like you. What a great noticing."

Jasmine pointed out the fact that they had written, "Respectfully submitted." Lindsey stated that the entry was purposefully written as "time appropriate" since the author would not use "from" or "love." Instead, they used more formal language. Continuing, she asked, "What do you notice about the sentence starters?"

Several hands shot into the air. However, Lindsey paused. She said, "I'm going to give everyone a chance to think about it." After several seconds, she selected Raven to respond.

Raven commented, "You started with different sentence beginnings."

Lindsey restated her thought and added, "The sentences aren't boring, so it makes you want to read it."

After the students had responded to the teachers' model, Lindsey told them,

We can see glimpses in your journals' entries. You can do this. You are very gifted in what you can do. That's a very hard thing to do. Kudos to

you. We give presentations to other teachers on this and use your writing as models of excellent writing.

Paula added, "It's time for you guys to shine."

I recognized that in later entries, many students adopted a different voice in their journal entries. Harry experimented with dialect. He modeled his writing after the narrator in Augustus Pelletier (see Appendix M). One paragraph read,

> We reached a tribe called the Shoshone, we call em shone. Turns out thats where Sacajawea is from and her long lost dead brother ain't dead no more. Now he's chief. He really helped us. He provided horses in all to cross the mountains capts. Lewis and Clark call the Rockies!

Student experimentation with voice translated to speeches. Trevor read his editorial to Thomas Jefferson to the class (see Figure 9). He pretended to be a person who disagreed with Jefferson's decision to acquire the Louisiana Purchase. When he read his speech, he spoke in an angry tone. An excerpt stated, "What in the world were you thinking Thomas Jefferson?...Imagine the credibility you lost! Don't even get me started on how many Americans turned their back on you when you did this."

At the conclusion, the students applauded as he bowed. Lindsey defined the term editorial and explained its purpose. She praised, "Great delivery and great voice with that one. Excellent."

The big bad buy!

What in the world were you thinking Mr. Jefferson? I have always thought you to be a respectacle man but then you went out and bought the massive amount of land which you call the louisiana purchase. I know that, now, that the papers are sighned and that Bonapart guy is well on his way all I can give you is regret but man I have to get this off my chest! The United states was big enough before this "Purchase". But not for you, you selfish Pig. And besides the United states debt was too high and the income was too low to support such a giant action. It was down right dumb. And imagine the credibility you lost! Dont even get me started on how many americans turned there back on you when you did this. Well, I hope you see it my way now, but then again you are quite stubborn but at least I got that of my chest. That my friend is why you made a big mistake by purchasing the louisiana territory.

Figure 9. Trevor's Thomas Jefferson Editorial

Interpreter cards. In the second interview, Lindsey expressed her beliefs about the interpreter cards. The interpreter cards symbolized how Clark documented the plants, animals, and Native American tribes and communicated with the President. She stated,

> I feel like there needs to be quality in the presentation, the aesthetics of it.
> I feel like the content needs to be authentic, and it needs to be integrated into our Sunshine Standards, as far as what writers do. I think that's basically what I'm looking for, for this aspect. I don't have, with how much history we've done this year, I don't have a real worry for them to be able to *find* information about a Flathead tribe, let's say. But, what I am wanting to know is can they pull it, and then as far as taxonomy goes, apply it.
> And then apply it in a way that is, to the standards of -- I don't want a list.
> I want transitions, I want a beginning, a middle, and an end, I want it to be on topic.

For every briefing, Lindsey read interpreter cards that she regarded as exemplary. In addition to the positive comments, she explained areas for improvement. Lindsey reminded them, "I'm looking for colorful language and words that make pictures in the reader's heads because you are painting a Blockbuster video for Thomas Jefferson."

One time, she complimented Chelsea's interpreter card and held it up for everyone to view (see Figure 10).
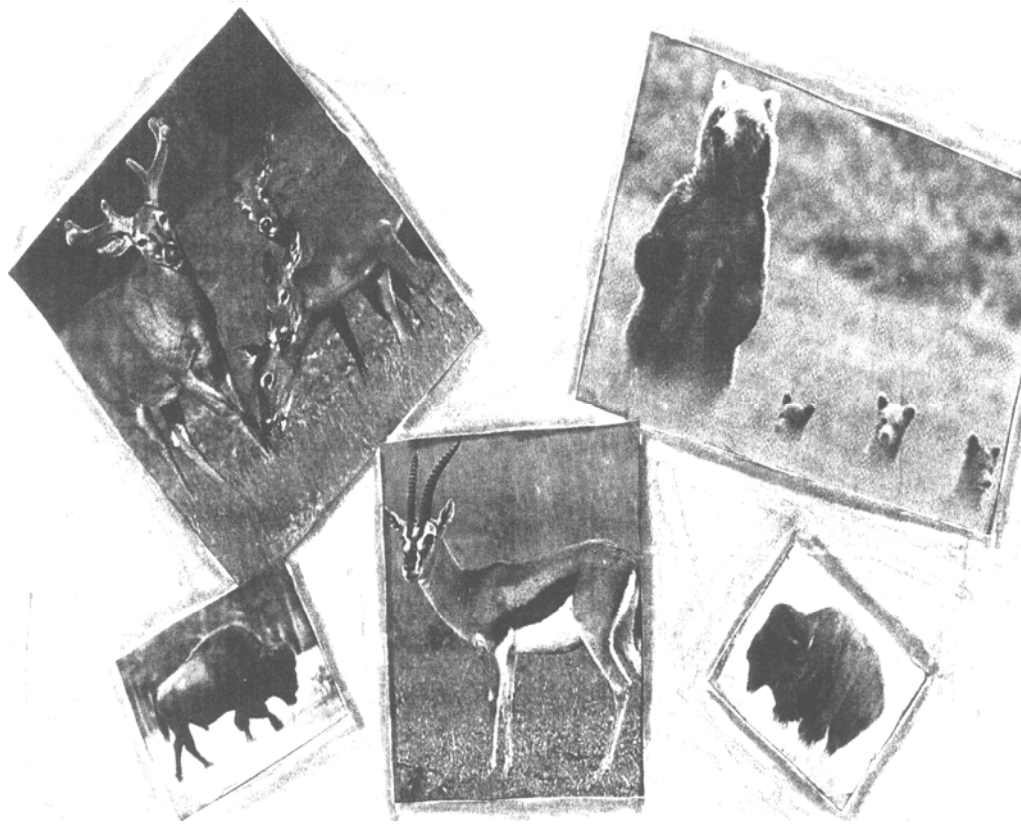
Dear President Jefferson,

We have a very busy week traveling forth on our journey, we are now at 106°w 48°N on the map. Yesterday we ran into a tribe of sioux, they live on the plains in tipi. Most of the sioux are tall and thin and all of them wear their thick dark hair long, about shoulder length. They paints the parts in their hair red and sometimes braid their hair. These tribespeople like to eat meat like bear, deer, antelope, wild turkey and chicken. Overall the sioux mostly ate buffalo, buffalo, buffalo and more buffalo. Boiled, broiled, dried and raw the sioux will eat it any way. They have different beliefs than us, war is a game to the teaching a child how to swim before they can walk is normaly and sitting quietly and no talking is good manners even if you have guests in your house. Parents aren't strict even if theirchild is about to touch fire, the parent won't call out don't touch the fire it will burn you they belive children should learn from experience. Hope my information is useful to you.

Sincerly: Chelsea Snow

Figure 10. Chelsea's Interpreter Card

Lindsey commented,

There's a bunch of data here, it's integrated in the letter format. Great

information here to Thomas Jefferson, all about the Sioux, what they eat,

what they look like. On the back, going above and beyond, she went in

and found actual pictures and animals of what the tribe would be eating so

in case you don't know what these animals looked like – a buffalo for

instance, we don't have those roaming around our wetlands. We have

those on here, and then Mr. Jefferson can see what's happening here.

Excellent job, here.

Chelsea mentioned the interpreter role in two interviews. In the first

interview, she stated that she enjoyed research and that she liked "researching

about Indians and what the geography was like when they first got there."

In the second, she said, "I liked learning about like the Sioux, that was

fun…I liked learning about their parents weren't strict or anything. They would let

their child touch the fire and they would say that you have to learn from

experience (laughs)." She included the same fact on her postcard because the

students earned additional points if they included interesting facts.

Privates' tasks. Although several of the privates' tasks involved writing,

many did not. During one briefing session, Lindsey pointed out a keelboat, a rain

stick, and a pouch that she considered to be exceptional. She held up a clay

keelboat and explained that the student had used an illustration to replicate it and

"even had an expedition dude on the back but he fell off."

For the rain stick, students decorated paper towel holders and filled them with rice. She shared one model decorated with dark red, blue, and green markers and Native American symbols. The student had sealed the ends with clear tape so when she moved it back and forth the contents inside slid audibly. In comparison, she picked up an undecorated cardboard paper towel holder and said that some of the rain sticks looked similar. Chelsea looked at the plain rain stick Raven had made. Raven had scribbled red and blue lines and sketched a few haphazard symbols. Lindsey explained,

> In order to get mileage for your team, you need to put in the time. You have to work through the process just like they did. No one was there to help them. How do you make something out of nothing? You can't go to Wally World (Wal-Mart). There was no sewing teacher to help them just like there is not one to help you. I'm not going to sit there and sew with you. You have to figure it out and problem-solve your way through it.

Then, she held up Hunter's utility pouch as a model for excellence (see Figure

Figure 11. Hunter's Utility Pouch

11). Hunter had trimmed an 8" x 8" section of dark blue cloth and folded it into a U-shaped design. He had used small stitches that he had spaced close together and had double stitched some areas. Paula commented that his pouch was the best that she had seen in two years. She said, "You're rockin' on there, Kiddo."

Lindsey patted Hunter on the back and returned his pouch to him. A few other students asked if they could see it. One said, "You could actually use this!"

The Tasks

After the groups discussed the dilemmas, each team member proceeded to their tasks. In comparison to the conflict that pervaded some dilemma discussions, often when students worked on their projects they laughed together. Humor alleviated earlier tension as they cooperated within their groups and with one another. During the action phase, the students immersed themselves in art, writing, research, and reading. Through their differentiated roles, the students chose their topics and worked on disparate tasks. Many times the classroom environment reverberated with energy and harmony. Lindsey and Paula transitioned to facilitators as the students worked independently and cooperatively. However, I noticed that Ryan did not match this pattern. Although I was not a facilitator, a few incidents increased my awareness of the impact I had as a participant-observer.

Humor lightened the tone. Although the content of the Lewis and Clark simulation was serious, several moments added levity during the action phase. I

223

noticed that the Trailblazers team shared many laughs. One time, Trevor

pondered his role as interpreter. He said, "I hate writing."

Harry replied, "I like writing."

Trevor stated, "I like long walks on the beach."

They stared at each other for a moment. Then, they erupted in laughter. A

few minutes later, Trevor looked at me and asked, "How are you writing your

book?"

I said, "What do you mean? It will have five chapters."

He said, "No, how will you write it? Like, are you writing it like a novel?

'Oh, no! Harry and Trevor have to sign the clipboard! Tragedy strikes!'"

I laughed, and mentioned, "Maybe it will turn into a suspense novel after

all."

Trevor nodded and returned to his paper.

Another time they perused books to research Native American tribes.

Harry walked over to Trevor to borrow a piece of paper. Trevor looked up at him,

crossed his eyes, and stuck his tongue to one side. Harry laughed and Trevor

told me, "I always make Harry laugh."

As the interpreter, Chelsea studied the map to research Native American

tribes in their current location. Trevor lowered his voice and said, "*They're evil,

they're going to cannibalize us*!"

Chelsea said that she did not have to be afraid of the Native American

tribes that time because only bears and beavers are in the area. I mentioned that

if it were me, I would be afraid of the beavers. Trevor, Harry, and Chelsea

laughed, and Trevor said, "Hey, bear! Whatever you do, watch out for the beavers! They're dangerous!"

Raven had walked over to the rug to locate additional books. Trevor skimmed a book on Native Americans that Chelsea had reviewed. He shook in hysterics when he saw a Native American tribe named "Hunkapapa." Raven attempted to stand up from her sitting position on the rug and fell onto her knees. I told her that she should be careful because knee injuries could be painful. She rubbed her right knee, winced, and sat down. Trevor glanced at her, held up his book on Native American tribes, pointed to a subheading, and said, "Oh, do you have a 'Wounded Knee'?"

The entire group broke into laughter.

Even though they experienced conflict, the Teepeeshon group did share lighter moments. Many humorous comments resulted as they worked on their tasks. One time Ryan reviewed a book on President Jefferson. He held up a picture of him and said, "Dude, that's Thomas Jefferson?! Man, he's ugly. I guess the old saying is true – people do need make up to look better."

He showed the picture to the other group members. Jasmine said, "Don't say that!"

However, a week later she and another student, Leah, researched Sacajawea for a report. I asked what they had learned, and they responded in a serious tone, "We discovered Sacajawea had a unibrow."

I must have looked puzzled because they held up the book and said, "Here, look!"

Leah picked up another book and asked Jasmine, "Why doesn't she have a unibrow here?"

Jasmine shrugged. They giggled and returned to their papers. In Jasmine's report, she omitted this detail (see Appendix N).

Choice enabled differentiated instruction. The Interact teacher's guide stated that the simulation offered differentiated instruction through the rotation of roles. Students engaged in all of the language arts such as reading, writing, speaking, and listening. As privates, they chose among the following tasks: writing, arts and crafts, mapping, research (Vargas, 2000). One of the common themes from Lindsey and Paula's interviews was that they believed simulations targeted students' different learning modalities. I provide a vignette to describe how the students participated in diverse activities in Paula's room.

The teams had discussed the dilemma and had transitioned to their assigned tasks. The students scattered to different places in the room and began their activities. Paula opened the adjoining door between her class and Lindsey's. As a result, the two rooms fused into one as the students traversed to locate resources. Several sat cross-legged on the floor and browsed manila folders for information on Native American tribes. I watched as two students painted an American flag from 1795 on white construction paper. The red and blue paint stained the white tile because they did not place newspaper underneath their paper. I noticed two students shared a paper towel holder to create a rain stick. One sketched symbols on the left end while the other

decorated the right. The royal blue and crimson colors seeped into the cardboard as they worked.

One student rummaged under the sink for watercolors as two others searched in the craft box for Popsicle sticks. Many students remained in their seats and wrote journal entries or reread directions for their Corps task. Several assisted one another with private's tasks such as, coloring maps or writing journal entries. I notice no one looked around the room aimlessly, and everyone appeared to be focused on their tasks.

As I observed the Teepeeshon group, Jasmine threaded beads through dental floss wire to make a Native American necklace. She plotted her pattern on chart paper as she referred to the diagram for directions (see Figure 12). John had written one draft for his journal and recopied the final version into the
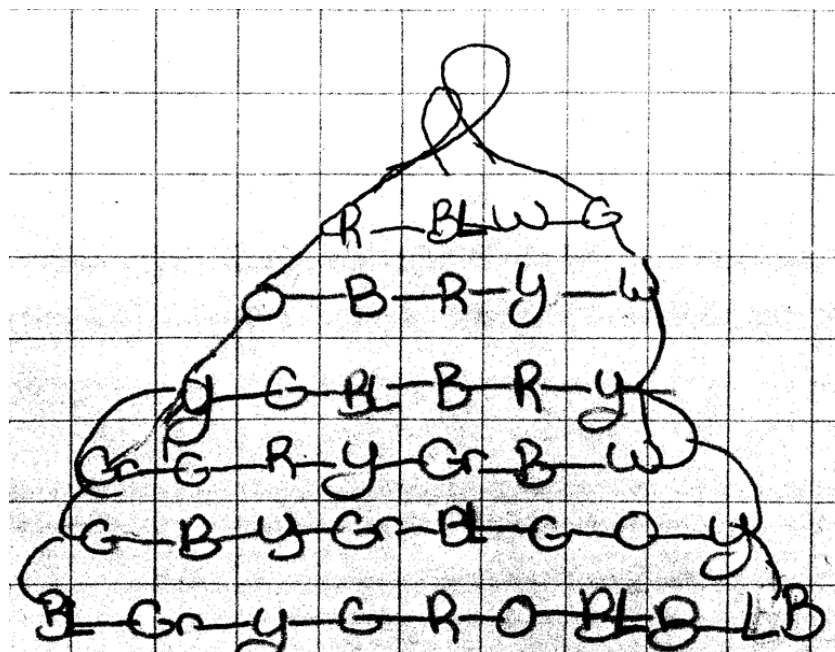
Figure 12. Jasmine's Bead Pattern

composition book. Amanda designed a replica of Fort Mandan from clay,

Popsicle sticks, and toothpicks. She told me, "I don't think it's very good."

I remembered that she had said in an interview that she enjoyed art, but

she felt that she was not "good at it." I studied her creation for a few minutes. She

had molded brown clay into a horseshoe-shaped building with a blue roof. A

makeshift "door" opened into a path of yellow clay. Toothpicks lined both sides of

the path in a parallel pattern. At the "entrance" she had made a triangle out of

two toothpicks. I wondered why she did not think it was "good."

Teamwork helped Raven. As the vignettes illustrated, often students

worked together. Lindsey and Paula stressed that the students should cooperate.

Almost every day they reminded the students to help one another. Part of the

captain's responsibility was to help the privates, but the students other than the

captain worked together as well. One time Lindsey reminded the students,

> You're responsible as a writer and as a student. So, do your best. Work
>
> with your teammates to help you. You don't have to be BFF's, charms,
>
> and have a special bracelet to conduct a writing conference. Discuss how
>
> you can improve as a team so that you could be successful and make it to
>
> Fort Clatsop.

The students usually followed her advice. Within the Trailblazers team, I

noticed that Raven demanded the most help. Frequently, one of the other team

members sat with her when she was a journal writer or interpreter. On one

occasion, Harry worked with Raven on her interpreter card (see Appendix O).

Like Trevor had done with her journal entry, he coached her on what to write.

They had four books on their desks. Raven asked, "What Indian tribe are we

doing?"

Harry replied, "Good question," and picked up a *How We Crossed the*

West book. He traced the trail with the end of a yellow highlighter, and Raven

checked the chart to determine the latitude and longitude of their troupe. She

said, "We are between 110 and 115 degrees, write 113."

Trevor looked up from his journal, and said, "That's about right."

Based on the location, Harry located the Nez Perce tribe as one that they

would encounter.

When I interviewed Raven, she explained that working in groups helped

her to learn because "if you don't know something then you have all these other

people to teach you the same stuff." She described how Harry helped her when

Mrs. Romano asked her a question:

> Harry's like, 'C'mon, you can do it!' 'Cause he's like my encouragement.
>
> He's like, 'C'mon, you can raise your hand and answer the question now.'
>
> I'm like, 'Noooo, I'm too shy.' But, whenever I raise my hand, she calls on
>
> me, and I'm like 'Okay, what was the answer?'….Harry slips notes to me,
>
> and I'm like, 'Oh, yeah, thanks.' Then whenever he raises his hand
>
> sometimes he acts like he forgets. Then the teacher looks at me. He's like
>
> (makes a face and shrugs innocently), that to me. I'm like, 'Harry!'

Both Harry and Trevor seemed to sense that Raven required additional help.

They did not seem to mind working with her, and she benefited from their more

advanced writing skills. In any case, Raven made an effort and completed her daily responsibilities.

Ryan's lack of motivation. In contrast, on several occasions I noticed that Ryan remained idle. He abandoned projects or waited for others to assist him. Even with the support of his teacher and classmates, he often grumbled throughout the simulation. Besides Amanda, his behavior affected Becky and John.

Many times his frustration stemmed from writing tasks. For instance, as the private, he decided to write a quiz about Sacajawea for his corps task. When he realized that he had to write ten multiple choice questions, he said, "I ain't writin' no written responses."

John told him that's what multiple choice is, having different responses. Instead, Ryan decided to learn sign language, and Becky and John practiced the hand signals with him. In the second interview, he told me he chose to sign the words "bat," "cat," and "Sacajawea" because they were the easiest words with a lot of "a's" in them. I recalled that three weeks earlier he had said that he would not choose sign language. A few days later, Amanda completed the Sacajawea quiz that he disregarded (see Appendix P).

Several times Paula worked with Ryan. When he could not locate information for his interpreter card, Paula sat on the rug with him and looked through manila folders that contained Internet handouts about different tribes. Eventually he did complete his card at home (see Appendix Q). A different day, I observed as Ryan stared at a blank piece of paper in the journal. He complained

that he did not know what to write. John tried to help him a few times, but he was consumed with writing his interpreter card. Distracted, Ryan picked up a retractable ruler and stretched it the length of his desk. He estimated the speed of the measuring tape. He asked, "What do you think John?"

John replied, "Maybe 30 miles per hour."

Ryan exclaimed, "Man, that's as fast as a car!" He looked at his paper again and complained, "I don't know how to do it!"

Later, Paula showed him the journal writer's responsibilities from the Interact student guide. She was patient and supportive, and he listened to her as she explained his duties again. She advised Ryan to conduct a writer's conference with John. After Ryan wrote a few paragraphs, John examined what Ryan had written and proofread it. He told him that he had spelled Missouri wrong and said, "Look at it. Make sure all the other words are correct. Make that word lowercase. You need to go and see what else we decided to do."

Ryan placed his head on his journal and stared at his desk.

Towards the end of the simulation, I noticed that Ryan chose to research the life of Thomas Jefferson as his private's task. He had a library book and a few pages from the Internet on the former president. However, he reclined into his chair and asked John, "Will you help me? 'Cause you're smarter than me."

John read the directions and told Ryan to find out when he was born and when he died. A little later, I looked over at Ryan, and he said, "I hate writing! I hate writing! I hate writing!"

I asked, "Why did you choose to write a report on Jefferson?"

John said, "I was wondering the same thing."

Paula came over and gave Ryan an encyclopedia that had the information for Jefferson. However, she told him not to copy it but to rewrite the information in sentence form and to paraphrase it. He looked surprised when he found out that he was going to have to read the report to the class. A little while later I observed Ryan and John as they leafed through the folders that contained private's tasks. Ryan wanted to locate a different option. John told Ryan, "You don't have much time left. You really should stay with the original task."

A few minutes later, Paula said, "Everybody should be in final wrap up mode."

Amanda and Becky informed me that Ryan was singing and talking about a pop singer named Fantasia. I recorded that Ryan seemed distracted today and seemed disconnected a majority of the time.

The students communicated directly and indirectly their frustration with Ryan. On one occasion, Becky gave me her journal entry to read (see Appendix R). I read, "Sergeant Harris has been kind of restless and lacking self control and the rest of our Corp is getting frustrated with all the nonsence [sic]." She opened her eyes wider, and said, "It's true!"

Another time, when Ryan was the captain, John noticed that Ryan did not complete his responsibilities. John showed Ryan the Task Log and told him, "You didn't mark what Jasmine and Amanda did!"

Ryan shrugged.

John penciled in the girls' initials and reviewed Ryan's work. He turned around, faced me, and muttered, "Man, Ryan is…". He did not complete his sentence, but I inferred his frustration.

My ethical dilemma. In contrast to my observations, Ryan stated in the second interview that no one helped him during the simulation and that he worked on his own. He said that he did not like John and that he "hit him once" a few months ago. He added, "Sometimes I want to punch him in the teeth so hard, it's hard to stop…".

He grimaced and made a fist when he said the statement. Confused, I mentioned that I thought he and John "got along."

He repeated "No, no, no! 'Cause Ms. Williams was talkin' to me, 'You gotta get along with your group.' I was only *nice* for the simulation not for everything else."

My initial perception that Ryan admired John was incorrect. I considered if Ryan believed that he *was* being "nice." In one journal entry he seemed to enjoy antagonizing Amanda and other members of the team. He had written, "I angered Lewis and Clark. I know they would do that to [sic]. I guess me and Lewis and Clark think just alike (see Figure 13).

Day 4

Dear Jornal   April, 25, 1805

We are going thoughout the Missori River. We all grow tired, but this is just the begining. As we go down the Missowi ciren I spot a deer a walking in the tall grass. There is much trees. People continue to moan and they wish the went home. A bean tried to take two of our men our group decided to jump in the river. Nobody disagredo. I angead Lewis and clark I know they would do that to, I guess me and Lewis and clark think just alike

from
Ryan

Figure 13. Ryan's Journal Entry

After Ryan's comments from the interview I wondered if I should report what he said to Paula. I was concerned about John, but I did not want to repeat what Ryan had said. I had told the students before their interviews that I would keep their interview statements confidential. Two days later, Ryan punched and shoved John during a kickball game. John pushed him to stop. As a result, both students received disciplinary referrals. Paula shook her head as she wrote a note of explanation to the Assistant Principal. In her opinion, Ryan instigated the incident, and John defended himself. She asked me to make a copy of the note and deliver it to the office. I spoke with the students as they sat outside the Assistant Principal's office. Later, in my journal, I reflected on the incident:

> Ironic that both John and Ryan told me independently how they didn't like each other. Then, today, they got into a fight and ended up in the Assistant Principal's office. John sat with his eyes red-rimmed, and he seemed genuinely upset. Ryan seemed angry and asked why I had made a copy of the report. I told him for Mrs. Williams' records…I wrote in my field notes that I don't know if I violated any ethics by not revealing the fight that occurred today. I kind of knew how angry Ryan was, but I didn't say anything. Should I have? I didn't want to break a confidence. How was I to know that the next day everything would erupt?

I did not realize that I would have to face a dilemma extraneous from Lewis and Clark.

My unexpected influence. I chose not to act in the situation with John and Ryan. However, I interacted with the students after they discussed the dilemma

235

and started their tasks. As they completed their duties, I asked questions to clarify my field notes. Sometimes they asked my opinion about their projects. At times, I offered suggestions. To my surprise, some of them integrated my ideas into their work. I noticed Harry and Raven "borrowed" my comments and included them into their tasks. This appropriation increased my awareness that I impacted the outcome of events to some degree.

On two separate occasions, Harry deliberated on what to include in his writing. The first time he wrote a speech to Congress from the perspective of Thomas Jefferson. The purpose of the task was to prepare a speech to Congress and ask them to finance the Lewis and Clark expedition. As he chewed on a pencil eraser, Harry said he did not know what to write. I had visited Monticello two years ago, and I remembered that Thomas Jefferson was a curious person. I shared this information with Harry. He nodded, and I did not think more about the comment. Later, when he read his speech to the class, I heard the phrase,

> I am a curious man and I'm not about to stand down until I find what is in
> the West. So, I, the President of the United States want to explore the
> West! It's your decision so make the right one and let's explore the West
> of America.

I noticed Lindsey beamed and applauded when she heard this paragraph. She raised her eyebrows when she heard, "I am a curious man" and pointed out she especially liked the phrase "West of America." For his efforts, she gave him an extra point. Harry mentioned that Trevor suggested that slogan. I deliberated if I

had inadvertently affected his grade or gave the team an advantage. My comment influenced his learning in that aspect.

Another time, he chose to write a persuasive speech titled "Equip an Expedition" (See Appendix S). From a list of 19 items, he had to select five and convince others why those objects were the most essential. The list included hand saws, a hand compass, steels, syringes, tiny beads, pocket mirrors, forceps, and pliers. As he studied the list he did not know why some items were included. He questioned "tiny beads," and Trevor explained that he would need them for trading.

I joked, "You should bring a mirror so that you could check your hair. After all, who wants to be in history book with bad hair?"

The team laughed, and again, I dismissed the comment. Later, Harry gave me his speech to read (see Appendix T). Among the items, he chose tiny beads "to impress the Indians" and a pocket mirror. He had written,

My last and final item was nothing but dun de de dun dun (sound of a

drum roll) pocket mirrors for nothing else but (dun de de dun dun)

checking your hair. You don't want to be in a history book with bad hair!

Just kidding, that would also be for trading.

After the second reference, I realized that Harry internalized my statements and that I had to remain aware of that fact. The other time I noticed my influence was with Raven. One time as a private, she decided to complete a cinquain poem on the Native Americans. First, she wrote a draft on notebook paper (see Figure 14).Then, she located a cardboard toilet paper holder and cut

it in half. I told her it was a creative idea, and she credited another student for the concept. She rewrote the poem on the flattened holder. As she considered what color markers to use, she narrowed the choices to red or royal blue. I suggested that she use red because the ink would resemble berries, and Harry agreed. He said that they could pass for crayons, because Lewis and Clark brought red and blue crayons on the expedition. When she rewrote the draft, she said, "I have to write in my best handwriting."

Harry, half-serious, said, "Yeah, you better be on your best."

Following Lindsey's instructions, she wanted to make the poem look "old." Therefore, she ripped holes into the cardboard. I remembered that in the dilemma some of their items fell into the water. I suggested that she could splash some water onto it for a wrinkled effect. She agreed, and her final product included a water stain (see Figure 15).
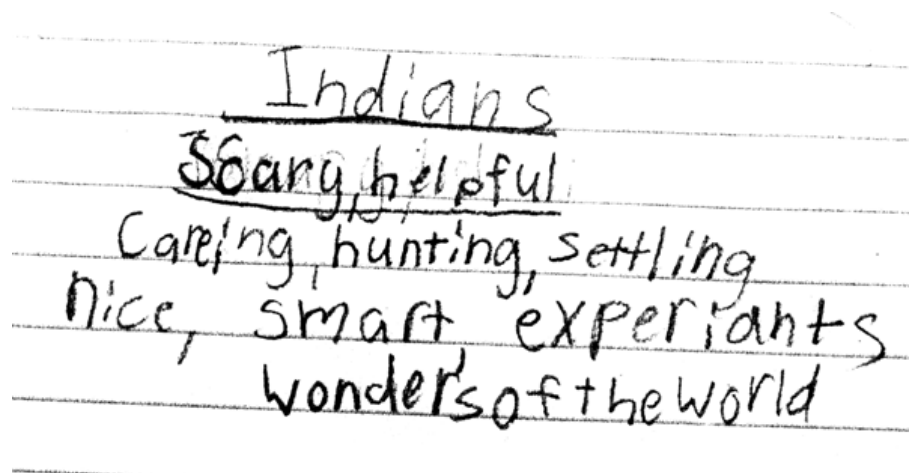
Figure 14. Raven's First Draft of Cinquain
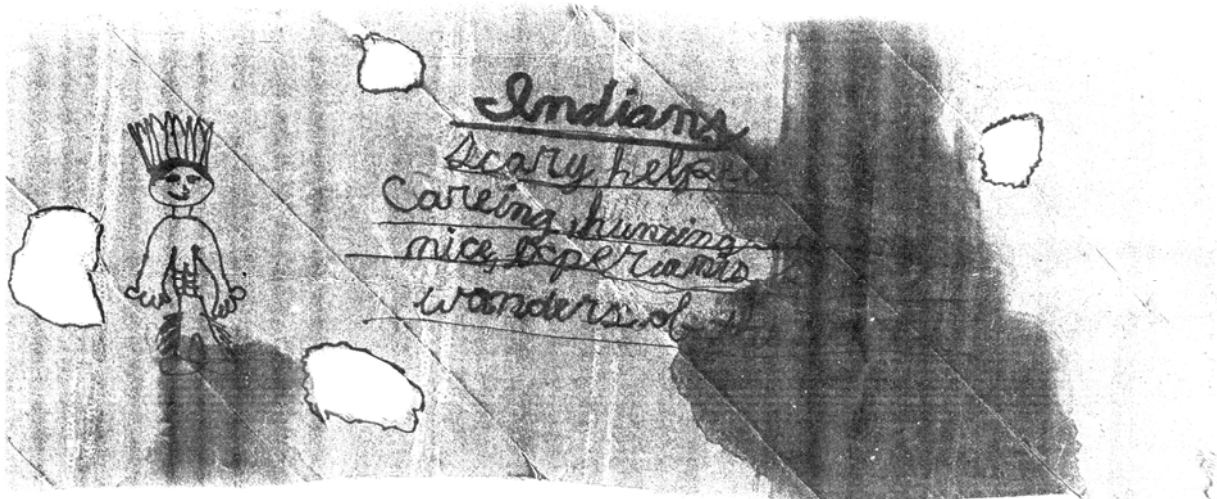
Figure 15. Raven's Final Draft of Cinquain

Like Harry's project, Lindsey was impressed by her efforts and rewarded her with an additional point.

These three incidents taught me that I had to exercise caution when I observed the groups. In order to study how they responded throughout the simulation, I needed to sit with them and listen, watch, and interact with them. However, I was not invisible, and I affected other areas that I probably did not recognize.

Through my observations I noticed emergent patterns of behavior with the teachers and students. These themes challenged my notions and precipitated further inquiry and reflection. By the end of the action phase, I had an informed understanding of how the teachers communicated their beliefs and the students engaged in the content.

The Later Stages

Throughout the simulation, Lindsey and Paula assessed the students on their writing and performance tasks. They used log books and rubrics to track their students' progress. In addition, the teams recorded their grades on the Captain's Log (see Appendix U). At the end of the simulation, the accumulated points translated to their placement at Fort Clatsop. Some teams arrived at the Pacific Ocean while others lagged behind. For the ten students I studied, the competitive aspect motivated one team and disinterested the other. This section explains how the teachers determined what students had learned through ongoing assessment, the debriefing, and analysis of the pretests and posttests.

Teacher Assessment

Since the teachers used continuous assessment, in the final interview, I asked the teachers how they awarded points for the teams. Both maintained records in a log book and recorded the individuals' points for every task. Occasionally they wrote comments such as "awesome voice of the time" or "good application of facts" next to the students' names. Vargas (2000) suggested teachers rank student work with (a) three points – exceeds expectations, (b) two points – meets expectations, or (c) one point – does not meet expectations. In contrast, Lindsey assigned three points to only two students and Paula did not give anyone a three. They loosely followed the recommended guidelines and considered individuals' abilities when they awarded points.

Paula's criteria. Paula explained that "neatness, authenticity, completeness, following directions, and looking like they put effort into it" were important to her. She stated some students took tasks home to complete. However, others did not. She replied, "Some just don't have that inner drive to do that whether they're by themselves or on a team."

Because she did not assign three points to anyone, she converted two points to an A grade and one point to a B or C grade. If students did not complete the task they received a zero. For one student who had a writing disability, Paula made accommodations. She related,

> One of my students who has a difficult time writing, he ended up writing two things and taking it home…That was an exemplary exhibit of his knowledge or his ability. He has a hard time writing, so, that was good for him...He had team members that were encouraging him and helping him and telling him, 'Well, maybe you need to do this, this, and this,' but, it's just the kids' personality. It's a whole bunch of different things that go into how that all pans out.

Often Paula awarded grades for more than one subject. For instance, she would count a journal entry for writing and social studies. She explained that because of the integrated content, they received grades for both areas.

Lindsey's criteria. Like Paula, Lindsey assigned grades for more than one subject. She said that she did not enjoy grading but disciplined herself to grade student work every day to hold the students accountable. In part, her frustration stemmed from the "compartmentalize and departmentalize" sections on report

241

cards. Due to the nature of integration, she thought it was problematic to relegate a grade to an individual subject area. She regarded the log book as a useful resource because it helped her to remember the different components of the simulation. In the third interview, I asked her to describe her thoughts when she assessed student work. She replied,

> I definitely look at quality. I look at, in some cases, quantity, if they were supposed to do some sort of research on Thomas Jefferson or something, two sentences out of fifth grade at this level isn't appropriate…With a lot of the art activities, quality and aesthetics came into mind…but also capability. I knew with some students -- that although a rubric is supposed to be something that's set in stone -- and I knew for some students, no, this wasn't necessarily a two, but…I knew that this was way above and beyond for them. So, that's kind of where it's a little bit subjective.

Just as Paula considered students' abilities, Lindsey assessed individuals based on their individual strengths and weaknesses.

Debriefing

Both teachers allotted time to discuss the simulation after the final dilemma. In the literature on simulations, researchers regard the debriefing stage as one of the most important. During this stage the students transform what they had experienced to learning. Vargas (2000) stated that the Lewis and Clark simulation targets knowledge, skills, and attitudes. Students gain knowledge of the expedition, geography, and discoveries. Students practice their reading, writing, and geography skills. Also, students may value teamwork, understand

the importance of the journey, and the impact of the human spirit. During the debriefing, I noticed that the students' comments aligned with these areas.

To record these exchanges, I observed and audiotaped Paula's lesson. At the same time, I asked a student to videotape Lindsey's session. Occasionally, I entered Lindsey's room to ensure that the student did not have any questions about the video camera. On this day, the students received their final miles and the teachers announced the teams who traveled the farthest.

Paula facilitated the discussion. Before Paula started the debriefing, she announced the mileage that they had earned from the final dilemma. The students calculated their miles and moved their pushpins along the trail to determine the order that the teams finished. The captain of each team convened by the bulletin board and compared their points. I noticed that Paula had rearranged their seats in that teams were no longer sitting together. Ryan faced the wall towards the front of the class, John, Becky, and Amanda sat together on the left side near the back, and Jasmine was seated towards the front on the right. When Paula announced the final placement, I perceived the outcome to be anticlimactic. The teams who placed in the top three did not cheer or celebrate. I noticed the Teepeeshon placed fourth out of the six teams. When I interviewed the students later, none of them knew their correct placement. Ryan and Jasmine said they placed second, John guessed second or third, and Amanda mentioned first, second or third. I thought their disinterest was curious, especially in comparison to the Trailblazer's reaction.

Paula led a discussion in two parts because the students attended their P.E. special. For the first half of the debriefing, the students remained at their desks, and Paula asked questions at the front of the room. For the second half after they returned from special, many students moved to the rug. Paula sat in a blue chair. She began,

> I'm going to ask you a couple of questions. I want you to think about it, and then if you have an answer that you would like to contribute, I'd like everybody to raise their hand. My first question is, think about it. Think about working as a team. I know we've learned a lot about the Corps of Discovery, but what characteristic do you think was important for the members of the Corps of Discovery to have? Meaning, what personal things or like, or what kind of people do you think that they needed to be in order to get this basic feat accomplished?

> The students mentioned traits such as, bravery, teamwork, mapping skills, strength, and responsibility. After each student commented, Paula restated their thoughts and asked some to elaborate. For example, after one person mentioned intelligence, she asked why he felt that way. He replied, "Because there were so many obstacles that they had to know how to go around and you had to figure out what to do." He considered The Great Falls to be an obstacle. Becky added the Fork in the Missouri and Yellowstone Rivers. Others believed friendliness and trustworthiness towards the Native Americans were important.

Then, Paula asked, "In your opinion, what do you think the most important contributions that Lewis and Clark did for our country? Contributions meaning

what did they do to make our country what it is? What is something you think

they did?"

Several students answered the exploration of the Louisiana Purchase, the

land west of the Mississippi, making peace with the Native Americans, and

locating different plants and animals.

When Paula asked about their favorite roles, they mentioned every one.

They seemed to prefer the roles of journal writer and interpreter more than the

captain and private. Jasmine mentioned that she liked the journal writer because

"you got better and better as time went on."

Paula answered, "I agree with you our interpreter cards and our journals

got better and better as time went on and you got into it, and what was expected.

You did an awesome job."

Another added that he liked the interpreter because he enjoyed learning

about the Native Americans. Paula reminded them of the prereading activity that

they had completed several weeks before. In the third interview, Paula shared,

The debriefing was, to me, just…trying to find out what they liked about it,

what they didn't like -- I was really surprised that a lot of them liked doing

those interpreter and journals. Because a lot of times kids, you know, the

writing, and there were kids that liked to do the privates' tasks but there

were a lot more people that said they liked the journal writing and the

interpreter card than I had anticipated to be honest with you.

As the discussion continued she introduced a variety of topics. One

addressed the level of realism within their roles. One student mentioned the

actual privates did not make boats out of clay. John thought, "A little bit real figuring out the problems like math and stuff but really not very real with the physical part."

Another commented, "We were just doing it in effect towards our grades, but they're doing it for the future of America."

Paula clarified that the privates in the original expedition would not complete written tasks and asked why. One student answered, "They didn't know how to read and write."

Paula reminded them that they had studied this issue all year. She said, We talked about that. Schooling was not a priority. If you were rich, you definitely went to school. Some of you might think that was pretty cool, *but* in reality, many of those expedition and Corps people might not know how to read and write. So, that's why their duties ended up being the worker bees.

Towards the end, Paula asked them to consider the diversity of the Corps of Discovery. The students believed that if a team conducted the same trip in 2005, they would invite more women and people of color. However, Paula stated that Clark's slave, York, and Sacagawea voted on where the team would spend the winter. She asked, "Why is it significant that York and Sacajawea were allowed to vote? Now remember this takes place in 1805. Kayla?"

One African American student answered, "You were allowed to have an opinion."

246

Another African American male added, "They probably had a better idea to spend the night in the winter because Sacajawea was Indian."

Paula restated that in 1805 women were not allowed to vote. Then, she asked, "Do you think William Clark treated York like your picture of a slave, how a slave was treated?"

One student answered, "No, because he wasn't like a slave, he was a member on the expedition who helped them find stuff."

Another student said, "an equal as his friend and worker."

Jasmine replied, "He was treated with respect."

Paula concluded her debriefing with a short speech. In part, she told them:

Ms. Romano and I were talking when you were at P.E. today. I *hope* when you get to eighth grade, and you'll all get to eighth grade some time soon. You will study American history in the eighth grade and you will study again as a junior in high school…We're hoping when you get to eighth grade that you will remember so much about this that you will just 'wow' your teachers when they start talking about the Lewis and Clark Expedition and you will tell them all these little tidbits you've learned. I know it's possible because I've had children come back that have done different simulations, and they talk about, 'Oh, yeah, I remember!' and they can remember that stuff. Because of the way, the style that you got into it. You were doing a task, you were sampling the journal writing, the interpreter card. So, you actually got to become involved in it. When you're involved in it, it kind of sticks a lot better than if you just read about it.

Paula's comment affirmed one of the major reasons she used simulations: learn the material for long-term retention.

The Trailblazers mobilized. In contrast to the subdued reaction in Paula's team when they calculated their placements, the Trailblazers formulated a strategy. Harry and Trevor recognized that they could place first, and they developed a plan. Each member would locate additional research in order to receive bonus points. The extra points would result in increased mileage. The day before, Trevor explained to me:

> We went 330 miles today and what we're going to do is today, we're going to do a really good job on our journal. Not just the journal but with all of our stuff. And we're going to get research…that will be five bonus. So, we should get to the Pacific by tomorrow…If we could get what we want we could get six or seven degrees because that would be really amazing. Today we only got six.

The day of the debriefing, I waited to learn if their idea worked. Lindsey asked each team to stand as she allocated their points. For each team, she announced their final points and the total number of expedition cards, bonus, and penalty cards they received. When she turned to the Trailblazers, she complimented Hunter's writing and "great voice," Harry and Trevor's speeches, and Chelsea's postcard. She said, "I heard them strategizing and other teams did this as well. Each person brought in research so that they could receive bonus cards. The team received eight regular points and four bonus for a total of twelve."

Harry placed his hands on his head and spun in front of his chair. Trevor kneeled down slightly and rose again. He opened his mouth to a narrow "O." In comparison, most of the other teams received six or seven cards. Harry and Trevor appeared to be the most excited as each person reached into the bin and retrieved two cards. Harry accidentally received an extra card, and told Lindsey twice. She did not hear him and moved to another team. He followed her and said, "I had an extra." I admired his honesty, especially because I knew that they wanted to place first.

After each team received their points, they huddled together and added their mileage with calculators. In contrast to Lindsey's class, the students seemed eager to discover their placements. They waited impatiently for their turn at the map on the bulletin board. Some bounced in their seats while others paced the floor. When I entered the room to talk to the student videotaping, Harry rushed over to me and said, "We received 12 points! All of us brought in research except Hunter because his printer wasn't working." I asked him which place they were in, and he said that he didn't know yet.

A few moments later, they had their turn at the map on the bulletin board. Hunter, Trevor, Harry, Chelsea, and Raven scurried over to the chart and moved their pushpin. They realized that they had tied for first. They exchanged high-fives and hugs. Trevor and Harry walked over to the camera, and Trevor said, "Everybody ready? Okay…".

Together, Trevor and Harry flung their arms out, and said, "Oh, the joy!"

Hunter repeated, "Oh, the joy!"

Harry exclaimed, "We made it to the Pacific!"

Trevor danced back to his chair.

They echoed the phrase "Oh, the joy!" from Lewis' journal entry dated

November 7, 1805. "Ocean in view! Oh! The joy. This great Pacific Ocean which

we have been so long anxious to see, and the roaring noise made by waves

breaking on rocky shores may be heard distinctly" (Schanzer, 1997, p. 34). In a

later interview, Harry told me, "We all worked especially good the last two days.

We *really* wanted to win. We all were focused and it really helped us."

I told Lindsey I thought it was interesting how they had planned a strategy

to assume the lead. She smiled widely and said she noticed the quality increased

the final day. Many students brought in bonus items in an attempt to surpass

others. Later, I asked Lindsey about the competitive and cooperative aspects of

the simulation. She compared the relationship as a symbiotic one. She

explained,

> I guess to me, part of the whole immersion philosophy is the reality of it.
> There's the historical reality and then there's the present reality and
> there's the future reality. And the reality is that's what life is. It's
> competition. Those people were competing as well, so to speak, and…I
> think it's important because…(sighs) they need to be able to realize that in
> order for a competition whether it be academic, whether it be in the
> business world, whether it to be sports, that competition to be of any
> success…you have to work together. I think those two things are just
> really important.

Lindsey facilitated the discussion. Lindsey called teams to join her at the rug for the debriefing session. She sat in a chair facing the students as they sat cross-legged on the floor. Two teams stayed at their desks and turned their chairs to face Lindsey. She said, "You made it. Give yourselves a hand, please."

She smiled and applauded with them. She raised her arms and said, "Raise your hand if you're the bright green tack."

The Trailblazers raised their hands. She applauded in the air, and said, "Everyone say good job, Team Six."

They repeated her request.

She looked at the Trailblazers, and said, "I want to know something, and Ms. Gauweiler said something, and I want to know. You weren't always in the lead, were you?"

The Trailblazers shook their heads and uttered, "No."

She asked, "So, what happened, what did you all decide to do?"

Harry raised his hand and mentioned,

Well, one day we got a penalty card, and it was our first penalty card, and um, and we only got 95 miles. So, we like, from then on there were only two days left. We were in the lead before then but we lost the lead with our penalty card. And we just started focusing.

He held the team's journal while he spoke. He asked his team, "Does anyone want to say anything?"

251

Trevor added, "The second to last day, everybody was doing really good and we ended up getting eleven cards. The next day, we were like, we have to get so many cards, everybody's gotta bring in research and that worked out."

Lindsey asked what characteristics enabled them to receive the cards. Harry answered, "Teamwork," and Trevor replied, "Reliability. We relied on each other to bring in that research."

Lindsey nodded again and stated, "Teamwork and reliability. So those might be two words we're talking about to be in the 1800's on the Corps team. Definitely reliability…like what, what is reliability?" She pointed to a student.

He said, "It's like being able to count on people."

Lindsey continued, "What other characteristics did they have to have?" One student answered, "Knowledge. They had to have knowledge about different things and they had to have the knowledge of what *other* people's limitations were."

She said, "Having knowledge of different people's limitations and not making fun of other people. Also knowing that someone may not be strong in an area, but being able to grasp their….?"

He replied, "Their abilities…talents."

She opened her eyes wider and gesticulated with her arm when she emphasized,

We know there were certain people on the trip who had specific talents,

like they could go out and scout and look at tracks. But, then that person

may not be good at, like Augustus Pelletier…writing. Not everyone at that

252

time was good at writing. So, I *love* how you worded that…knowing their

limitations and their talents.

After twenty minutes of sharing other traits like, confidence, determination,

attentiveness, and courage, Harry raised his hand. He said, "I'd like to

compliment Team Five. Even though they didn't place, I thought their teamwork

was very good. They didn't place but – ".

The class laughed, and Harry blushed.

Lindsey encouraged, "No, I think this is interesting."

He continued, "They didn't place, I think Joanna got the only three I think,

but you were always saying they had such great journal entries and everything."

He looked over at the opposing team when he spoke.

Lindsey said, "Yes, it didn't matter who the journal writer was, the

interpreter…they always showcased quality and their best with that. It's good you

weren't like, 'Oh, my team won,' and instead stating that you think they worked

together the best."

After Harry's compliment, several other students began to praise one

another. Lindsey smiled and commended them for their courtesy. She said, "It's

great that people are not acting 'too cool for school' about saying that some

teams worked well together."

She stated that she noticed one team struggled but then they improved.

Trevor mentioned, "I think we started off with extremely bad teamwork.

Every single dilemma we would get into giant arguments and we would spend 40

or 45 minutes, all of our time, and Harry and I would argue."

Lindsey nodded and stated that sometimes others could not begin their work until they had made a decision.

Trevor replied, "It would always be we would get really mad at each other, we wouldn't talk, and the next day, we became friends. Then, we'd get mad at each other again, and then eventually, we agreed on the last one."

Hunter, Trevor, and Harry laughed as Chelsea and Raven smiled knowingly. Several students giggled.

Chelsea quietly stated, "I'd also say patience was important."

Lindsey asked why because patience was not a word that had been mentioned. Chelsea explained that the corps members had to have patience with one another. If they did not, the team would split apart, and their dilemmas would not be resolved. Lindsey affirmed her comment and connected it to teamwork.

As the debriefing continued, Lindsey said that she would like to learn what their favorite roles were and why. Like Paula's students, they mentioned every role. Harry said his entire team liked being the journal writer because "you got to express what you think and you got to experience the feelings of what it would be like to write through 1804 to 1806." Lindsey commented that several people experimented with dialect, misspelled words on purpose, or wrote in a different style for their journal entries.

On a related point, Sarah stated that she enjoyed journal writing because each person could state their opinion and choose their topic. Lindsey agreed and explained journal writers could express their perspectives and mention opposing comments. Harry added, "Yeah, it's like having to write a Florida Writes essay

254

about 'Tell about the time you ate turkey.' With this, we had more choice over the topic."

Lindsey and several students laughed. Lindsey mentioned that in school, often writers have limited choice. Raven shared,

> I don't really like writing. The first time I had to do the journal writing I was like, 'Man I wish I was captain.' For me writing is really boring. But once I started doing the journaling I really liked it, and I didn't want to be the interpreter. I wanted to stay the journal writer.

Lindsey smiled at her and added, "Sometimes it's good to take away those negative thoughts in order to enjoy the experience."

Like Paula, Lindsey expressed her belief that they would retain the information over time. She explained,

> You all gained a lot of knowledge just like the people going out to unknown lands gained a lot of knowledge. I promise you, Mrs. Williams and I were talking about this, when you go to eighth grade, you will be the kings and queens of Lewis and Clark. If you all read just a few pages about it, you wouldn't know as much as actually having to solve the same problems and so forth.

She concluded the debriefing and complimented them on their teamwork, success, and problem-solving. The students applauded loudly.

I compared Lindsey's debriefing to a celebration. Like Paula, she conducted her debriefing in two parts because of the students' special. However, they did not leave for art until 20 minutes past their scheduled time. When she

returned for her planning time, she told Paula, "Can I just tell you that I just love my class right now?"

She was impressed with their compliments during the debriefing, and how Harry triggered a "compliment chain" among the students. I have to admit it was touching, and perhaps that was the reason that she did not dismiss them for art on time. Perhaps she did not want the moment to pass.

In an interview, Lindsey reiterated that she was "moved" during the debriefing. She said that she knew that she would be videotaped, and she was initially concerned how the discussion would proceed because the end of the school year was close. After she chose some debriefing topics from the Interact guide, she asked the students to record their thoughts as a team. She recalled,

> So, when it started, and they were really hoo-rahing for the people who
> tied. I saw them kind of at ease and then, I was like, okay -- see a lot of
> times they play off you -- and I think I let my guard down. They felt more
> comfortable and I was honestly *shocked* with the maturity of…their
> insight…A lot of them went to these application levels, and I was like, 'Oh,
> Lord…I mean, this is, this is, why, this is the why'! They weren't just
> spouting off the facts. Those are important from a historical perspective
> and that they move on in high school and college. It's important that they
> know these components of history. However, it's also important for them
> to get the *why* behind it. I feel like with a lot of them they got it…how the
> teamworking and how important that was and they were making
> associations even though it took place in room 230. When I was reading

my debriefing notes (my field notes) it gave me chills because I was

thinking (makes a sigh) they are just, they got it…it's like those moments

when you're like, 'Oh, I wish there was a camera' and there was!

The debriefing informed Lindsey's belief that students increased their knowledge

of the subject. Yet, the camaraderie within her group affected Lindsey's

perception that the students' understanding transcended facts. Although emotion

cannot be measured with numbers, knowledge can.

Pretests and Posttests

Besides the debriefing, Lindsey and Paula assessed student learning

through posttests. They distributed a blank copy of the pretest and recorded the

scores as a test grade (see Table 4). Lindsey said that the posttest served as

"getting kind of a baseline of recollection," but she did not elaborate. I perceived

that the informal assessment through the debriefing impressed her more. In

contrast, Paula seemed less enamored with the debriefing and more enthusiastic

about the posttests. In the third interview, she explained that she "felt like they

learned a lot," and she was "very impressed with the posttests." She reiterated, "I

think the true test would be, if you were to ask them a few years from now"

because they should be "Lewis and Clark experts."

Table 4. Comparison of Students' Scores on Pretests and Posttests

STUDENT	PRETEST	POSTTEST	POINTS GAINED
Amanda	30	88	+58
Becky	30	87	+57
Jasmine	13	77	+64
John	58	95	+37
Ryan	0	70	+70
Chelsea	not available	90	unknown
Harry	28	90	+62
Hunter	15	73	+58
Raven	12	73	+61
Trevor	20	90	+70

Based on the students' scores, they increased their factual knowledge about the expedition. In addition, the debriefing sessions informed the teachers of student opinions and attitudes. Throughout the simulation Lindsey and Paula evaluated their students based on their work samples and behaviors. They expressed their hopes that students would remember what they had learned.

The Students' Thoughts

In order to understand the ten students' opinions about simulations, I interviewed them three times over the eight weeks. I asked open-ended questions to learn their beliefs about simulations. I summarized their prior

258

experiences with simulations and how they define them, their thoughts on their roles during the action phase, and what they learned from their participation in the Lewis and Clark simulation.

Characterizing Simulations

In the first interview, I asked the students if they had participated in simulations before they entered fifth-grade. John and Ryan said that their fourth grade teacher at Miller used simulations, and Jasmine thought she might have participated in a writing one. Raven compared simulations as a type of learning center, and remembered that in second grade she explored math centers with stuffed animals. The other six students said that they had not.

When Lindsey introduced simulations for the first time, the students felt excited and thought that it would be "fun" and "cool." Jasmine credited her excitement to Paula's. She recalled, "The way she explained it she was like really happy and it made me happy. So, I was like excited, and I just wanted to go for it."

On a related point, Harry commented, "Most teachers bring out this big, big history book (holds hands a foot apart) and they just say, 'Okay, read this page, tell me how you feel, read the next page…'. We got to actually relive history."

Similarly, John said, "I really like them…because of the fact…you actually get to *research* it and re-enact what they did to find out what they did."

Chelsea explained, "You re-enact what's in history and like, it shows what people did when they were in real life."

259

Like Harry and John, Trevor, Amanda, Becky, Raven, and Chelsea mentioned that they would rather participate in a simulation than read through a textbook. Ryan defined simulations as "an activity we do so we can learn about the chapter more better and we can also have fun and learn."

However, he remembered when Paula explained the first simulation on Pilgrims he felt "nervous." He said, "I was afraid that I would mess it up. Because usually I mess a lot of things up."

I asked him to clarify what he meant by "mess it up."

He continued, "Sometimes I like…feel like I ruin it. I like, say, I don't like, get things right…I don't understand it."

When I read Ryan's summary for a member-check in the third interview, he told me to change the word "nervous" to "excited." We discussed how the words "nervous" and "excited" could be related. For this reason, I included the original quotation with his revision.

In general, the students reported that they liked simulations. Raven, Amanda, and Harry specifically stated that they enjoyed learning. Amanda mentioned, "I like, basically learning what happened and the choices they made. It's interesting because sometimes they don't make very smart decisions. It's kind of funny."

Harry said,

Simulations really help you because it's a lot easier for students to focus when they're trying to win something or being competitive and also, I

mean, when they're having fun it's a lot easier. And…I think I could speak

for a lot of other kids by saying that, too.

I noticed that like Harry, John, and Ryan used phrases such as "other kids" to speak for their peers. Through this language, I perceived that they regarded themselves as spokespersons for "other kids." For example, when I asked what they disliked about simulations, John replied,

I think every kid in the world would say work. Even though it's fun

work…the whole thing's fun, but I'd say the least fun part, even though it's

still fun…is like writing down the stuff. Although I *like* doing it. Although

there are some parts of the work that I like *more* than doing, like the

private stuff. I like doing that sometimes. Sometimes if I've got the choice

between doing that and going outside? If there's something I really like,

like building the keelboat? I might do that instead of going outside.

Besides John's comment, most of the students did not report negative opinions when I asked, "What do you like the least about simulations?" Harry said he did not like the review of latitude and longitude because he remembered it, and Ryan mentioned "the confusing stuff" such as the Captain's Log. Becky stated that some students do not enjoy certain roles in the simulation like the interpreter. In addition, Amanda, Raven, and Jasmine commented working in teams could be difficult. Jasmine thought, "Sometimes when we have to work in groups and I don't feel like it, then sometimes I get upset. But I put all that down and I start working."

They elaborated on these less positive issues when I asked specific questions about their roles.

Reflecting on the Roles

Lindsey and Paula had conducted the debriefing before I interviewed the students a second time. Therefore, after the second interview I compared my field notes to their interviews and work samples. Nine of the ten students' beliefs coincided with these three sources. However, I noticed that Ryan's comments contradicted some of his actions in the classroom. When the students discussed their roles, I learned that their opinions varied. Their interests and abilities appeared to influence their opinions when they were the captain, journal writer, interpreter, and private.

Captain. Hunter thought the captain's job was "easy" because his responsibilities were to determine the latitude and longitude, help the interpreter, and ask the privates to write down the tasks that they did. He seemed dispassionate about this role, in comparison to Trevor, Raven, and John. Trevor stated that the captain was his favorite task. He liked that he could make the final decision for the dilemma and that he could "float around."

Raven said, "I *really* liked it. 'Cause you get to do math, and I love math, and then you could help people. I love helping people 'cause I always buy a helpful card to go help the kindergarteners."

In addition, Becky, Chelsea, Harry, Ryan, and John stated that they enjoyed helping others.

Ryan commented, "It's pretty fun because you get to help people with their things, with like their projects and then it's like you can help them, the interpreter, and the private if they're having trouble." In contrast, I never observed Ryan help anyone on his team.

On the other hand, John's thoughts matched his behaviors during the simulation. He replied,

> I liked that one the most. 'Cause I like being in charge. I don't like being bossy, but I like having a little bit of command. Like…my dad always says I'm a good leader. He says, I just kind of got that personality…All the time I'm either the captain of the football team 'cause I like, or if we're doing groups, I might say, 'Oh, you're going to do this' and I might take charge.

He added that he enjoys debating and composing a "a good reason to agree *not* to do this." He explained,

> I might have to defend one thing even though I want the other thing to win. I can make up a whole speech about how that thing should win…I like trying to persuade people and fighting for what I think is right. Even if I don't think it's right, I just *have* to think it's right.

I remembered his passionate plea for the students to choose the Yellowstone River or the Missouri. For other dilemmas, he often led the discussions. Likewise, Amanda said that she thought it was fun to be "in charge" as the captain.

In contrast, Harry stated it was "kind of boring" because he had limited responsibilities. Ryan thought it was difficult to determine the latitude and longitude. Jasmine expressed annoyance with the Captain's Log. She received a

penalty card one time since she figured an incorrect equation. She recalled, "Everybody started messing up and doing the wrong thing… Someone put down a different one, and *I* got a zero because I put down the wrong thing. And I did everything and worked real hard on it."

Journal writer. Of the four tasks, the students reported that they enjoyed this role the most. Jasmine explained she "loved it" because she could "write, write, and then write." In fact, everyone except Ryan stated that it was their favorite or that they liked it a lot. Ryan commented that the role was his least favorite because it was "hard." He added that he would not want that role again. Hunter said that he did not like writing, but he thought the role was "fun."

Becky, Harry, Chelsea, Amanda, and Trevor commented that they liked having the freedom to choose their topic and to express their thoughts. Becky said, "I liked writing about the feelings of what happened in the group and anything we wanted to write about -- what we thought."

Trevor stated, "You got to express how you felt, if it didn't go your way? Say, this person wasn't doing that great and he *really* got on my nerves. And you really got to get it off your chest, you know?"

Likewise, Harry stated that he "had the power to write people up," and Raven said she felt like, "I'm the *teacher* and you get to like write people down."

Harry and Raven laughed when they made these comments, but I believed that they enjoyed their authority, even when their entries aggravated members of their group.

Chelsea and Harry shared that they liked writing in a different voice. Chelsea explained, "I thought it was cool because you got to express yourself and try to make your point of view from back then. You wrote in a different way, not how you would talk in 2005 but in 1806."

Harry said that he identified with the characters through writing, a sentiment he had expressed before. He stated, "You just get to feel what it would have been like in 1804 through 1806. And so, it's pretty cool. That was my favorite." Harry and John remarked that they liked taking notes before they wrote their entries.

Interpreter. Even though the interpreter shared similarities with the journal writer, this role divided the students on a range from extreme dislike to enjoyment. Hunter, Harry, Becky, and Chelsea liked conducting research on Native American tribes, and Hunter enjoyed describing the geography of the land. Jasmine, Becky, and Raven appreciated the artistic component. Jasmine said, "I *really* liked the interpreter because we got to write to the President. Mine was just plain on the first one. My day seven was *really, really* awesome, it was like a two-pointer."

Ryan stated that he thought the role was "easy."

On the other hand, Amanda and John said that the interpreter was their least favorite task. Both stated that they had difficulty locating information in the folders and on the computer. Even though he considered himself as a "straight-A writer," John replied, "It gets very confusing when there's all these tribes except you're not exactly sure which is where and which is which."

Harry added, "A lot of people didn't like it. To me it was average, because it was in between…I didn't really like writing the postcard."

Raven stated at times she interchanged the role of interpreter with journal writer. In the beginning she was confused. When she was writing her journal, she remembered that Trevor helped her. She recalled their conversation as follows:

I said, 'Trevor, what am I supposed to do? I don't get it! 'Dear…Dear What, who am I writing to? Am I writing to the President?' And then Trevor's like, "No, *you're writing to the journal not the President.* That's the interpreter! Darn interpreter.' 'Cause he hates the interpreter.

Trevor affirmed her comment in the second interview. He flatly stated, "The interpreter? Hated it. I *hated* doing that one because it's just so…not really fun you just write there and you just write all this stuff about the Native Americans."

Private. The role of private and the journal writer shared similarities. They both involved choice and the students could work with others. In addition, some tasks required writing and research. Hunter thought that his favorite task was when he researched Lewis' Newfoundland dog Seamen (see Appendix V). He discovered that the only item that remained from the dog was his collar. When he grows older, he may name his future dog or cat Seamen because "it's a cool name."

Besides Hunter, Harry, Becky, Jasmine, Amanda, and Trevor chose writing activities for their privates' tasks. For instance, Jasmine commented,

My favorite activity was writing the biography of Sacajawea…like her brother of the chief was her older brother not her younger brother. Her

grandmother died because she fell down and she was really weak when

they traveled. She really wanted to travel with Lewis and Clark to see

where the sun's tipi was, where the sun came from.

Ryan did not want to write a report, but he claimed that no other tasks

were left. On the contrary, I counted nine unclaimed choices. In the second

interview, Ryan said, "I don't like writing. I had to write a report. Ugh."

I asked why he chose the task, and he answered in a high voice, "It was

the only thing! I looked through *every single section* except for writing. I hate

writing. I wanted to do that last. Ugh!"

Becky and Raven preferred to work with clay, but other students had

chosen those activities. Amanda constructed a fort and Ryan and Chelsea had

created keelboats. Instead, Becky painted a flag and Raven designed a rain

stick. Even though Trevor did not learn sign language, he considered it his

favorite task. Besides that, he and John liked the challenge task of a coded

message, one of the most difficult options.

Harry had a different perspective on the private's role. Through his

behavior in the classroom, I observed that he was a sociable person and enjoyed

collaboration. In the second interview, he said,

I liked private a lot because you got to choose what you were going to do

and stuff. But sometimes it felt like you weren't really part of the group

because you were just doing the work. And then everybody else was

helping each other and you weren't getting any help or anything. You

couldn't help anyone, and sometimes it didn't feel like you were exactly

part of the group. But it was fun doing all the work. Like I did two speeches

and a biography and that was fun.

Reporting What They Had Learned

At the end of the simulation, I asked the students, "What have you learned

as a result of doing this simulation?" I had copies of their pretests and posttests,

teacher observations, and my field notes. I compiled their thoughts into the

subcategories of historical knowledge, Native Americans, teamwork, making

connections, and transformations.

Historical knowledge. All of the students except Hunter mentioned that

they increased their overall knowledge of Lewis and Clark. Others cited specific

details. For example, Jasmine learned about the Louisiana Territory, Napoleon

Bonaparte, and Thomas Jefferson. Becky and Amanda claimed that they did not

realize the difficulty of crossing the Bitterroot Mountains. Chelsea identified with

the members of the expedition and expressed that she experienced their feelings

when they discussed the dilemmas. She said, "I just knew they traveled West.

Then I learned some of the dilemmas when they had to choose between horses

and their rifles and if they wanted to go down the ravine or up a mountain."

Harry and John commented that they knew a minimal amount of

information in the beginning. Harry remembered he missed 17 questions on the

pretest. John replied,

I've learned a lot about Lewis and Clark. 'Cause I've always wanted to

learn about Lewis and Clark…I learned a lot about how they lived and how

they did the trip, how they worked together, and how they and the people

that were there overcame hardships and obstacles.

Raven echoed Lindsey's statement during the debriefing that she would retain

the information over time. She believed that it would help her in the future. She

said,

I learned a lot. I keep on rewinding back, back in time sometimes.

Whenever I'm in eighth grade I feel like I'm going to be raising my hand up

a lot on all this stuff. I feel really confident, like, if I take tests when I'm in

eighth grade or college or something, about Lewis and Clark, I think I

would do really good on it. Other people don't really have experience with

this stuff, so this is like a new thing they've never did last year or anything.

So, this is really something really new. Then they've never had the

experience and, I don't want to say I'm better than them, but I might grow

up and have like a better job or something, but I don't mean that in a bad

way, like I'm better than you.

Teamwork. The students and teachers learned the dynamics of teamwork

and how group members influenced one another. Hunter mentioned that he

learned, "Teamwork *really* helps. You don't want to argue that much because

somebody will get really mad. The next day they might be really mad at you. But,

I got past that and I learned to just go on."

Raven, Chelsea, and Trevor made similar references. Raven thought

"teamwork really works" while Chelsea said, "If you're fighting you're not going to

269

get anywhere." She restated what she had said in the debriefing that she thought patience was an important trait for the team.

Trevor commented that Lewis and Clark's arguments were not the same as theirs because they faced "a life and death situation."

I asked Lindsey her impression of how the Trailblazers worked together. She and I had formulated similar perceptions of the students' personalities. Since I had known the students for a shorter period of time, I thought our agreement was interesting. I included a longer excerpt from her third interview. I believed it gives another perspective on how the team worked together besides my observations and the student interviews. Lindsey explained,

I've always been surprised by Trevor Johnson. He is one of those

students that you kind of look at him and you kind of prejudge and think,

'Oh, he's just going to be a little fifth-grade rat.' But, he's *very* sensitive. I

feel like that came up. I was happy to see him come to the rescue of

different boys and girls in there. I also knew and watched and he came to

with his personality, of having an opinion, but being able to back it up and I

think that's important. I was very happy to see Hunter more engaged in

conversation. He just got here in January and has felt a little aback. I think

he…intermingled more and I liked that. I saw Harry coming to his role of

that he naturally does of fighting for what he believes but in a way with

back up. But also taking care of people, and I like that in him. Um…and it's

true. I mean, he's not just doing it for the sake for the team. He really, he

really cares about people. I was worried about Raven, sometimes she

gets a little…if she feels intimidated or if she feels like she doesn't, if she's

not in the know, she gets defensive. At first I noticed that, but then I think I

feel like she…was then coming around. I would say halfway through I saw

her doing that. I guess my concern was at first, I was worried that they

were going to be backpedaling and wasting time on things on arguing

points. Sometimes I would come over and redirect. But then I feel like they

saw, 'Like okay, this is not productive,' and they pretty much figured that

out themselves. I never had any secret meeting with them (laughs).

She explained that she was pleased with their interaction. I asked her about

Chelsea, and she paused. Then, she replied,

I didn't have worries about Chelsea because she's the type of person that

listens for the expectation, she follows through, um…I heard her giving

opinions…I feel like she played into the role that she normally does which

is being dependable, being helpful, like I saw her working with Raven….I

do have concerns for her not as a success as grade point averages and

graduating going to college, but I do see her more of a person that is a

follower.

I noticed that during the dilemmas, Chelsea was the most indecisive. In the

second interview, she explained that she wanted to listen to the arguments

before she made a decision. Other times, she was "confused" which choice to

make. I believed that her compliance tempered the conflict that arose. However, I

was unsure if she would have behaved differently in another team.

On a similar point, Ryan's behavior surprised Paula and resulted in comments from Becky, Amanda, and Jasmine. Paula expressed,

> I was really surprised by Ryan because I thought with the influence of John, Becky, and Amanda, I specifically placed him there because he has some real, he's my passive-aggressive and has an *attitude* issue…The girls that were in that group are easy to get along with, I mean, they will listen, they're not very strong-willed. I tried to pick easy people to get along with so there wouldn't be an issue because what he doesn't need is some strong-willed I-know-it-all person with him. He needs more people that are willing to listen and kind of go with the flow. So, I was really surprised that that did not work out as well as I had anticipated. I think the other four people worked out great…They worked well together. But he was like the thorn in the side through the whole thing…basically.

Although the other students did not use Ryan's name, they commented that they learned about conflict within a team. Amanda said that she learned how Lewis and Clark "got really *mad* at people sometimes" and compared "a certain person's" behavior to her aggravation.

Becky said, "Every time we tried to say something he always interrupted and everyone couldn't get along because they wouldn't agree. So, it took a lot longer for us to figure out what the dilemma was and all that."

Jasmine added, "There was just like one person, you know we tried to help him out and tell him to calm down on some things."

272

Native Americans. Just as Paula's assumption about Ryan was erroneous, at first I thought only the female students would be interested in Sacajawea. I was incorrect. John, Ryan, Chelsea, Jasmine, Raven, and Becky specifically mentioned that they learned a lot about her. John commented he had not heard of her before the simulation. I initiated this theory after I interviewed Becky the first time. She said that she was interested in how "a girl" traveled with the expedition. She explained, "All these people went on adventures and stuff. They were all men and the armies and everything and she was like the only girl."

In the second interview, Becky stated that she learned how young Sacajawea was and that she was an active member of the Corps. Raven clarified a notion she had about her. She said,

> I never thought they actually took Sacajawea. I thought they just left her there and came back for her. After she had the baby, then left the baby there and took her? But, then I got it all wrong, I'm like, 'Oh, so they took her, she had the baby, and they kept the baby! *I did not know that!*' So, I learned a lot.

Chelsea and Raven stated that they learned about the Native American tribes. They identified with them for different reasons. Chelsea said that Sacajawea was "the only girl in the group." She said, "I think it was kind of hard because she had to go along the journey, and she didn't really know all these people. She was away from her family, and she didn't know where they were."

As a comparison, Raven remarked that she learned about Native Americans through research. She noticed that one of the Native American tribes

273

traveled north from Mexico. She thought that was "cool" because her family was from Mexico.

Making connections. Chelsea and Raven's comments about the Native Americans related to comments from Hunter and Trevor. Both connected their understanding of the simulation to their lives. In the second interview, Hunter described how the time his brother drove a cat home from South Carolina reminded him of how the explorers brought animals back to Thomas Jefferson. He remembered making bows and arrows from tree branches in Colorado just like the Native Americans made theirs. Also, the rain stick reminded him of a rain stick that he owned. His parents purchased it in Ecuador, and he described how the craftsman went hunting to gather leather for the rain stick. Tying in his own experiences with Lewis and Clark, he said, "They had to make *everything*. I mean, if they didn't have it, what were they going to do? They couldn't go back!"

Beyond that, Trevor made two connections – one with a sticker on his Interactive Student Notebook and the other at home. The last day of the simulation, Trevor pointed to a sticker of ten members of the Lewis and Clark expedition on his notebook. He said, "I put this on in the beginning of the year, and I never knew what it meant until now."

He showed the sticker to Lindsey. She smiled broadly, and replied, "Oh, look at that."

He told her, "I know who everybody is in this picture except the guy on the end."

She suggested the sticker was like "a premonition or omen of things to come."

In a later interview, Trevor shared that he received the sticker earlier in the year. Lindsey had distributed them to the students so that they could decorate their notebooks. He said, "Yeah. I thought that was pretty cool 'cause Chelsea pointed that out to me and it was like, of the whole crew. We could pretty much point out every person except one guy. We didn't know who he was."

In the debriefing and in the second interview Trevor commented on how he recognized a school project that his older sister was working on. He recalled,

> My sister Jessie, was doing a clay model on Lewis and Clark. I walked in
>
> on her and my sister Renee doing the clay and bringing it all onto the
>
> poster board. I looked at it for a while and asked if they needed help. And I
>
> realized, 'Hey, wait a minute!' because I saw the red lines going through
>
> the mountains. Like, 'Is that supposed to be the path of Lewis and Clark or
>
> something?' And my sister Renee's like, 'How the heck would you know
>
> that?'

Transformations. Based on my observations and student interviews, I noticed Raven, Jasmine, Harry, and Trevor altered their opinions about the subject through the course of the simulation. Raven gained confidence, Jasmine and Harry sought knowledge, and Trevor felt appreciation. When Raven wrote her poem, she completed the task with minimal assistance from her team members. As a result, she shared in the debriefing and in an interview her feelings of empowerment. In the second interview, she said,

275

I feel like I'm a poet or writer. I didn't used to like writing poems and stuff. After I did the journaling and the interpreter a couple of times, I felt confident about doing a poem and saying it front of the class.

In the beginning of the simulation, Lindsey and Paula encouraged their students to locate additional information. As a result, Jasmine and Harry located sources from the Internet and the library. The first week I entered the field, Jasmine asked me to copy a paper she downloaded from the Internet for the class. It was titled "Lewis and Clark: American Explorers." I asked her, "Why did you do that? Were you interested in it?"

She answered, "No, Mrs. Williams said that if we bring in extra resources our group gets extra tickets for the journey." She added that she went to the public library for books. Later, she shared she completed the book on *Sacajawea* (Bruchac, 2001) and chose to write a report about her life.

Halfway through the simulation, I had asked Harry about a Lewis and Clark book that jutted from his backpack. He showed it to me. It was titled, *This Vast Land: A Young Man's Journal of the Lewis and Clark Expedition* (Ambrose, 2003). He told me he checked it out from the library along with a few other books. One titled *The Essential Lewis and Clark* (Jones, 2002), included actual excerpts from Lewis' journal entries. Yet, Harry said, "That book is too hard for me, and I only use it for reference. It helps me when I write."

Then, he held up the Ambrose book. He commented, "This book I really got into it. It's really interesting. I'm now reading it for fun."

A few weeks later in the second interview, he reiterated that statement. He said in the beginning of the simulation, he "remembered having no clue" about the Lewis and Clark expedition and I actually was really interested." He mentioned the Ambrose book again and stated,

> I got this book and I mean, it was fictional, because the kid in the book that was writing the journals, he was never in the story, and so what he said sometimes is fictional. But they actually have the dilemmas and stuff on Lewis and Clark. And so I read that book and I'm still reading it. Even though that it's over because I got so interested in it.

> Rather than a specific incident, Trevor experienced a change of attitude. The first interview he mentioned that he did not like the Lewis and Clark simulation. He explained, "It's not something that strikes me as extremely exciting and like, 'I can't wait to go to school to do this.'…It's not something that strikes me as fun."

He changed his mind by the second interview. I restated his earlier comment and asked if he had changed his mind. He reflected, "Yeah, I think it has. Now that it's over I think I almost took advantage of it or something. It seems like, 'Oh, I wish we were still doing it,' because it was a lot of fun."

Summary

This chapter reported the results of my experiences in two fifth-grade classrooms over a period of eight weeks. I entered the field with a research-based knowledge of simulations but minimal awareness of the realities in the classroom. At that time, my research questions remained unanswered. Over my

time at Miller, I focused on understanding the phenomenon of simulations from the teachers' and students' perspectives. I learned why Lindsey and Paula chose simulations as a pedagogical method: they believed simulations targeted diverse learning styles and facilitated how students retained information over the long-term. Lindsey expressed how simulations allowed her to integrate content and create an active learning environment, and Paula stated that simulations fostered authentic learning.

Since I interviewed the teachers' separately, the commonality of the themes supported how the two shared a similar philosophy of teaching and learning. Their partnership enabled me to travel between their rooms and observe their behaviors. Although their teaching styles differed, their actions in the classroom supported their comments during the interviews. I noticed that they informed their students of why they chose to use simulations. Both expressed to their classes that they hoped their students would remember the information over the long-term.

I reported the teacher and student interactions through a descriptive case study. This account depicted the interactions of the teachers and students in a classroom simulation. To increase comprehensibility, I divided the case study into three major sections. In the early stages of the simulation, I explained the site, how the teachers taught background knowledge, prepared the students, and formulated teams. I provided a detailed characterization of the ten students I invited to be part of the study. During this time, I worked to establish rapport with the students. Although I originally believed some would not choose to be

included, all of them agreed to participate. They continued to amuse and confound me as the simulation continued. I chronicled my emerging thoughts through my journal. I noticed how my perceptions changed as my time at Miller expanded.

I perceived the middle stages of the simulation to be replete with emotion, and activity. In this stage, I compiled how the teachers conducted briefings with their students, how students interacted during dilemma discussions, and how the teachers shared their expectations for the roles. Lindsey and Paula established high standards for student work. As a result, many of the students strove to meet their expectations. Several wrote drafts of their journal entries and sought others for assistance. Although conflict angered some of the team members, humor and light-heartedness alleviated some of the stress. At times, the energy in the classroom was palpable. Students experienced the tension and excitement as if they were travelers on the Missouri River.

Towards the end of the simulation, I addressed how teachers assessed the students' academic performance and conducted debriefing sessions. In Paula's classroom, the team's reaction for the last day of the simulation contrasted with Lindsey's. Arriving at Fort Clatsop in first place mobilized the Trailblazers to earn additional mileage. In contrast, the Teepeeshon group seemed disinterested in their final placement. During the second and third interviews with the students, I compared the students' comments with their behaviors in the classroom. With the exception of Ryan, their statements during

the interviews coincided with my field notes. By this time, I believed that my account resonated with accuracy.

I reported the students' thoughts in the last section of this chapter. I summarized the ten students' beliefs on simulations, their roles, and what they had learned. I culled the themes from two student interviews and shared my results with the students in the form of written summaries. In a third interview, they agreed that my reports reflected their opinions. Although the ten students I portrayed here do not represent every student in Lindsey and Paula's classrooms, their comments provide understanding into what a select group of think about simulations.

I integrated portions of my researcher reflective journal into this chapter to trace my emergent thoughts, questions, and findings. I used my field notes; the participants' audiotape, videotape, and interview transcripts; teacher resource materials; and student work samples to create this report. By the end of the eight weeks, I enhanced my understanding of classroom simulations and completed my voyage of discovery.

CHAPTER V: CONCLUSION

To complete this study, I transitioned from the stance of a classroom teacher to a researcher. As a former public school educator, I had utilized simulations in my classroom. Simulations intrigued me, and my prior experiences incited interest for this dissertation. I wanted to understand what happens in classrooms that used them. The purpose of this research was to describe how two fifth-grade teachers help students understand social studies and language arts concepts through simulations.

I observed as two fifth-grade teachers, Lindsey and Paula, conducted a simulation on the Lewis and Clark expedition. I spent 100 hours over a period of eight weeks in their classroom. The following research questions guided my inquiry:

1. Why do the two teachers use simulations?

2. How do the two teachers implement simulations?

3. How do the ten students respond to simulations?

4. What do the ten students think about simulations?

To answer these questions, I interviewed each participant three times, analyzed teacher resource materials and student work samples, and observed the teachers' and students' interactions. I adopted a phenomenological theoretical orientation and reported my findings through a descriptive case study.

I discovered that the two teachers used simulations because they believed simulations targeted students' learning styles and enabled students to retain the material over time. Lindsey felt simulations allowed her to integrate content and create an active learning environment, and Paula believed simulations involved the students in authentic content. To implement the simulation, the teachers increased students' background knowledge on Westward Expansion, prepared them for their roles throughout the action phase, and evaluated student learning through written and oral assessments.

I observed how two groups of five students interacted throughout the simulation. I learned how they formulated an identity, discussed dilemmas, resolved conflicts, and completed their tasks. The students shared positive and negative opinions about their roles as captains, journal writers, interpreters, and privates. They explained how they had learned about the content, teamwork, and historical figures. Four students made connections with the simulation to their lives and experienced positive transformations.

In this chapter, I discuss my role through this process, the contributions of this study, recommendations for practice, and suggestions for future research.

My Role as a Researcher

As a participant-observer in this study, I chose to interact on some occasions and observe on others. I made these decisions based on the context of the setting. I realized that my presence would alter the outcomes of naturally occurring events (Patton, 2002). As a result, I tried to minimize the "researcher effect" through a rapport with the teachers and students. I adopted a reflexive

stance in order to examine my behaviors and understand my perspective (Patton, 2002; Piantanida and Garman, 1999). Continuous analysis enabled me to make sense of my experiences (Schwandt, 1997). In this section, I explore how my prior knowledge, assumptions, and relationship with the teachers evolved throughout the study. I include excerpts from my researcher reflective journal to compare my thoughts over time.

Prior Knowledge

In the final interview with Lindsey, she referred to the students' pretests and said that "pretty much a lot of them went into (the simulation) knowing not a durn thing." Like the students, I entered Paula's classroom the first day with a scant amount of information about the Lewis and Clark expedition. I remembered that Sacajawea accompanied the men on the trip and that they traveled west. I did not anticipate how I would learn about the content with the participants. Many times I felt like I was a student as I read the books the students read, learned about the dilemmas, and listened to the teachers' instructions during the briefing stages. In my researcher reflective journal, I wrote,

> I don't know if this is an implication or not, but it's how much I'm learning as a result of being here. I'm learning so much about Lewis and Clark, and I'm reading on my own and experiencing it as the kids experience it. I don't know if that's part of it, or a benefit, or what. I wasn't expecting that I would feel like I'm in fifth grade again and being a part of a curriculum that I personally have missed.

I admitted this lack of knowledge to a few of the students and Paula in interviews. Some of the students seemed surprised by my ignorance while Paula seemed amused.

As a result, my interest in the content propelled my focus throughout the simulation. I wanted to learn what occurred during the Corps of Discovery. I vicariously experienced the paradox of the dilemmas and the struggle as the teams made decisions. I listened as the teachers read from the shared texts, *How We Crossed the West* (Schanzer, 1997) and *Lewis and Clark and Me* (Myers, 2002). By the end of the simulation, I departed the field with an increased understanding about the content and phenomenon of the Lewis and Clark expedition. In a later journal entry I mentioned, "I'm actually genuinely looking forward to reading the journal of Augustus Pelletier! I'll probably learn something interesting along the way."

Examining Assumptions

My researcher reflective journal allowed me to review ongoing thoughts and feelings (Janesick, 1998). Every day that I collected data at Miller Elementary I wrote an entry to compose my thoughts, ward against bias, and make sense of my experiences in the field. I started the journal on March 28, 2005 and completed it on May 18, 2005. As I reread this journal, I did not realize how critical this resource would be to my emergent and later thinking. I entered the field with certain assumptions about simulations. The journal illuminated these notions and documented my thought processes. For the first entry, I recorded my feelings towards simulations. I stated,

Advantages/positive:

o I think that they motivate students to learn more about a subject.

o They can be fun.

o They incorporate drama, which I LOVE!!

o They help students to remember information (recall, for a later time).

o It helps them to care more about a topic.

Disadvantages/negative:

o They can be stressful.

o They can exclude some students.

o They can cause a lot of anxiety and stress on the teacher…and

students?

o They can be time-consuming.

o Other teachers can think you're a little crazy for doing them!

Several weeks later, I revisited these beliefs with an informed

perspective. I have learned that simulations do not motivate every student to

work hard, and often they are not "fun." Role-play may be less overt or implied.

They require additional funds and are not predictable. Although they aim for

inclusion, not every student has the maturity to handle the autonomy and

responsibility well. As my time at Miller elapsed, I reflected,

I can't believe that I will be leaving the field very soon! Only a few short

weeks. The time has gone by very fast. I have to say I love qualitative

research, and I'm excited about entering the field every day…Am I seeing

the truth? Have I been trustworthy? I think so. It's important I keep my own

285

bias in check. I now think that simulations aren't always "FUN" and that

they can be troublesome especially when working out the conflicts.

In order to create a balanced report, I included the advantages and

disadvantages of simulations. I attempted to record the events as they occurred

without judging the actions of the teachers or the students. Every day I visited my

journal to explore my thinking. I felt like I could be myself and speak with candor.

I perceived my journal as a type of confessional outlet. As an example, I

considered how I perceived the process of data collection and analysis:

> Also, I need to get over my concern of not painting a picture that would be
>
> altogether praiseworthy. The good, the bad, the ugly…I need to report it
>
> all...I do like all this data analysis business…it's actually fun!!! I know that
>
> may be hard to believe for some people, but it is. I feel like I'm
>
> accomplishing something worthwhile.

Collegiality

I believe my prior relationship with Lindsey and Paula influenced this study

in a positive manner. An environment of mutual trust facilitated my ability to

answer my research questions. The teachers accepted me into their classrooms

with the awareness that I would observe their actions, record their conversations,

and review their resources and grade books. This process could be a daunting

one for any educator. Yet, I felt they perceived me as an insider. They remained

after school for interviews, reviewed my field notes and findings, and allowed me

to access their records. I recorded in my journal my appreciation towards the

teachers: "I am eternally grateful to Lindsey and Paula to allow me to come into

their rooms. It's truly a gift, and I don't want to do anything that would jeopardize this study." At the time, I considered the importance of honoring their voices and protecting their anonymity. I realized that as a researcher, I had an ethical responsibility to not betray their trust.

Several times Paula asked me if I obtained the information I needed. My first week in the field, I realized that at times she said statements for my benefit. When she introduced the simulation, she told the students why they were doing a particular activity. She would preface the statement, "We always do this before a simulation." I noticed over time, she did not continue making these comments. Instead, she seemed concerned if I had obtained the data I needed. She stated several times, "I don't know if this is what you wanted or not." Other times she expressed frustration when the students like Ryan misbehaved.

I explained that I did not want her to alter her plans on my account. Aware of her sensitivity, I waited until I completed my observations before I shared my data with her. I wrote in an earlier journal entry, "I have to be careful not to reveal too much information to Paula. I don't want to color her opinions about anything or make changes to how she would normally feel."

In contrast, I did not perceive that my presence affected Lindsey's behaviors. She said several times, "Come in whenever you want, my door's always open. You can stay here until the last day of school." The only instance she seemed nervous was during the video debriefing session. Other than that, my presence seemed to affect her in a positive manner. Like the students, she seemed to enjoy the attention, and I shared samples of my field notes with her

throughout the study. I asked for feedback to determine if I captured her "reality." Often, Lindsey expressed how she did not realize *how* she taught. My field notes informed her on her behaviors and statements. In the third interview, she shared how she appreciated the opportunity to reflect on her practice. She explained,

> It's been interesting going through just this process and having to reflect
> on things because a lot of times we just do what we do and people are
> always like, 'Oh, it's so awesome, and I wish we'd done that…'. But to kind
> of…reflect and be able to also realize, yeah, you know what? I did do that,
> and this, and I did integrate all this stuff, and wow, this is really awesome!
> Because so many times after the simulation because there is so much,
> there's this letdown of 'Thank God!' You know I'm glad they liked it but
> now to be able to look and say, yeah, it's over, and then look at what they
> did…I've enjoyed having you there to…It's kind of nice to force me as I'm
> leaving the school year to kind of reflect on all these things and
> realize…it's been great, and they've liked having you here, too, so I thank
> you for that.

A collegial spirit pervaded my conversations with the students as well. If I did not gain their confidence, then I would not have been able to obtain trustworthy results from their perspective. In an earlier journal entry, I said,

> I have to say that when I interviewed the kids today I was touched by their
> innocence and vulnerability. They were excited to be part of "a book" and I
> would NEVER want to take advantage of their willingness to help me. I
> enjoy working with them.

Through this project, I am connected to these participants in an irrevocable manner. As I wrote in my journal, "The funny thing is, they will live in my memories for years to come…because they were such a critical part of this whole dissertation process."

Summary of Contributions

Even though simulations have existed for decades in classrooms throughout the United States, many educators are not aware of them. In this study, I explained in detail the phenomenon of classroom simulations. Instead of the aim to generalize, I showed what is possible. This section synthesizes the teachers' beliefs and practices and students' responses and thoughts through a simulation. I do not claim that simulations are a panacea for classroom problems. In fact, they may engender difficulties for teachers and students. The results of this study have implications for classroom teachers and the students they instruct. I address both populations in this section.

Teachers

Simulations offer an alternative to traditional instruction. Lindsey and Paula were not "traditional teachers." Paula described herself as a "rebel" in the classroom in my pilot study last year and in the first interview. Lindsey claimed that her teaching style had changed from traditional approach to more experiential. When they chose to incorporate simulations for the first time, they accepted a challenge. They entered the simulation not knowing the results. Years later, they have refined their proficiency with them. Their shared beliefs

289

that simulations helped students retain information and meet individuals' learning styles propelled them to continue using them.

 As teachers, they shared common characteristics. Lindsey and Paula demonstrated a willingness to challenge a prescribed curriculum and expended additional time and energy. They upheld elevated standards for student performance and modeled their expectations. Throughout the simulation, they addressed the academic and social outcomes. Often they required the students to read, write, research and interact as a team. As a result, they benefited from the ability to differentiate instruction, integrate curricula, and increase student interaction. However, they experienced difficulties through the process.

A pedagogical choice. Simulations offered an option to traditional instruction. In Lindsey and Paula's classrooms, students did not read from a single textbook and answer questions. Their students sought numerous texts and brainstormed inquiries. Rather than search for a correct answer, they located other possibilities. They worked collaboratively as well as independently. The teachers valued divergent thinking and praised them for their individuality.

This kind of teaching and learning stretched their responsibilities. The teachers' school day did not begin and end at the scheduled times. Strategic planning enabled them to begin the simulation on their targeted date. Over the summer of 2004, they brainstormed their objectives for the year. They attended grant-funded conferences to inform their practice. In addition, they wrote grants and requested funds from the community to sponsor trade books.

Prior to the beginning, they located supplies, duplicated handouts, and conducted research. As an example, they downloaded information from the Internet and compiled the data into folders for students' reference. Lindsey and Paula wrote grants and acquired funds to purchase the trade books. During the simulation, they shifted from instructors to facilitators. They offered students choice and control over the content and allowed students to negotiate conflict. Beyond that, they conducted writing conferences, assisted in locating resources, and managed student behavior. Throughout the simulation, the teachers assessed student learning through informal, alternative, and written assessments.

Simply stated, they worked hard. They understood that simulations demanded additional time and expense, and they accepted the challenges because of their beliefs about teaching and learning. In the second interview, Lindsey compared teachers to sellers. She said, "You've got 30 buyers in here and they're going to buy in or they're not…I can open a history book and just read it or I can integrate all these things and make them want to do it." Paula added the first time she used simulations was a "discovery." She advised others who wanted to try them, "once you get going, and you can see the enthusiasm with the kids, it kind of…makes it all worthwhile."

Differentiated instruction. In Lindsey and Paula's classrooms, their students varied in terms of personalities, gender, academic functioning levels, and interests. Meeting the needs of a diverse population required an equal amount of instructional variety. The teachers chose alternative methods

throughout the simulation. They allotted time for direct instruction, shared reading, and guided reading. Throughout the action phase, they allowed students to work on numerous activities.

The rotation of the tasks enabled students to participate in several roles. The students had opportunities to exert leadership as captains, compose original writing as privates, and conduct research as interpreters. Because of the diverse activities, the teachers covered the different learning styles of visual, auditory, and kinesthetic. Lindsey and Paula encouraged students to work on their own pace and circulated to assist them. They constantly assessed student progress and planned lessons based on their observations.

Integration of curricula. Lindsey and Paula integrated language arts and social studies for different reasons. Paula claimed that she had always taught that way, and Lindsey said that she enjoyed it when the subjects were interconnected. In the first interview Lindsey stated, "You can't just say, 'Okay, we're going to do reading.' Because when you're reading you're reading about something. And, I think that you have to have connections." Lindsey chose to make connections through blending social studies with language arts. They located historical fiction and informational text to address the content areas and maximize their instructional time.

Besides reading, the teachers infused writing through the use of journal entries, privates' tasks, and interpreter cards. They prompted the students to write from multiple perspectives. They modeled their expectations and assessed students on their abilities to communicate effectively. Journal writers summarized

the group's decision on the dilemma and compared it to Lewis and Clark's. They

documented the team's interactions. Interpreters researched their encounters

with Native Americans and described the geographical regions in postcards to

President Jefferson. The fictional audience of the President traversed to private's

tasks as well. Students pretended to convince the public through editorials and

speeches. They experimented with expository, persuasive, and creative writing.

One problematic issue with integration was grading. Report cards required

that the teachers assign a grade for these subject areas: writing, reading, and

social studies. Lindsey and Paula had to decide how to assign grades to the

different columns. They chose to give multiple grades for one assignment. For

instance, they would count a student's journal entry for writing and social studies.

Interactive classroom. Lindsey and Paula established themselves as

authoritative figures in the first month of school, August of 2004. They taught

their classroom procedures with the expectation that the students would interact

in small groups often. They modeled how students should interact in a productive

manner and related their expectations (see Appendix W). When I observed in

April, the students had internalized these guidelines. Therefore, they had refined

these skills prior to my study. As a result, throughout the simulation they had

minimal behavioral issues. The students respected their teachers and followed

directions with few disturbances.

If Lindsey and Paula did not have exceptional classroom management,

the simulation could have escalated to chaos. In the action phase, the students

roamed between the rooms, traveled to different areas to locate information, and

consulted with their peers. They participated in all of the language arts: listening, speaking, reading, writing, and viewing. They had an active role in their task. On many occasions, movement and noise infiltrated the classrooms. Yet, the classroom hummed with productive activity. The teachers acted as allies, not adversaries, and the students sought one another's expertise for assistance. They relied on one another to accomplish their tasks. The teachers encouraged conversation and teamwork and rewarded students for their efforts.

The subtle difficulties. Lindsey and Paula began the simulation the last nine weeks of school. They had already produced two plays and implemented three simulations. By this point, I perceived that they were exhausted. In one interview, I asked them why they chose to introduce a simulation late in the year. As fifth-grade teachers, they had extra-curricular obligations that were not required of the younger grades. Both mentioned that they did not want to "lower their quality" because of the calendar. Lindsey remarked how they had to work harder at the end of the year to maintain the students' focus. She explained,

> There are 21 days left, and we are going to work, and I'm not going to lower my quality because it's the end of the year. And I think that's when you have to pump it up more because you have to keep them on it. Because if not then you're doing Romper Room for 21 days and doing behavior management.

Still, they experienced frustration. Although they reported that they enjoyed teaching through simulations, occasionally they seemed fatigued. In part, Lindsey's exhaustion stemmed from her role as a mother of a one-year-old.

294

She once described that the simulation could be "overwhelming" and that she relied on Paula to help her. One time she asked me to share to new teachers that they should not allow the external classroom responsibilities to "sink their ship."

I noticed that Paula worried about the students who exhibited behavioral issues. She wondered aloud if they appreciated her efforts. To her credit, she gave them opportunities to improve and ignored some of their outbursts. She seemed to sense how to work with them and treated them with fairness. However, by the end of the year, she stated that this academic year was one of the most challenging groups she had ever taught.

Time exacerbated their discouragement. Often, they expressed how they had to adjust their schedule due to external events. Field trips, assemblies, and guest speakers detracted from the time that they had to complete the simulation. They adjusted their schedules to accommodate planned and unplanned activities. As a result, they required the students to complete their tasks at home due to insufficient class time. Sometimes the students felt rushed, and they did not have the resources at home for their projects. At the end of the simulation, Paula explained that she would prefer that the students enter the simulation every other day. Then, she would be able to grade their tasks on alternate days. Lindsey expressed that she felt pressure to grade the students' journal entries, interpreter cards, captain's logs, and privates' tasks daily. Other commitments inhibited this plan.

In my literature review, I discussed how the research on simulations had not addressed the role of the teacher. Underrepresented topics included

295

teachers' beliefs about teaching and learning, how they handled challenges and stimulated meaningful conversation, and the effects of the teacher as facilitator. I conclude the success of the simulation depends on the skill of the teacher. Paula and Lindsey's ability to scaffold instruction and maintain order maximized their instructional time and minimized behavioral issues.

Students

Although classroom teachers authored numerous articles on simulations, the majority of them did not include the students' perspectives. When I reviewed the literature, I was not able to locate negative points of simulations. All of the comments were complimentary. This disparity prompted me to include the students' beliefs and behaviors into this study. I integrated the less advantageous aspects in order to report how simulations affected students' academic and social interactions.

One of the most enjoyable aspects of this study was my involvement with the students. I felt that I had earned their trust, and they seemed to enjoy my presence. At first, I thought that they would monitor their conversations and behaviors as I observed their teams. Instead, they spoke with candor. They did not appear to mind that I wrote in my notebook as they communicated. In interviews, the students articulated their beliefs and enabled me to understand their thoughts. I believed that they enjoyed the attention that I gave them, and that they made a contribution. Through my interviews and interactions with them, I learned how students addressed challenges, fostered teamwork, negotiated conflict, and experienced the content.

296

Challenge. In a previous interview, Lindsey mentioned that she believed

that the research on gifted students included studies on simulations. She stated

that she enjoyed how simulations met the needs of gifted students as well as the

students of other levels. I noticed that Trevor, John, and Harry shared a common

trait. In interviews, they all stated that they enjoyed debating the dilemmas. I

perceived that they thrived on the verbal interchange and the opportunity to

conjure persuasive reasons for their arguments. The boys referred to texts and

maps to support their points. In particular, Harry's extracurricular reading

informed his arguments. Lindsey supported that Harry argues "for what he

believes but in a way with back up." In addition, Trevor and John chose a coded

message as one of their private's tasks. Vargas (2000) regarded the coded

message as a challenge task, and they were the only two students in both

classes to select that option.

Even for the students who were not classified as gifted, the simulation

required them to actively seek out information, solve problems, and compose

journal entries. Often they struggled through this process, but they managed to

complete their tasks. The assignments that the students completed were

multi-faceted and required them to research, read, and create. For instance,

through the action phase, students located information on Native American

tribes, read directions and books, and created patterns for beadwork and rain

sticks. These activities allowed students to attempt challenging tasks and

celebrate their strengths. Raven had difficulty with writing, but by the end of the

simulation, she felt proud of her poem. During daily briefings, Lindsey and Paula

challenged the students to work at their highest potential. I observed that several of the students aspired to their challenge.

Teamwork. The design of the action phase required the students to work as a team. They brainstormed an identity, made decisions on dilemmas, and moved along the trail as a unit. The students sought each other as resources and assisted each other on the tasks. The social aspect of the simulation required them to practice compromise, negotiation, and self-control. They did not always agree, and they had to make adjustments.

Students cannot learn teamwork from a textbook. In order to practice cooperative behaviors, they need opportunities for interaction. Lindsey and Paula valued teamwork, and they encouraged the students to rely on each other. To promote this value, the teachers asked the students to create an identity and assist each other on the assignments. The students perceived each other as resources and often collaborated on their efforts. They acknowledged each others' talents such as writing and art. Often, they asked each other for assistance. Through their specialized roles the students accumulated miles as a team. Their efforts accelerated or impeded their progress.

Some students internalized the concept of teamwork and extended it to the actual members of the Lewis and Clark expedition. Amanda and Chelsea imagined how the original explorers felt frustration. Chelsea mentioned how she had to have patience with Harry and Trevor just like she imagined Lewis and Clark did with their travelers. Amanda expressed how Ryan aggravated her, and she had to learn how to ignore him. She mused that if in the original expedition,

she imagined the uncooperative crew members seated in the back of the boat, away from the others in the front.

In general, the students reported that they liked working in groups, and my observations verified these comments. However, Hunter seemed to prefer working independently. At one point, his reserved manner aggravated Harry. Harry interpreted Hunter's reticence as being uncooperative. Students' interpretation of "teamwork" affected how the groups interacted.

Conflict. For this study, I define conflict as the instances when the students did not agree. By its connotation, the word "conflict" conveys a negative association. Yet, conflict is a part of the classroom, and students have to learn how to manage their emotions. At times, the students experienced anger, frustration, and despair. However, they managed to work through the conflict in order to locate a solution. Lindsey and Paula tried to minimize their roles in these discussions. From the beginning of the simulation they told the students that they had a responsibility to work through their conflicts and the captain would make the final decision if they had a dispute. The teachers required the journal writers to report conflicts in their entries. For instance, Harry, Becky, Raven, and Amanda documented their team member's acrimony. Some students, like Trevor, Harry, and John, reflected on their behaviors to understand why they disagreed.

At times, their personalities and opinions collided. The students handled conflict differently. Harry, John, and Trevor seemed to enjoy verbal debates while Chelsea, Becky, Raven, and Jasmine aimed for consensus. Hunter refrained from the discussion except for one dilemma. Ryan seemed nonchalant while

Amanda internalized her aggravation. For the majority of the dilemmas, they managed to negotiate their issues and arrive at a compromise. Even when they did not, some gained knowledge in how to work through their problems. During the debriefing, Harry and Trevor mentioned their conflict and how they resolved their issues. Amanda identified with Lewis and Clark and imagined how they felt on the expedition. She commiserated with how they must have angered one another.

Involvement. The nature of the simulation involved the students in the learning process. They read from the texts in order to experience the content as if they were a part of the action. This kind of learning moved the students from passive roles to active ones. Lindsey and Paula prepared them for the simulated journey with supplies and knowledge. After that, the students had to apply their skills to complete their responsibilities. For each task, their teachers assessed them on their quality.

I noticed that the students seemed the happiest when they were involved. When Paula explained their duties in the beginning of the simulation, I observed that several students appeared bored. In contrast, during the action phase, they exhibited more energy and interest. After they located their resources, they focused on their tasks. The captain's role required the least amount of time, but it required the students to assist the team members. Becky, Chelsea, Harry, Jasmine, and John stated that they enjoyed helping one another. However, Amanda and Harry did not like the captain's role as much as the others because they reported that they did not have "much to do." They preferred engagement.

Ryan. In contrast, Ryan seemed to be the most content when he had a minimal amount of responsibilities, such as the role of captain. From the group of ten students, Ryan appeared to be the student who had the most difficulty for social and academic reasons. He demonstrated an awareness of his behaviors, but he seemed unconcerned how his behavior affected others. For every task, he struggled with the writing and claimed that no one helped him. However, I witnessed several occasions where Paula, John, and Becky assisted him.

Ryan's lack of intrinsic motivation created problems for the group and himself. He required Paula's explanation before he continued with a project. Paula removed him from the group on the final dilemma for a reason unrelated to the simulation. On that day, he worked by himself, and the group solved the dilemma without him. By that point, Paula felt perturbed by his actions and that he had expended his chances. For students like Ryan, a simulation hosted additional challenges for Paula. Even though she had taught the procedures for group activities, his behavior counteracted her expectations. His resistance through the simulation affected the group dynamics.

Simulations created difficulties for the students and the teachers. Some of these included time constraints, conflict, and stress. They required the teachers to work additional hours and the students to adjust to various personalities. On the other hand, simulations allowed Lindsey and Paula the opportunity to differentiate instruction, integrate curricula, and promote student interaction. They offered a cognitive challenge to students, facilitated teamwork, and involved the students in the content.

Recommendations for Practice

Simulations offer teachers an option to traditional instruction. Their design requires teachers to transition from a director to a facilitator. As a result, students adopt active roles through cooperative learning structures. Although simulations connect to the field of drama in education, in Lewis and Clark, role play was implied rather than overt. The students interpreted their roles in various ways and often wrote in character. Therefore, teachers who are not comfortable with drama may not emphasize this aspect. Through the integration of social studies and language arts, teachers fuse the content to meet their curriculum standards and maximize their instructional time.

On the other hand, simulations require extensive time for preparation and implementation. In this case, Lindsey and Paula expended several hours planning. Then, they allotted numerous instructional hours to build background knowledge, enact the action phase, and conduct the debriefing. Over a period of six weeks, they entered the simulation approximately three days a week. For the alternative days, they graded students' work and prepared for future lessons. They had outlined their American history curriculum in the beginning of the year. With the *History Alive* program and the Interact simulations as their guide, they chose to delve into certain subjects in depth. As a result, students gained extensive knowledge of certain time periods. However, they did not study more recent history, from 1805-2005. Teachers who incorporate simulations have to ask themselves how a simulation addresses their curriculum and standards. If

they choose one area to investigate in detail, then they will not have time to teach other topics.

Simulations adhere to an established design. Commercial materials provide the structure of the simulation, and teachers can modify the information for their purposes. Additional resources include books, supplies, and time. External or internal agencies, such as local grants or the PTSA could sponsor the costs. Team members could share the materials with one another while parental volunteers and student assistants could assist with the preparation.

Depending on the skill and classroom management skills of the teacher, the instructional and affective benefits will vary among classrooms. Novice teachers to simulations would benefit from the expertise of someone proficient in using them. In this case, Lindsey and Paula ranked among exemplary teachers. They were former Teachers of the Year, had written grants, received awards from local literacy organizations, and had attended workshops on simulations. An intrinsic motivation propelled them to spend several hours per week beyond their assigned time in the classroom.

Through simulations students have an opportunity to think, research, compose, and create. They encourage student autonomy and involvement in the learning process. Lindsey and Paula valued these traits, and their students benefited from their efforts. Students gained knowledge beyond a factual understanding of the Lewis and Clark expedition. They learned how to resolve dilemmas and assume responsibility for their tasks. This "untaught curriculum"

augmented explicit instruction and blended cognitive and affective

understanding.

<div align="center">*Suggestions for Future Research*</div>

The limitations of this study included the time constraints and the small

number of participants. I examined one simulation over a period of eight weeks.

As a result, the findings of this study were not generalizable to other populations.

The interactions of the participants were unique and could not be replicated in

another setting. My prior experiences with simulations might have influenced the

findings to some degree.

Future research could surpass the limitations of this study. Simulations

connect to the fields of experiential learning and drama in education. Future

studies may investigate how other teachers infuse simulations in their

educational settings and review the academic and social outcomes. For example,

a study may compare a classroom that does not use simulations with one that

does.

Students' perceptions remain underrepresented in the literature.

Researchers could investigate other students' thoughts and extend the findings

from this study. They could investigate how learning styles and behavior affect

student performance in a simulation. Those interested in drama in education may

examine how role play affects students' understanding of the content. They could

conduct longitudinal studies to determine if students retain the information over

time.

Summary

I divided this chapter into four sections. First, I described my role as a researcher and shared my prior knowledge of the topic and how my assumptions changed during my time in the field. I compared my later impressions with earlier expectations. I addressed how a mutual collegiality facilitated the process of data collection and analysis.

Second, I summarized the contributions of this research for teachers and students. Simulations offer teachers a choice for instruction, allow them to differentiate and integrate subject areas, and promote an interactive classroom. Moreover, I shared the difficulties teachers could experience with simulations. I explored how the students responded to issues of challenging content, teamwork, and conflict. Although simulations involve students in the learning process, they do not motivate all students to learn. I explored how Ryan's lack of motivation created frustration for Paula and his team. Ryan's actions demonstrated that not every student responds favorably to simulations.

In the third section, I shared the advantages and disadvantages for teachers interested in implementing simulations. The success of a simulation depends upon the instructional and classroom management skills of the teacher. In some instances, teachers will not know what students have learned. The teachers will have the information from test scores and journal entries, but the inner thoughts and musings of the students remain unknown. I concluded this chapter with suggestions for further search.

Lewis and Clark conducted an expedition to examine unknown territory. Their discoveries ignited a nation's imagination. I equate simulations in the classroom to uncharted terrain. Their potential for the integration of subject matter and the involvement of students in the learning process offer a viable alternative for motivated teachers and potential studies for curious researchers. Allow the imagination to inspire action.

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June 13, 2005

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Appendix A

Sample Questions from Teacher Interview Protocols

How many years have you taught?

How would you define a simulation?

Have you always used simulations?

Where did you learn how to use simulations?

Describe your teaching philosophy.

Has your teaching style changed over the years?

Explain your behavior management system.

How did you teach the students the routine?

When did you start planning for the simulation?

How do you see your role in the simulation process?

How do you think students learn?

What do you like the best about simulations?

What do you like the least about simulations?

You mention "scallywag" sometimes in reference to work ethic. How would you

describe your expectations about student work?

333

Appendix B

Sample Questions from Student Interview Protocols

What are some things that you like to do for fun?

Pretend I have no idea what a simulation is. How would you explain to me what it is?

Have you ever participated in simulations for other classes?

How did you feel when your teacher introduced simulations?

What do you like the best about simulations?

What do you like the least?

How do you think you learn best?

How do you feel about the role of…

       Captain?

       Journal writer?

       Interpreter?

       Private?

How do you think you group worked overall?

What have you learned as a result of doing this simulation?

Is there anything else you would like to say?

Appendix C

Research Question: What do fifth-grade students think about simulations?
Interview Summary: John McNeil
Date: May 22, 2005

John is a humorous, talkative, intelligent student who earns straight A's. He admires the teachers he has had in elementary school and values his friends. Outside of the classroom John has several interests such as building models with Legos and participating in contact sports. Currently, he plays lacrosse for a local team and used to belong to a local football team. He is considering trying out for football again this year. He loves the Harry Potter series, an interest he shares with his aunt. He is close to his parents and extended family. John's ethnicity is Italian and Spanish, although he only speaks English.

John defines simulations as "experiencing what the people in history experienced except in a different time with a more safe environment, better guidelines, and more know-how." He comically provided the example that teachers are not going to arm students with shotguns so they can hunt for bears behind the Museum of Science and Industry (MOSI).

In the classroom, John prefers to learn by doing. He clarifies that he likes to experience the content as well as read about it. Sometimes he rehearses information in his mind such as the songs for Lewis and Clark musical.

This is the second year John participated in classroom simulations. In fourth grade he was chosen for a major role as a judge in a mock trial and a minor role in a Civil War simulation. He credited his father for instilling confidence when he tried out for the part as the judge. He remembers his dad told him, "'Think that you're going to win and you're going to win.' I thought I was going to win and I won." John enjoys simulations and considers them to be fun because the students do not just sit down and do work. Besides being allowed to interact, students "*research* it and re-enact what people did to find out what they did." One of John's favorite aspects of the Lewis and Clark simulation was debating the dilemmas. He said that he really "gets into it" because he enjoys persuading others. John stated, "I liked coming up with a good reason not to do this. I might have to defend one thing even though I want the other thing to win. I can make up a whole speech about how that thing should win." On a related note, John enjoyed the role of Captain because he likes being in charge and having command. He clarifies that he does not mean "bossy" but that he is able to be the leader. Others have told him that he has the personality to be a good leader. (In the past he has been chosen as Captain of the football team as well as the leader for several group activities.) Another task John enjoyed was the role of private. He liked the challenge of creating a secret code and the artistic aspect of the rain stick.

Although John thought the entire Lewis and Clark simulation was fun, he thought the interpreter card was the least fun. He said that he had difficulty locating information

about the tribes and figuring out which tribe to discuss. In contrast, he liked journal writing and taking notes because "my mind gets pretty jumbled sometimes."

Regarding his group's performance, he thought that they worked well together although they did not always agree on the dilemmas. He pointed out that they usually tried to work together but that sometimes it was difficult with two boys and three girls. However, he thought that having more girls made it easier to make a decision because girls are not as competitive as boys. He added that he appreciates how his teacher does not place students with their "best friends" when she creates groups for simulations because they are able to make new friends.

At the end of the simulation, John stated that he learned a lot from his teacher's instruction, books, and the dilemmas. He said that he always wanted to learn more about the Lewis and Clark expedition and that he knew very little before the class studied the subject. Initially he did not know who Sacajawea, York, or Charbonneau were and who the President was at that time. All he knew was that Lewis and Clark started up the Missouri River. By the end of the simulation, John discovered how Lewis and Clark lived and worked together, overcame hardships and obstacles and completed their trip.

****

This statement truthfully summarizes my beliefs about how I feel about simulations as reported in interviews with Ms. Gauweiler.

_____√_____Agree

_____Disagree*

_____ Date

___*John*_____ Signature

Mcneal

*Notes:

Appendix D

PRE-TEST

Name: _____

1. What was the primary goal of the Corps of Discovery?_____
   _____

2. What were the first names of the co-captains, Lewis and Clark?

   _____ Lewis

   _____ Clark

3. Who was President at the time of the journey?
   _____

4. How long did the entire journey take?
   _____

5. What was the name of the great expanse of land west of the Mississippi River that the President bought from France?
   _____

6. On what river did most of the journey take place?_____

7. Where did Lewis and Clark's journey begin?_____

8. What was Lewis' job before becoming Captain of the Corps of Discovery?
   _____

9. How many slaves traveled with the Corps, and what were their names?
   _____

10. Toussaint Charbonneau, a Corps member, had two wives. One traveled with the Corps and helped communicate with the Native Americans along the journey. What was her name?
    _____

    How old was she when the journey began? _____

11. One baby was born along the journey. What was his name?
    _____

12. One animal accompanied the Corps of Discovery for the majority of the journey. What kind of animal was this, and what was its name?

    _____

13. The Corps of Discovery brought many gifts for the Native Americans. Name one:

    _____

14. Along their journey, the Corps met Native Americans whose name means "pierced noses." What is their tribal name?

    _____

15. Meat was an important food source for the Corps. What was one of the animals they ate?

    _____

16. What kind of boats did the Corps use for travel? _____

17. What is the name of the Fort the Corps built near the Pacific Ocean? _____

18. Insects were extremely troublesome during the journey. What was one of the pesky pests that particularly plagued the Corps? _____

19. At his home in Virginia, the President grew many of the plants Lewis and Clark brought back from the journey. What is the name of this President's estate?

    _____

20. Write three questions you have - things you hope to learn - about Lewis and Clark:
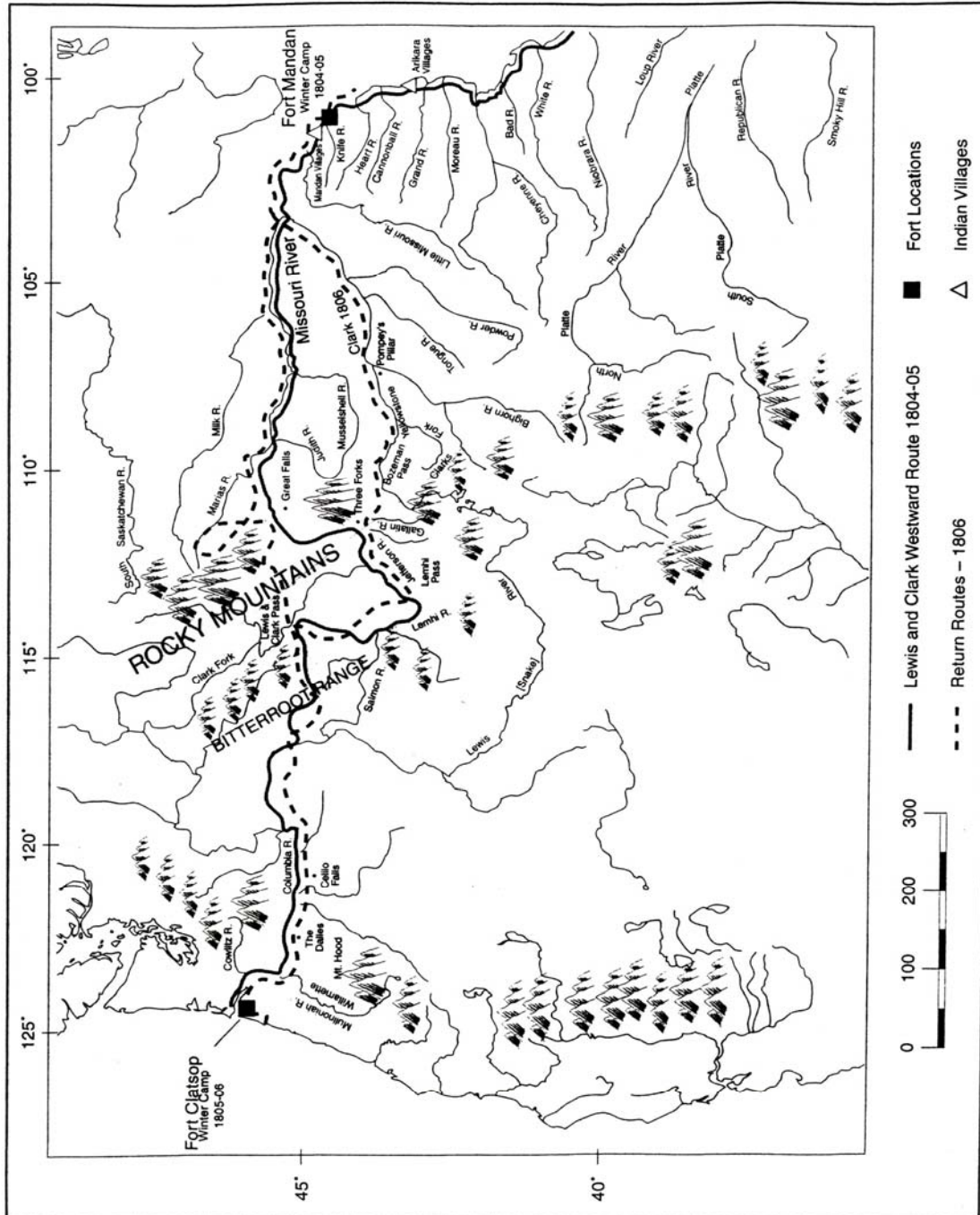
    a. _____

    b. _____

    c. _____

List anything else you already know about Lewis and Clark and their Corps of Discovery:

_____

_____

341

Appendix E

LEWIS & CLARK MAP

LEWIS & CLARK

Legend:

- ■ Fort Locations
- △ Indian Villages
- —— Lewis and Clark Westward Route 1804-05
- - - - Return Routes – 1806

Scale: 0 100 200 300

Map labels include: Fort Mandan Winter Camp 1804-05, Arikara Villages, Mandan Villages, Fort Clatsop Winter Camp 1805-06, Missouri River, ROCKY MOUNTAINS, BITTERROOT RANGE, Clark 1806, Great Falls, Three Forks, Bozeman Pass, Lemhi Pass, Clark's Pass, Lewis and Clark Pass, Pompey's Pillar, Celilo Falls, The Dalles, Mt. Hood

Rivers: Knife R., Heart R., Cannonball R., Grand R., Moreau R., Cheyenne R., Bad R., White R., Niobrara R., Loup River, Platte River, Republican R., Smoky Hill R., South Platte, North Platte, Little Missouri R., Powder R., Tongue R., Yellowstone Fork, Bighorn R., Milk R., Marias R., Judith R., Musselshell R., Saskatchewan R., South Saskatchewan R., Clark Fork, Gallatin R., Madison R., Jefferson R., Salmon R., Lemhi R., Lewis (Snake), Lewis, Columbia R., Cowlitz R., Willamette R., Multnomah R.

Latitude/Longitude markers: 100°, 105°, 110°, 115°, 120°, 125°, 45°, 40°

343

Appendix F

DAILY DILEMMA #1

LEWIS & CLARK

Fall 1804

You and your Corps of Discovery are approaching the Mandan Villages. You know this is the trade center of the Northern Plains. Native Americans and white businessmen travel long distances to trade in the late summer. On your way to the Mandan villages you and your men have seen many abandoned villages. The Mandan Indians suffered great losses of life due to a small pox epidemic brought by the white man. You discover there are two Mandan villages, one led by Chief Big White on the west bank of the river, and another led by Chief Black Cat on the east bank.

You have yet to begin your journey into the great unknown. So far, all the distance you have come from St. Louis has been in familiar territory. In October you meet the Mandans. Chief Big White and his hunting party greet you; peace seems possible. The Mandans are delighted that your expedition requires that you spend the next five months wintering with them.

You are interested in any information the local traders can provide. You invite them to your camp to discuss the geography. One of your visitors is a man named Toussaint Charbonneau, a French Canadian. He is living among the Hidatsa Indians as an independent trader. Charbonneau has a young Indian wife. He won her in a bet from the Hidatsa warriors who kidnapped her from the Shoshone.

Toussaint Charbonneau wishes to sign on with your Expedition as an interpreter. His wife speaks both Shoshone and Hidatsa. Charbonneau can translate the Hidatsa into French to Drouillard (a member of the Corps of Discovery). Drouillard can then translate to you and Clark in English.

Communication with the Native Americans is of utmost importance. The success of your expedition may depend on the willingness of the Native Americans to trade. Your needs should be explained in their native tongue. One of your Corps members, MacKenzie, has acquainted himself with Toussaint Charbonneau and he is not impressed. Apparently, the translation chain does not flow as well as you originally believed.

Should you hire Toussaint Charbonneau and in the process agree to take along his wife, even though she is pregnant?

Appendix G

MODEL CAPTAIN'S LOG

LEWIS & CLARK

Captain's Log	DAY TWO (sample) CORPS MEMBER NAME	EXPEDITION CARDS EARNED	DAY THREE (sample) CORPS MEMBER NAME	EXPEDITION CARDS EARNED	DAY FOUR (sample) CORPS MEMBER NAME	EXPEDITION CARDS EARNED
CAPTAIN	WILLIAM CLARK	1	JOHN POTTS	2		
JOURNAL WRITER	MERIWETHER LEWIS	2	WILLIAM CLARK	1		
INTERPRETER	SACAGAWEA	1	MERIWETHER LEWIS	1		
PRIVATE(S)	JOSEPH FIELD / JOHN POTTS	1 / 2	SACAGAWEA / JOSEPH FIELD	2 / 2		
EXPEDITION CARDS + BONUS CARDS	# OF CARDS (sum of cards from above) 7	TOTAL MILEAGE (sum of mileage from all Expedition Cards drawn) 155	# OF CARDS (sum of cards from above) 8	TOTAL MILEAGE (sum of mileage from all Expedition Cards drawn) 220	# OF CARDS (sum of cards from above)	TOTAL MILEAGE (sum of mileage from all Expedition Cards drawn)
PENALTY CARDS	1 (too much talking during work time)	(-)35	0	(-)0		
TOTAL MILEAGE EARNED	(Expedition Mileage — Penalty Mileage)	120 miles		220 miles		
LATITUDE, LONGITUDE	47°N, 101°W		45°N, 104.5°W			
TOTAL DISTANCE TRAVELED	(Day One=160) 280 MILES		500 MILES			

Appendix H

Table of Contents

Appendix I

LATITUDE AND LONGITUDE
CHALLENGE
LEWIS & CLARK

Name _____

1. Begin at 47°N, 101°W. This is near the beginning of Lewis and Clark's journey into the unknown. Fort Mandan was located near here, seven miles below the mouth of the Knife River. What present day state are you in? _____

   What is the name of the closest major river? _____

2. Travel 1° north and 1° west. What large lake is near your location? _____

3. Travel west on the Missouri River until you reach the Yellowstone River. Estimate the latitude and longitude of your location? _____

   If you continue on the Missouri River which state will you be in? _____

4. Travel on the Missouri River until you reach the Great Falls. Approximate the longitude of the Great Falls. _____

5. At this point it is clear that the Missouri begins to head in what direction? _____

6. The Three Forks are located just south of what line of latitude? _____

7. The Bitterroot Mountains can be found in which states?

8. Locate 46° N, 116° W on your map. What National Historic Park is north of your location?

9. The Columbia River flows in this direction until it turns west: _____
   Through which major Oregon city does it flow? _____

10. At what line of longitude does the Columbia River end? _____
    Into which major ocean does it flow? _____

Appendix J

TASK DESCRIPTIONS

Communication Tasks (present to class)
- Sign Language — *learn ten words and teach to class*
- Speech to Congress — *write and present request for money to fund expedition*
- Equip an Expedition — *research and write about expedition supplies*

Writing Tasks
- Poem or Song — *create original poem or song about expedition*
- Biography — *research and write about a Corps member*
- Louisiana Purchase Editorial — *write an article criticizing purchase*
- President Jefferson — *research and write interesting facts about Jefferson*
- Sacagawea — *research and write quiz about Sacagawea*

Writing and Art Tasks
- Pirogue/Keelboat — *build model, plot actual size, or write about boat*
- Expedition Clothing — *research, draw, and write about clothing of early 1800s*
- Seaman the Newfoundland Dog — *research and write about Lewis' dog*
- Plants and Animals — *draw and describe plants and animals of expedition*
- Monticello — *research, sketch, and write about Jefferson's home*
- Fort Mandan and Fort Clatsop — *research and build or draw fort*

Art and Craft Tasks
- United States Flag of 1795 — *paint the flag*
- Decorated Animal Skin — *tell story on 'animal skin' you create*
- Utility Pouch — *sew your own utility pouch*
- Beadwork — *make a pattern with beads; weave into jewelry*
- Rainstick — *make a rainstick*

Mapping Tasks
- Map of 1803 — *color-code map of territories*
- Native American Tribe Map — *map location of tribes*
- Latitude and Longitude — *complete map skills worksheet*

Research Task
- Timeline — *research and put events related to expedition in chronological order*

Challenge Tasks
- Coded Message — *create and send secret message to Jefferson*
- Latitude Finder — *make latitude finder and learn how to use it*
- Bearing Board — *make a bearing board to find position in world*

Appendix K

TASK LOG

|	Student Initials	Date	Project Score (1 - 3)
Communication Tasks (present to class)			
• Sign Language			
• Speech to Congress			
• Equip an Expedition			
Writing Tasks			
• Poem or Song			
• Biography			
• Louisiana Purchase Editorial			
• President Jefferson			
• Sacagawea			
Writing and Art Tasks			
• Pirogue/Keelboat			
• Expedition Clothing			
• Seaman the Newfoundland Dog			
• Plants and Animals			
• Monticello			
• Fort Mandan and Fort Clatsop			
Art and Craft Tasks			
• United States Flag of 1795			
• Decorated Animal Skin			
• Utility Pouch			
• Beadwork			
• Rainstick			
Mapping Tasks			
• Map of 1803			
• Native American Tribe Map			
• Latitude and Longitude			
Research Task			
• Timeline			
Challenge Tasks			
• Coded Message			
• Latitude Finder			
• Bearing Board			

Appendix L

Day 3

April 7, 1805

Dear Journal,
    We are sialing on the Missouri
River currently. Not long ago the Hidatsa
told us that if we follow the Yellowstone
River we will find a faster route to
the Pacific Ocean. The also say that very
close to the Yellowstone River's the
Missouri Rivers source. This trail is a
faster route to the Pacific Ocean as
President Jeferson told us. Though he also
told to start at the mouth of the Missouri.
After a great bit of quarriling over
this matter, we settled it with a
vote, and the Missouri route won. But
I very strongly thought (along with the
captian) that we should've taken the
Yellowstone. Aside from that, weather (along
with the water) is extremely cold. This
is freezin our oars. We are currently
at 460 N 10.60W There are

Very little trees along the river.

With all do respect,
Hugh Mcneal

In real life Captians Lewis & Clark
decided to continue on along the Missouri,
just as we did.
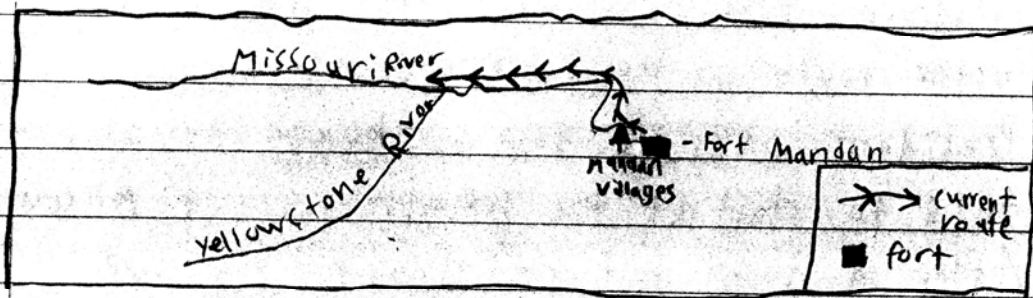
Appendix M

Dear Journal,

Weather is fair, No Sickness, Determination rings around my head
Mind fixed on a dilemma
that our corps has run into,
bout scared me half to
death when I heard mountains
were a choice. Heck, at first capin
was even favrin those mountains,
til' I argued so much I couldin't
argue no more, which none the less
didn't matter, cause there aint
no soul that didn't wanna take
ravines. We thought we saw
1 guy followin us, I doubt it
though to go this far on
foot in all, pretty mazing to me.
Finaly caught some food, a buffaloe
calf. Hardly big anough for 16
of us. I aint had a good
meal in days so I'm use to it.
Hunger hangs over all of us since
We hit this dilemma. Ain't no good
Meal in five days, best was colt

Well anyhow the final decision
was to take the ravines
seein how its much safer
for you want get caught in
snow 200 feet below sea
level. All we gotta do is
portage our boats across
travel 200 yards west just
enough to get past the great
falls. We reached a tribe called
the Shoshone, we call em Shones
Turns out thats where Sacagawea
is from and her long lost dead
brother ain't dead no more.
Now he's chief. He really helped
us. He provided horses in all to
cross the mountains capts. Lewis
and Clark call the Rockies!

Harry Hoffman

Lewis and Clark contrasted and
decided to go over the mountains

Appendix N

Sacagawea
American Pathfinder

There once was a girl who lived in the Shoshone village named Bird girl or Sacagawea. Sacagawea lived with her mother, Bather, grandmother, older brother, and her younger brother. Her two friend were Willow girl and her sister. When Sacajawea was 14, she was kidnapped and was bought by Charbaneu. In November 4 she joined Lewis and Clark's expedition. Because her name was so to pronounce, The Corp of Discov nicknamed her Janie. Sacajawea's baby was baby Jean Baptize was born on Febuary 1805 and would be the youngest explorer. When the Corp of Discovey reached Sacajawea's home tribe, the Shoshon she found she found her brother as the cheif of the tribe. Sacagawe spent 21 mounths with Lewis and Clark and covered 2,700 mile on foot. She was known to live to be 100 years old.

Appendix O

Nez Perce

Dear Presedent Jefferson,

We have now reached the great falls. The indians speak of. We are arriving at the rocky mountain. We have the destination of the Nez Perce or Pierced Nose. They eat salmon, fish, berries ert. I have found out that Nez Perce is an exiting tribe. At one time, there were more than fifty bands of Nez Perce utilizing an estimated 17 million acres of land in northeastern oregon, southeastern washington, and north central Idaho.

Interpreter,
Raven
Blossom

Appendix P

Q. What was Sacagewa's Teepee on land husband?

(A.) oof

B. Blcksm

C. interpreter

D. Journa

Q What Tribe was Sacagewa from?

A. Crow

B. Mandan

(C) Shoshoni

D. Nez' Perce

Q What was Sacagewa's Brothers part in his tribe

(A.) Cheif

B. painter

C. manager

D. cashier

Q Why did Sacagewa have to marry Charbenou?

A. Her brother forced her to marry him

B. They fell in love

C. He kidnapped her

(D) He won her in a bet

Q - What was Sacagewa's Brothers name?

A. Sacagewa

B. Charbehou

(C) Camehawait

Teepeeshor

368

Q - How old was Sacagewa
when she was kidnapped?

B. 24
C. 16
(D.) 13

Q - What languages can
Sacagewa speak?

A. Hidatso, Crow
(B.) Shoshoni, Hidatso
C. Flathead, Mandan
D. Clatsop, Nez' Pierce

Q   What was
Sacagewa's baby named?

A. Charbenou Jr
B. Leneraa

C. Gary
(D.) John Batis

Q   What was Sacagewa's
babies gender?

(A.) Male

B. Female

Q   When was John
Batist born

A. 17 64
(B.) 1805
C. 1904

D. 1905

369

Appendix Q

Day 5

June 3, 186

Dear President Jefferson,

We are now currently 45°N and 110°W. The tribe called the Crow. They are very creative, they use elk teeth and a beaded belt to make a lovle dress, They also made a neckalas made out of beads and bever teeth. They also have a srape way of eating and hunting. They would ride on horses, and spot a heard of nice buffulos. We belive that the Language of the Crow etspresses there fellings, beliefs, and traditions, But there jokes, stories, songs and legends tell how they feel about the world and about themselves.

Your loyale servant

Lewis and soilders

371
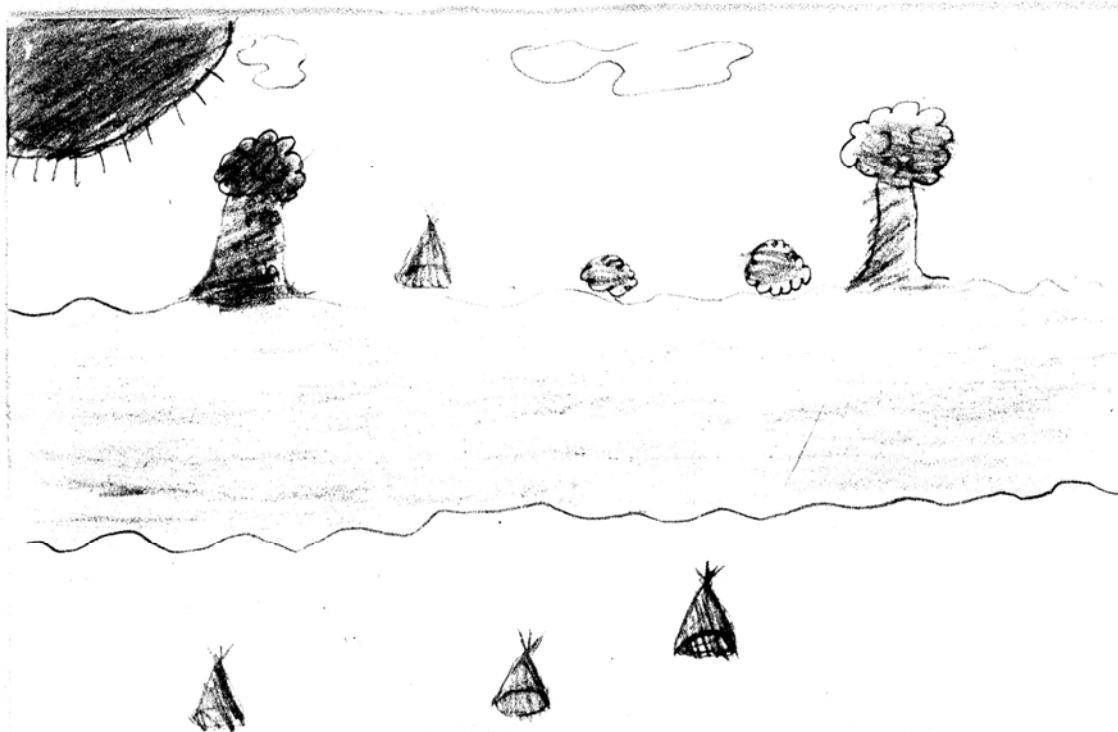
Appendix R

Day 7

Dear journal,

We are now in great need of horses. Our team has decided to trade all of our goods for horses because of our perdicament. I also agree with my corp because, obviously they would need the pistols, knifes and ammunition. But they would use all this stuff for killing animals for good but thats also why they also have Seaman. Our group has been getting along. But Sergent James has been kind of restless and lacking self control. And the rest of our corp is getting frustrated with all the nonsence

I figured out that Lewis
and Clark did what we
did by tradeing all
the goods.

with all do respect,
Hugh McNeal

Appendix S

CORPS TASKS
EQUIP AN EXPEDITION
LEWIS & CLARK

"Once he was named by President Thomas Jefferson to head the Corps of Discovery, Meriwether Lewis began preparations for the long trip ahead. Much of that preparation involved education; in the months prior to his departure, Lewis would learn astronomy, botany, navigation, medicine, and biology, among other scientific disciplines. In addition, Lewis spent his time accumulating all the supplies that the expedition was going to need. He wrote list after list of provisions, which included guns, ammunition, medical supplies, and scientific instruments. While still on the East Coast, Lewis accumulated almost two tons of goods using the $2,500 Congress had allocated for the expedition."

(PBS Lewis and Clark on-line).

Corps Task

Write a speech about the supplies taken west by the Corps of Discovery.

Materials
- Lined Paper — *several pieces*
- Pen or pencil — *one*
- Resource materials (about the Corps of Discovery)

Procedure
1. Select *five* items from the provided list.
2. Use available resources to research these supplies.
3. Write a persuasive speech to present to your class. Tell why your expedition would benefit from these particular items.

Brass kettles
Chisels
Chronometer
Cloth
Forceps
Hand compass
Hand saws
Iron mill
Pliers
Plotting instrument

Pocket mirrors
Quadrant
Sextant
Steels
Syringes
Telescope
Tiny beads
Tourniquets
Whetstones

Appendix T

Equip the Expedition ✓

I Meriwether Lewis + the corps of Discovery. Have taken 5(Five) specific Items.

The first item we wanted to take on the expedition was tiny beeds. We took these because we wanted to impress the Indians.

We also decided to take a telescope. a telescope would be good for many things but mainly to see whats in a certain direction.

Speaking of a direction I also wanted to take a compass so we could know where we were going/I think thats kind of important.

We also took pliers for trading and for our hunting game

My last + final item was nothing but (dun dede dun dun) pocket mirrors for nothing else but (dun de de dun dun) checking your hair, you dont want to be in a history book with bad hair! Just kidding that would also be for trading
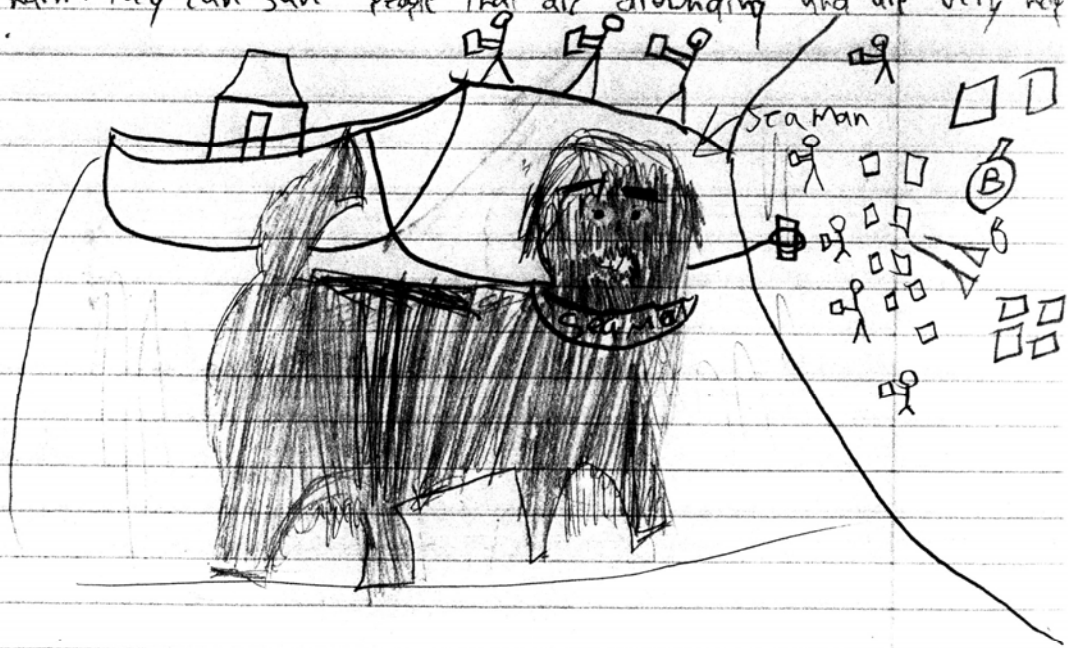
Appendix U

Captain's Log	DAY ____		DAY ____		DAY ____	
	CORPS MEMBER NAME	EXPEDITION CARDS EARNED	CORPS MEMBER NAME	EXPEDITION CARDS EARNED	CORPS MEMBER NAME	EXPEDITION CARDS EARNED
CAPTAIN						
JOURNAL WRITER						
INTERPRETER						
PRIVATE(S)						
EXPEDITION CARDS + BONUS CARDS						
PENALTY CARDS						
TOTAL MILEAGE EARNED						
LATITUDE, LONGITUDE						
TOTAL DISTANCE TRAVELED						

381

Appendix V

Seaman's Master Meriwether lewis Died In 1809. Because of Lewises Death seaman was very sad and could not eat or drink because of his sadness. Eventuly seaman Died upon his masters grave. seaman was a very smart dog and a good hunter he and lewis always went hiking and exploring. They were also ADventeraes seaman and lewis. SeaMan and Lewis were The perfect couple. They both know Nature and are both ADventheus, and somehow They were like brothers because They were always by eachers side. The only Thing left of seaman was a dog coller That was most Likely destroyed in a fire. But The coller was not The only Thing left of him we still have Things said about him in Lewises Journels. The NewfoundLand dogs were gentle giants They can protect children and other animals from harm. They can save People That are drounding and are very help.

Seaman

Appendix W

Group Work

What Do We Hear?	What Do We See?
1. "Nice Job"	1. Working Together quietly
2. Can You Teach Me How To Do That?	2. Take All Supplies.....
3. Thats a Really Great Idea But Can We Think Of Another Way.	3. Transitions are Quiet
4. I Agree... I Disagree	4. Eye Contact
5. Quit Voices	

About the Author

Cher N. Gauweiler is an assistant professor of Elementary Education at St. Petersburg College in Tarpon Springs, Florida. She earned a Bachelor of Arts degree in English from the University of Tampa in 1993, 62 hours in Elementary Education certification from the University of Southern Colorado in 1996, and a Master's of Education degree in Secondary English Education from the University of South Florida in 1999.

Cher taught eight years as a public school teacher at the elementary, middle, and high school levels. As a sixth grade teacher, she represented her school as Teacher of the Year in 1999 and received two Celebrate Literacy awards from a local chapter of the International Reading Association in 2000 and in 2002. She traveled as a Fulbright Memorial Fund scholar to Japan in 2001 and to Kennedy Space Center as a NEW (NASA Educational Workshop) participant in 2002. A successful grant writer, she secured $25,000 to fund several projects in elementary and high school classrooms.

Cher has published articles in state and national journals regarding creative experiences in education. She continues to read, research, and write about interactive methods to enhance student learning across grade levels.