Interpreting Critical Literacy In A Natural History Museum

By

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ABSTRACT

The purpose of this study was to investigate critical literacy practices in two prehistoric exhibits in a natural history museum. Bourdieu's habitus and Bakhtin's dialogism served as theoretical frames to collect and analyze data. Data were collected and triangulated using field notes, interview transcriptions, archives, and other data sources to critically scrutinize textual meaning and participant responses. Spradley's (1979) domain analysis was used to sort and categorize data in the early stage. Glaser and Strauss's (1967) constant comparative method was used to code data. My major findings were that museum texts within this context represent embedded beliefs and values that were interwoven with curators’ habitus, tastes and capital, as well as institutional policies. The texts in the two Hohokam exhibits endorse a certain viewpoint of learning. Teachers and the public were not aware of the communicative role that the museum played in the society. In addition, museum literacy/ies were still practiced in a fundamental way as current practices in the classroom, which may not support the development of critical literacy. In conclusion, the very goal for critical museum literacy is to help students and teachers develop intellectual strategies to read the word and the world in informal learning environments.
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Without all the support I received from others, I would not be here today.
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CHAPTER 1: INTRODUCTION

One sunny Tuesday morning in April, a group of students can be seen crowding into the museum as part of a field trip. In the hallway, some students are checking the map of the museum and deciding where to start. Other students freely roam through the different galleries. One particular gallery contains a new exhibit about Ancient Native Americans. A panel with a description of the exhibit can be clearly seen hung at the gallery entrance. Objects like jewelry, pottery, baskets, tools and beadwork are classified in order to present the cultures of the people. Around the gallery, each object is accompanied with a label, meticulous description, and when necessary, photographs and diagrams. Numerous hands-on craft projects are scattered throughout the exhibit. A docent stands in front of a small group, talking about the symbolized meanings of aboriginal artifacts. He provides the cultural context and historical background about the Native society. A child vociferously asks questions; the docent answers with patience. While walking around the placard and examining the different intricacies of objects, students are taking notes, reading the labels, talking to their classmates, or interacting with hands-on activities. Some students, however, seem disinterested and wander aimlessly. Suddenly, a student points out a diorama portraying the village of Native people and bursts out, “They are naked!” The other students all gather together in front of the glass box. They giggle and laugh. At this moment, a broadcast announcement comes over the intercom stating that the theater is going to play an archeological film about the excavation. Students hurry to fill in question sheets for a scavenger game assigned to them as they walk to the theater. The gallery becomes quiet again.
This vignette reminded me of the field trips that I had back in my school years. They were, of course, lots of fun, and they trigger many nostalgic memories. I still remember how informative a human body exhibit was that displayed a black lung to show the visitors the dangers of smoking. I emotionally and cognitively engaged in this exhibit not only because the object reminded me to share the knowledge and information to my family and friends, but also the subject matter provoked my interest in the human body. Certainly our prior experience, interests, personal agendas and motivations have all been demonstrated to influence our learning in museums. Learning in museum settings is usually voluntary and is often distinguished by activities outside the “formal” (i.e., school classroom) learning setting. Therefore, a museum experience is not structured in terms of learning objectives, learning length or learning support, but can to a certain degree be understood as “accidental” learning, informal learning, random learning, or non-intentional learning (Dudzinska-Przesmitzki and Grenier, 2008).

The nature of informal learning makes museum a dialogical space in which collective knowledge is formed. In Roman times, the word museum referred to a place devoted for scholarly occupation (Britannica Concise Encyclopedia, 2012). In modern days, a museum is also known as a building, a place, or an institution in which objects are collected, preserved, conserved, curated and studied. (Here I use the passive verb because I feel that the presentation of museum texts is done through interpretative means.) Indeed, a museum, which is often associated with words such as intellectual, elite and knowledge, is like a temple of knowledge in which we learn and where learning is cultivated. Subtly and not generally discernable by the general public, a museum is a place where a variety of literacy/ies are encountered.
The chapter began with a vignette about a field trip to a museum. My intention was to define the museum and various literacy practices that involved different texts in a museum setting as a literacy event. This was followed by addressing how visitors interact with multi-texts physically and socially. The rationale and purpose of my study is to enlighten readers about critical museum literacy and its importance, as well as how my personal motivation led me to my research questions. Bakhtin’s dialogism and Bourdieu’s habitus serve as my theoretical framework to guide what I noticed and what I did not notice. After that, I deal with the limitations and delimitations of this study. Finally, this chapter concludes with the significance of this study and how it might contribute to future research.

As the vignette described, literacy practices in a museum are informal, self-choice and multipurpose. Visitors interact not only with printed words, but also multiple types of texts, such as artifacts (pottery, jewelry, and artwork), dioramas, music, photos, the Internet, and film. These texts intertwine through visual, kinesthetic, and audio stimulation. We can see how multiple types of literacies are constructed through the displays. First, the information panels that are usually positioned near the gallery entrance introduce visitors to the purpose of the exhibit. These panels provide relevant information tailored to the visitors’ knowledge levels and interest. Moreover, these panels orient visitors to the subject matter, and imply what information is necessary and must be known to understand the exhibit. Second, the exhibit nurtures curiosity and critical thinking of audiences. Regardless of whether the student visitors engage in activities or not, they are both consciously and unconsciously reading the world through texts. Third, the practices of filling out worksheets, conversing with fellow visitors, and listening to
docents are all elements of literacies. Finally, all these events and practices are embedded with a set of social and institutional relationships that impact on how knowledge is produced, distributed, and disseminated.

My dissertation thus investigated critical literacy in two prehistoric exhibits in a natural history museum. First, I focused on the forms and content of literacy/ies presented in the galleries. Second, I probed curators' practices toward material representation. Third, I explored teachers' responses to the texts and their awareness of critical literacy. Finally, I examined my personal values, beliefs and perceptions about literacy events and literacy practices (Barton, 1991, and 1994; Street, 2001) in museum settings. This study was conducted in the Western Museum of Natural History in the Western United States. The museum includes, as part of its public education role, a variety of literacies, such as scientific literacy, historical literacy, visual literacy, technological literacy and cultural literacy. From my point of view, each of these literacies was appropriated for truth-telling within this public educational space.

My interest in conducting this research stemmed from my past experience as an editor. My responsibilities were to select, revise and edit articles; plan the artwork, illustrations and photos that went with each story; and oversee the text, pictures, captions and headings to carry out the company's editorial policy. To some extent, I needed to form and shape the content of an article to provide the readers with what I wanted them to read. As an editor, I considered what my readers should or should not know. As a reader, I always considered who the real author was and why the article was presented in a certain fashion. I kept in mind that the language of texts and our response to texts is shaped by the institutionalized literacy/literacies (Kempe, 1993). Through this
experience, I saw the similarity between reading a book and reading a museum. For me, reading of written texts and objects were both involved in the process of meaning making. Therefore, one needs to ask who controls the choice of language and whose form of literacy is projected when visiting an exhibit. The way that a writer’s choice of language, and the text medium that transmits both the official policy of an institution (in this case a museum) as well as the personal worldview of the writer/s (curator/s) creates a selective framework that facilitates the communication between the producers of the message and its recipients. Apparently, “reading a museum” is a social and cultural practice embedded within a set of social and institutional relationships that have a direct impact on how knowledge is produced, distributed, and disseminated (Van Kraayenoord and Paris, 2002).

A natural history museum was of particular interest to me because its collections and displays represented cultural and aesthetic dimensions of science – elaboration on “untold” history. Since the 19th century, people have tended to see a natural history museum as a cabinet of curiosities where scientists present elements from nature and from life. The stories they offer create theories and our perception of the past, present and the future. In other words, through curatorial practice, a natural history museum attempts to legitimize certain values and cultural capital.

In my study, I viewed this natural history museum as a field/champ (Bourdieu, 1993) where people struggled for a position and structure of social relations. Through exhibits, museums create a space for dialogue in which double-voices, intervoidedness, intertextuality, and citationality are featured (Kristeva, 1980). The discourses in representations of exhibits reflect the fact that curatorial practice does not exist in a
vacuum. The complex interaction of concepts, classification, and language-use characterize a specific sub-set of an ideological formation. In this sense, inquiries around whose knowledge is disseminated, who decides, how the decisions are made, and who benefits from the selective ideas featured in a museum become important. These hidden messages on the one hand are difficult to recognized (Street, 1995); on the other hand, they illustrate that literacy practices in modern museums are related not only to culture, but also to power relations.

Museums have been recognized as institutions for informal learning. Many teachers are willing to work with museums to enhance students’ learning. As a literacy educator, I am glad to see this partnership establishment. However, I also feel that we need to be cautious not only about what museum exhibits say and how they do the “telling,” but also what museums and exhibits do not say. I want to know if teachers who use museums as educational resources are aware of how the language of a text is socially constructed within particular worldviews. I believe if teachers can articulate this knowledge system, they may be better able to foster critical literacy in their pedagogy.

This research affords me the opportunity to explore how words, objects, and symbols are presented to enact literacy events and literacy practices in a natural history museum. It is the first time that I have spent so much time and energy to look closely at a museum and its exhibits. It created a better understanding of how the authors and readers – curators and teachers– responded to the texts and how those different interpretations impacted curatorial practices and teachers’ pedagogy within informal learning environments and classroom practices. Furthermore, I intended for this study to include a component in which I critically examined my own perceptions, experiences and
practices of language and literacy within this cultural institution.

Rationale and Purpose

The scholarly impetus for this research stems from recent studies documenting the political and ideological functions of museums. These studies claim that museums and museum exhibits represent class, gender, and ethnic biases (Hooper-Greenhill, 1991), and also push particular viewpoints for the public (Macdonald, 1998). However, this critical perspective is rarely examined in the area of museum education and literacy. Some studies focus on the form and function of museums as educational instruments for the public (Hooper-Greenhill, 1991). Some studies address museums as informal learning places with rich collections, interactive exhibits, and interesting activities that begin to play an important role in promoting literacy for all people (Eakle and Dalesio, 2008; Eakle and Chavez-Eakle, 2013). Several programs, like School in the Park in San Diego, attempt to combine formal education with hands-on learning in museums (Mathison et al, 2007). To date, few museums study ways to incorporate critical literacy studies into museum education. There is typically no mention of applied critical pedagogy in programs of museum education.

Rios-Bustamante and Marin (1998) point out museums have the unique ability to articulate identity either directly, through assertion, or indirectly, by implication. Exhibits tell us who we are and who we are not by presenting images of the self and “other” (Arnold, 2006). This situation becomes particularly complex when “we” and “they” converge to form a hybrid account. In that sense, museums and exhibits, as media, are not simply producers of meanings, but are also the producers of subjectivity (Vergo, 1989). Although studies have shown that displays are biased and convey cultural, social, and
political messages (e.g., Luke, 2002), for the most part museum audiences are unaware of how museums inscribe meanings through processes of selection and framing in much the same way. The public rarely critiques what it reads and understands from museum texts. Bourdieu (1993) points out that a field/champ is “a separate social universe having its own laws of functioning independent of those of politics and the economy” (p. 162). In this study the “field/champ” is a natural history museum, its historical contexts links with different disciplines such as anthropology, archeology, paleontology, and education. Its collections and the display of objects affect how knowledge and truth are defined and offered up to the public. As Macdonald (1998) maintains, museums thus are not simply a storehouse of specimens; they have the power to transmit knowledge, understanding, and appreciation of the development of the natural world. Katriel (2001) proposes that museums function like other legitimizing institutions and argues that media literacy studies should put museums into research categories in terms of their forms of communication. Literacy/literacies in museums deal with ideological and structural sources of power. Valdecasas et al. (2006) propose that a good educational exhibit does not “bank” facts and information to audiences. Instead, it helps audiences change the way they perceive the world and encourages audiences to formulate their own questions. Therefore, museums aim to develop exhibits that are thought provoking and inspire questions by only partially providing answers. Moreover, Hooper-Greenhill (1991) suggests that museum audiences need to be taught the communicative system of museums. Educators and researchers need to develop ways of enabling people to grasp the system quickly.

The above scholarship triggered my desire to examine in greater depth the ways
that museums implicitly and explicitly define literacy/ies, and the links between power, knowledge, and literacy practices in museum settings. Does the public – especially teachers – who make use of museums as educational resources, critically reflect on what they see and what they believe? I am also interested in reflexively interrogating my own ways of looking and seeing to explore the cultural distinctiveness of museum literacy practices in this U.S. setting as it relates to my own cultural background (Taiwanese). This reflexive component adds a dimension to the research that will enable me to better understand how human experiences are shaped through text. My research questions, therefore, are as follows:

1. How do the words, objects, spaces and symbols presented in the natural history museum portray knowledge about the exhibit?
2. How do curators understand the use of words, objects, space, and symbols in representing this knowledge?
3. How does the public understand these textual representations?
4. How do teachers respond to these multiple texts, and how does their museum experience impact their pedagogy within informal learning environments and classroom practice?

Conceptual Framework

In addressing my questions regarding critical literacy in a museum and among in-service teachers and myself, I drew on the work of Bakhtin and Bourdieu who are commonly interested in how human beings act and think along with how they use language, and how human beings are in the struggle for power and exercise agency in the historical and social world. Through this theoretical lens, I closely examined how one
important cultural institution is engaged in the processes of meaning making and influencing public perceptions through the collection, curation, and display of objects and artifacts. Moreover, I gain more understanding on how in-service teachers and curators account for words and the world.

*Bakhtin’s Dialogism*

Texts, writers, and readers are embedded in a cultural context that frames their creation and interpretation (Holquist, 1990). It appears that texts in museums implicitly sustain political inequities among people of diverse social, economic, and cultural or racial history (Lindauer, 2006). Moreover, reading texts is essentially a process of co-construction. When interacting with the texts, readers and writers bring their cultural, social, cognitive, and emotional experiences to the reading. The work of Bakhtin’s dialogism provides a lens to address the self/other relation.

Bakhtin (1981, 1986) suggests that what we say and write is heavily influenced by others. He has argued that in an utterance, different texts are brought together, related to one another or connected in some way (Holquist, 1990). This juxtaposition of different texts is called *intertextuality* that is viewed as a function of social practices associated with the use of language. Whether speaking or writing, communicative texts are composed of citations, quotations, plagiarism, and repetition of the voices of others (Kristeva, 1980; Tobin, 2000). That is, through our communicative practice, we assimilate texts from a dynamic cultural environment as part of the meaning making process.

Bakhtin (1981) addresses the point that the dialogic work carries on a continual dialogue with other works of literature and authors. Everything anybody ever says always
exists in response to things that have been said before and in anticipation of things that will be said in response (Bakhtin, 1981). A museum display is made with the curatorial voice of authority, even with the addition of polyphonic quotations. The process of paraphrasing and editing quotations can be used to spin the theme presented. When a curator chooses a person as the sound piece and quotes their narrative, he or she has responded to the utterance and participated in the creation of the word and the world. Thus, museum visitors see not only through themselves, but also the world, in the finalizing categories of the other.

Overall, attention to dialogism in museum settings provides ways to enhance connections between institutional texts and texts outside of the museum, including community texts, workplace texts, and family texts.

**Bourdieu: Habitus, Taste and Capital**

Literacy practice as a human activity is linked to subjective elements (Baynham, 1995). It is not just the objective facts of what people do, but it involves how people reflect on their actions. The attitudes of people, as Baynham (1995) points out, are associated with values and the ideologies. Hence, Bourdieu’s work in habitus, taste and capital will help me to focus on the subjectivity and agency dimension of practice.

Bourdieu (2005) has addressed how *habitus* works in the system of reproduction, in particular the educational and cultural system. He points out habitus as a “system of durable, transposable dispositions, structured structures predisposed to function as structuring structures” (p.72). To Bourdieu, habitus is daily, unconscious rehearsal of cultural constructions in which they are described as dispositions that are socially constructed and associated with feelings, thoughts, tastes and bodies. This demonstrates
that in the field of cultural production, a relationship between positions and position taking is mediated by the dispositions of the individual agents. The agents, here the curators and audiences, both have a feeling to act and react in the field of cultural production. Their feeling for the game (being the field) decides how they will respond to the rules and construct the rules of grammar. That feeling to act and react is what Bourdieu called “habitus.” Likely, habitus also leads the action of social agents.

Bourdieu suggested taste as cultivated habitus of the bourgeoisie that legitimize our concepts about aesthetics and cultures, inculcating a particular attitude towards works of art. As he pointed out in Distinction (1984) “An agent has what he likes because he likes what he has, that is, the properties actually given to him in the distributions and legitimately assigned to him in the classifications” (p. 175). Our social system tends to cultivate a certain “familiarity” with legitimate culture. In the interpretive process, curators create, recreate, modify and fine-tune both culture and language and their intersection within the curatorial practice.

Cultural capital can be derived from an individual’s habitus. Tastes also imply the existence of power relations and reflect our values, which are embedded in the social system. That directive to the inquiry- what counts as knowledge, who owns the right to distribute knowledge? In a large sense, what counts as legitimate knowledge in our educational institution has always had close connections both to those groups who have had economic, political and cultural power and to conflicts over altering these relations of power.

As a product of our habitus, we take advantage of opportunities that are presented to us. Thus, we can make the most of our inherited dispositions in order to succeed in this
Bourdieu’s notion of strategy involved the social agent’s ability to “play the game” or “play the hand.” His notion of practice draws from concepts of the social actors’ common sense to understand how noticeable patterns emerge from human behavior. When aware of the system, human beings can move from rules to strategies. However, Bourdieu still retained a limited view of the possibilities for human agency, and focused on the constraints of the habitus and of the systems of symbolic domination.

In Bourdieu’s notion, taste is the preference for one type of food, entertainment, etc. over another. It ‘classifies and classifies the classifier’ (1984, p.6) which means there is someone who thinks something is good and the other is bad. It is not a freely chosen/discovered penchant for baseball over hiking or a physiological predilection for vanilla ice-cream over chocolate but as Bourdieu called “amorfati, the choice of destiny” It is “a virtue made of necessity which continuously transforms necessity into virtue by inducing ‘choices’ which correspond to the condition of which it is the product” (Bourdieu, 1984, p. 178).

Delimitations and Limitations

There are some delimitations identified in this study. First, this study generated cultural profiles of Hohokam people and how teachers read the messages about the Hohokam through the representation of the two exhibits. There were a number of interesting topics I could have studied. However, I did not intend to explore the whole civilization history of Hohokam here, nor did I want to pursue archeological study on this cultural people and their ruins. The focus of my inquiry was the interpretation and representation of exhibits and of the institution itself. The inclusion of the Hohokam as a topic, while interesting, would have been beyond the reach of the research, given my
limited time and money for conducting the study.

The second delimitation is the purpose of my study is not for exhibit evaluation. Even though my study was conducted to see how all parts of the exhibits worked together, and tried to make suggestions for improvement, the study was not to test the effectiveness of the messages and interpretive text.

The third delimitation includes the recruitment of teacher participants. My initial goal was to interview a cross-section of teachers of diverse ethnicity, genders, ages, and levels of experience, who teach in diverse settings within a large metropolitan area in the southwest. However, a problem arose in recruiting my participants. The museum log that I used to identify participants did not reveal the teachers' ethnicity. I thus could not pre-select participants based on their ethnicity. While not a “representative” sample, I believe that their diverse age and teaching experience backgrounds still provided valuable information in my study.

There were also other factors concerning the individual differences of the participants that could not be controlled. These variables included, for instance, the level of interest in the exhibit, the accuracy of recall about the exhibit, the prior knowledge of the topic that was conveyed by the exhibit, and the teachers’ preferred learning styles. Those factors may have altered how interviewees interpreted the exhibit and my questions. For example, the purpose of visiting the museum for all teacher participants was not because of a specific exhibit, but a general interest in natural history. This could have affected our understanding of how significant the Hohokam exhibits were to teacher participants.
Significance of the Study

This study posits that critical literacy can take a central role in learning in informal environments. It has implications for several disciplinary areas, including critical literacy studies, museum education, and teacher education. It also has important pedagogical and practical implications inside and outside classroom settings. The investigation has a cross-disciplinary focus, which draws on perspectives from natural science/history, literacy, and critical museum studies. Studies of literacy within museums as public educational spaces are rare—yet these are crucial sites for the construction and transmission of knowledge. This approach has the power to reveal significant culturally embedded processes in museum literacy and museum education. This study thus fills a void in these under-researched areas.

This study also calls for the recognition of multiple voices in scientific presentation and representation. Coupled with contemporary museums’ stated aims to widen access and to allow a broader representation of voices within their work, this study will allow the public to “read” representations of archaeology and anthropology from a new angle. By recognizing the voices of presentation and representation, museums also can distinguish the dominated perspectives and facilitate agentive and even liberatory learning through a critical perspective.

Lastly, this study seeks to inform the public—the consumers of public knowledge spaces—about the role museums play in our communities. Since museums play a communicative role in our society about which the public is often unaware, it is my hope that educators, in particular, will identify museums as more than simply places of study, education or entertainment, but as cultural institutions in which politics and power are
embedded. I believe it is necessary to cultivate this kind of critical literacy and that it can be developed in teacher preparation at the pre-service and in-service levels.

Organization of the Dissertation

This dissertation is organized as follows. Chapter One includes my introduction and an overview that demonstrate my rationale and study, conceptual framework, that led to four research questions. Chapter Two provides a review of the relevant literature regarding the three areas of study that form the basis for the dissertation: literacy in museums from a critical perspective, natural history museums and their representations, as well as museum education and teacher professional Development. Chapter Three describes the research design and qualitative methods that were carried out to gather and analyze data. Chapter Four presents the analysis of data to answer my three research questions. Chapter Five weaves together the story of teachers and my analysis of data to answer the fourth research question. Chapter Six provides a conclusion of my analysis and ends with concerns and suggestions for future study. The final chapter is my personal account for I realized that I am part of the social world, and I couldn’t eliminate myself from this study.
CHAPTER 2: LITERATURE REVIEW

Introduction

This literature review covers three important topics that supported my research. The first topic is literacy in a museum from a critical perspective. I begin with a brief discussion of literacy and critical literacy, followed by the definition of museum literacy. Then I turn to a particular view of critical museum literacy and the related studies in the field. The second topic is the introduction of natural history museums and their representations. In this section, I summarize the history of natural history museums. Then I discuss some of the main issues of presenting human history in natural history museums, beginning with the positive and negative implications of the representations. The third topic is museum education and teacher professional development. For this issue, I discuss how education plays an important role in the museum's activities, and also discuss studies that show a strong impact on teachers’ professional development in museum settings.

Literacy in Museums from a Critical Perspective

A sociocultural perspective of literacy/ies claims that literacy/ies is carried out within a context situated between thought and text (Barton and Hamilton, 1998). When confronted with an article, a picture, or an object, human beings do not directly follow the “rules” given by the authors. We make meanings based on our prior knowledge, experiences and practices. This is what Rosenblatt (1978) called a transaction. This transactional model implies that literacy is both cognitively and socio-culturally situated. Moreover, researchers from a new literacy studies perspective (that is Gee, 1999; Luke, 1995) claim that literacy/ies occurs in the context of use and is constructed through
“world-building situated meanings” (Gee, 2002, p.126). Readers interpret texts in the light of their own political, economic, religious, or ideological stances. Literacy/ies, in short, is a set of social practices in everyday life (Barton and Hamilton, 1998; Bayynnham, 1995; Street, 1993a and 1993b), and is embedded within power relations (Lankshear and Lawler, 1987).

In terms of the nature of social practice, literacy/ies is changing over time. Currently we are in a global society and economic forces and activities have been changed. New media forms, such as computer, the Internet, e-book, smart phone etc. urge people respond to new knowledge, technologies and skills (Knobel, 2006). Literacy/ies is expanded to the relationship between language, knowledge, power, worldviews, and global/local issues. In this sense, critical literacy/ies is defined as an ability to negotiate different languages and cultural meanings, requiring a critical understanding of both the word and the world in different contexts (Freire, 2000; Macedo, 2006).

Today, since a museum is considered as valuable classroom for lifelong learning and also people started to notice the importance of museum professional and visitor studies, literacy/ies became a heated issue (Eakle, 2009). Stapp (1992) defined the term museum literacy as an ability to read text through the context. It requires one to gain a set of competencies to purposefully and critically use a museum as a resource, including the historical, social and cultural discourses of the museum itself (Schlereth, 1992; Bain and Ellenbogen, 2002; Stapp, 1992). Katriel (2001) situates the nature of museums as media. She argues that, in some ways, museums function is like cultural forms of communication. Through processes of selection and framing of a similar order, museums inscribe meanings and act as a legitimizing institution. In that case, literacy studies in
museums need to take into account what it means to be literate. When encountering texts, such as labels, pictures, objects, the viewer is engaged in constructing a narrative about what she or he sees (Roberts, 1997).

At the heart of critical literacy is the conviction that literacy enables the learner to make meaning from texts. Furthermore, critical literacy is about empowering to understand how texts influence and change us as members of society (Gee, 1999; The New London Group, 1996). In other words, critical literacy focuses on the ways of looking at written, visual, and spoken texts by questioning the attitudes, values, and beliefs situated beneath the surface. In this sense, critical literacy/ies in a museum includes examining and analyze meaning of texts with an inquiry stance, posing questions in which texts have been constructed, integrating multiple perspectives and intertextual connections, and most importantly, taking social action to change the world. When developing critical literacy/ies, no matter whether we are readers or authors, we not only transform meaning from word to world, but also uncover social inequalities and injustices.

Critical literacy/ies in museums is also conceived as an integral part of literacy events and literacy practices embedded in political relations, ideological practices and symbolic meaning structures (Barton, 1991 and 1994; Street, 2001; Luke, 2002). Through processes of selection and framing of a similar order, museums inscribe meanings and act as a legitimizing institution. Accordingly, some literacy/ies stand out as more dominant, visible, and influential than others. Therefore, it becomes important to urge readers and writers to inquire questions such as “Whose knowledge is presented?” “What is explicitly spoken, what is implicitly unspoken?” Does the museum exhibit include multiple
voices?” (Lindauer, 2006).

Critical literacy studies in museum settings now have been developed in several directions (Dubinsky, 1997). A great interest sees museum literacy/cies as an integral part of the broader study of language, focusing on the ways of meaning making, the process of the production, the reproduction and the dissemination of knowledge, as well as the construction of power relations. For example, Coxall (1991) used linguistic analysis to examine museums texts and found that curators' choice of language reflects the ideological perspective of the museum. Van Kraayenoord and Paris (2002) suggest a number of similarities between the reading of texts and objects. They maintain that reading a museum is embedded with a set of social and institutional relationships, which have a direct impact on how knowledge is produced, distributed, and disseminated. These relationships reinforce social and cultural influences on speakers, listeners, readers and writers. Roberts (1997) shares that when encountering texts in museums, the viewer is engaged in constructing a narrative about what she/he sees. That is, personal experiences help the viewer compose messages from the context. Regardless of engaging in any activities or not, the viewer is consciously, or unconsciously, reading the world through the texts.

Museum literacy/cies needs to be taught as a way of critically reading and writing. Hooper-Greenhill (1991) suggests that museum audiences especially educators and researchers need to be taught the communicative system of museums. Also, the museums need to take responsibility to develop ways of enabling people to grasp the system quickly. Everyone should realize that as social and cultural institutions, museums reflect our industries and cultures to a large extent. They are not dead zones to present the past,
tribute to wealth, or entertain the public, but the places that represent power and reshape knowledge (Macdonald, 1998). The interconnecting issues of power, authority, and knowledge in museums should be analyzed based on critical literacy studies.

In order to go beyond a mere word-level reading of museum exhibit, readers must develop a critical comprehension of the word and the world. Meanwhile, as Macedo (2006) confirms, the reading of the world must precede the reading of the word. We must first read the world that is the cultural, social and political practices that constitute it, before we can make sense of the word-level description of reality.

Critical museum literacy requires a stance of critical inquiry and enables us to read the social practices of the exhibits and the museums. In doing so, we recognize that our own ways of knowing are no longer the ultimate authority. Instead, we take the opportunity to reposition ourselves as learners in order to listen and learn from others and their educational resources and cultural values. Lankshear and Lawler (1987) claim that, “Literacy enhances people’s control over their lives and their capacity for dealing rationally with decisions enabling them to identify, understand and act to transform social relations and practices in which power is structured unequally” (p. 72). When museum visitors become familiar with critical museum literacy, they will begin to change the way they think, feel and react to texts, objects, symbols etc. In doing so, museum exhibits can go beyond the transmission of knowledge and move to construction of narratives. In these constructions, literacy events and practices in museums can be determined by both of the museum staff and the museum visitors, rather than selections only by the museum staff (Roberts, 1997).
Natural History Museums and Their Representations

Natural history museums in America have attempted to define and popularize the character of humanity’s place in nature for the past 125 years. In the 18th and 19th centuries, the American Museum of Natural History portrayed itself as “cabinets of curiosities” with an emphasis on exotic objects and specimens, and presented “academies of sciences” in the society (Alexander, 1979; Luke, 2002). Not until the last half of the twentieth century, did natural history museums start to shift their attention to education. A statement from Lothar P. Witteborg points out that specimens, reconstruction and processes have the authentic power to tell a story and broaden the visitors’ vision. Therefore, natural history museums like the academy and should use exhibits and “present elements from nature and from life itself along with theories, concepts, and philosophies achieved through scientific research, and combine them all into a meaningful presentation” (1958, p. 29).

Natural history museums are involved with different disciplines. Historically, anthropology plays a unique role in natural history museums (Denton, 1991). A natural history museum presents the prehistory and ethnographic record of human beings and a focus on the study of human migration, health, and burial customs that have a link with other forms of natural life. Moreover, a natural history museum collects human remains like skeletons, hair, and soft tissue samples in order to research race and evolution. Being part of the discipline of natural history museums, anthropology has affected not only museums’ concepts and methods, but also their personnel and outlook (Fenton, 1960; Denton, 1991).

Natural scientists rely on a wealth of evidence that includes fossils, artifacts and
DNA analysis to construct human history. When piecing puzzles together, scientists often have different opinions about which species lived when and where. More than that, they also have different viewpoints about the way that human history is presented - chronologically or thematically? Aesthetically or scientifically? Under these disagreements, natural history exhibits tend to be created according to scientists’ own cultural and theoretical convictions. Moser (1999) found that an exhibit about the Neanderthals in Chicago’s Field Museum used dioramas to feature our ancestors as hairy and wearing skin garments. The exhibit ‘Tracks through Time’ at the Australian Museum in Sydney represented the species as more chimp-like than human-like. These two examples tell us how scientists interpret the past with a particular viewpoint. The dioramas convey a primitive and savage history, and the evolution of human is seen as a linear process - one stage leads to the next.

The collections or the display of objects in a natural history museum, to a large extent, affect the public’s perception of a culture. The collecting, investigating, and exhibiting of human history specimens, implicates how knowledge is constructed through these invisible cultures of display. Asma (2001) observed four contemporary evolution exhibits in three cultures and found that different countries curate evolution differently. The subjects in exhibits, such as skin color or human species, all revealed hidden messages in a subtle way. Invisibly, national identity, scientific discourses and curatorial practices are revealed in the collections and representations.

Natural history museums are often the sites for debate. Harris (2003) pointed out the representation in natural history museums can be quite problematic since they often objectify the “other” in a way that is demeaning and place them alongside exhibits of
animals and ancient fossils. Moreover, when scholars or researchers attempt to explain these traditional societies, they unconsciously use words like primitive, tribal, native, indigenous, aboriginal, non-literate, pre-literate, traditional, non-western etc. These signifiers have constructed hierarchical power relations that distinguish self and the other. In a case study, Haraway (1989) explores the American Museum of Natural History in New York City and points out gender-bias in science and museum science display. Bal (1996) uses a case study from the same museum to examine the display and interpretation of “Asian peoples” in the light of post-colonial thinking.

One negative implication embedded in displays of human history is classification, which is one of the most collective activities for human beings (Roberts, 1997). We are taught that through classification strategies, we can bring order to the world, gain knowledge and exercise power. However, a question arises, ‘Who is doing the classification?’ ‘Will the classified system well represent the object?’ The notion of classification is often criticized as a western value (Simpson, 2006). Museums’ staff collected, studied, measured, and compared human specimens in order to find them a suitable category in an ordered system. That sometimes shows a cultural hierarchy. Museums could neglect the “exotic other” in cultural context and reduce humans to mere objects of study and display. For example, in some exhibits of indigenous peoples, museums still look at their culture through a Darwinian evolutionary lens to support certain social and racial theories (Simpson, 2006).

Another negative implication in natural history museums could also be observed with the association of gender, race and class. Arnoldi (1997) points out the problem of defining and representing Africans in an exhibit. Those who have the power to represent
African cultures are more interested in their own benefits, not really in understanding the group. In the case of the Ward bronzes, the sculptures clearly reflected dominant nineteenth-century western attitudes toward Africans. While these early definitions of Africans as primitive and savage have been thoroughly discredited in current anthropology, the inclusion of such artworks in any contemporary African exhibit in the National Museum of Natural History is wholly inappropriate (p. 71).

The 1993 exhibit, *Races of Mankind*, at the Field Museum of Natural History in Chicago, displayed 101 life-size bronze statues and claimed the successful demonstration of the general racial types and racial evolution. These sculptures created by Malvina Hoffman were intended to be both authentic, accurate scientific objects and dramatic expressions of humanity. However, this representation of human beings was criticized as a racial hierarchy. Behind the scene, a European view on physical anthropology was used to categorize and stratify humans and to present the western notion of class, culture, and race (Teslow, 1998).

The danger in presenting human history in a natural history museum is to assume a static existence where things come and get deposited. Hoffman’s sculptures may attract viewer’s aesthetic attention, but fail to bring out stories with their original context. All too often science is presented only as truth and communication as a one-directional transmission. Sadly speaking, when going to a museum, not every visitor has asked why this exhibit was presented in this certain way.

The discipline of natural history crosses into various areas such as medicine, anatomy, physiology, biology, visual arts etc. Therefore, same specimens could serve several different purposes, potentially giving insights into different disciplines. Moreover,
natural history museums could build an important bridge to global issues as well as to a local focus. For example, some natural history museums are actively involved in issues of biological diversity and destruction that reflect contemporary concerns. In June 2000, the presidents both in Britain and in the U.S. announced the Human Genome Project had succeeded on completing the draft of genome sequencing. Soon after, the National Natural Science Museum curators initiated an exhibit to explore the biotechnology and social agenda. This social event shows that natural history museums are changing their role and getting more involved in communities.

From the negative and positive implications that natural history museums give us, we can see how knowledge and truth are defined and offered up to the public. Not simply a store-house of specimens, natural history museums own powers and authorize themselves for the transmission of knowledge, understanding, appreciation, and the development of the natural world.

Since the mid-1980s, studies focused on museum exhibits have analyzed the politics of representing race, class, gender and culture in Euro-American museums. These critical analyses have pointed out that museums function as a “hegemonic apparatus” (Lindauer, 2002, p. 6), meaning that a dominant class sustains its governing authority over a subcultural group. Knowledge is considered differently in different cultures and different historical epochs. Its formation stems from our history, culture, and assumptions. To empower ourselves, we need to see through these ideologies. As long as we can learn the skill of reading between the lines at natural history museums, we can see how museums edit, classify and conceptualize knowledge in an ideological way (Asma, 2001; Roberts, 2007).
Museum Education and Teacher Professional Development

Museum practitioners who focus on museums as informal learning settings value visitors as active learners and emphasize visitor-centered interpretive approaches (Falk, 2006). Increasingly studies validate that museums are places where people learn on their own, or in an informal way in social interaction with visiting companions (Spock, 2006). Much of museum learning is situated beyond the boundary of classrooms and traditional teaching methods. Macdonald (2006) draws attention to visitors’ experiences in museums. Chenowet (2009) explored a case about volunteer docents as informal educators in the USS Midway Museum, located in San Diego, California. With the unique nature of informal learning, museum practitioners have recognized learning in museum have the potential for alignment of their educational missions (Hooper-Greenhill, 2004). The relevancy of individual visitors’ interpretations and experiences have been acknowledged, just as Falk and Dierking (2000) point out “museum learning is a subset of a larger, ever-evolving continuum of learning and meaning-making across the life span” (p. xiv).

Museums have clear responsibilities in their educational task for the public. In the Code of Ethics for Museums (American Alliance of Museums, 2000), the American Association of Museums declares “Museums serve society by advancing an understanding and appreciation of the natural and cultural common wealth through exhibits, research, scholarship, publications, and educational activities.” A Committee on Ethics in AAM also takes charge of establishing programs of information, education, and assistance to guide museums in developing their own codes of ethics. This educational commitment has made museums seek new ways of approaching exhibit
planning that include friendly, age-level labels, the embodiment of learning theories, a
range of types of programs, workshops, and publications. These transformations allow
museums to target a wide range of audiences and enhance their learning experiences

Even though museum education does not always mean school visits, the learning
experiences offered by museums are often designed to be supported by those in the
classroom (Roberts, 1997). Actually, the relationship between schools and museums
started in the nineteenth century. Back then, schools in England were important partners
of museums. A group of people there advocated that the ideal museum is a place for “the
advanced school of self-instruction” where teachers “naturally go for assistance”
(Hooper-Greenhill, 1991). At the end of the nineteenth century, a system of school boards
was established across England and this affected the development of curriculum and
instruction. Schools and museums have worked together on educational services to allow
teachers teach subjects within the museum or borrow artifacts from the collection

One of the values for school field trips to a museum is the opportunity for
students to be exposed to alternative ways of learning and to a variety of active ways of
working with artifacts. Dewey (1990) recognized a museum as an ideal school that
owned both physical and metaphorical characters for learning. His basic point is that we
generate knowledge in a social context. Therefore, learning is not solely “in our head” but
occurs through social interactions with others.

In addition to traditional field trips, museums often build long-term partnerships
between cultural institutions and local school districts. Some studies call for structuring
museum-learning opportunities in the same ways that formal programs do. In 2001, Jefferson Elementary School in San Diego County began a program called Communities Alive in Nature (CAN) with the San Diego Natural History Museum. By using museum resources, Jefferson's teachers and students could investigate local environmental concerns such as water quality, soils, plants, animals, and habitats (Black, 2006). This innovative program change the way the curriculum was provided and challenged the classroom standard. It presented the experience from different disciplines like oral language, reading, writing, social studies, math, science, and the arts.

While it is common for teachers to schedule museum visits for students, it is important to note that the function of museums is not just to enhance learning experiences of students, but that they also have the potential to enhance in-service teachers' professional learning and practices. Studies show a strong impact on teacher participants and their classroom practices when museums are used as educational resources (Dhingra et al, 2001). Penna (2007) found that using educational resources in a history museum affected social studies teachers’ classroom instruction, pedagogical content knowledge, and collaboration with external sources. Dentith and McCary (2003) proposed that when using the Vietnam War museum as a resource, beginning teachers reconciled their understanding of curriculum with information gathered through inquiry into and engagement with community resources. Zinicola and Devlin-Scherer (2001) claimed that educational programs at a science center actually helped teachers gain firsthand experience, use interactive exhibits, and adopt the exemplary teaching strategies of science professionals. Adams (2006) also suggested that when collaborating with museums, teachers implement inquiry-based approaches to teaching that incorporated
interdisciplinary and collaborative strategies in the classroom. Melber and Cox-Petersen (2005) found that the museum workshops that allowed teachers to communicate with scientists and educational professionals were a significant help in the following five aspects: increase science content knowledge, understand the process of science-scientific fieldwork, change instructional methods, connect natural science content with formal instruction, and learn about museum resources for the classroom. All these studies found that teachers who linked curriculum to museums resources could readily apply their learning to instruction.

A great number of museums around the globe have offered professional development workshops for teachers, such as the Health Odyssey Museum, the American Museum of Natural History, and the British Museum. An important implication is that the classroom is a limited environment and the school needs to reach resources of the community. Besides, since the role of education is central to a museum's activities, museum education needs to be critically evaluated. More practice, policy, and research need to be done.

Chapter Summary

Museum visits provide important opportunities for informal learning. Many studies have demonstrated that the learning in museum is based on literacy events. Some studies point out political issues in displays and exhibits. Some of them emphasize museum education and professional development for teachers. However, only a few of them address critical literacy as an issue in museum settings. This review of the literature, therefore, considered three important issues that influence literacy practices in a natural history museum that call for attention to critical museum literacy.
CHAPTER 3: METHODS

Introduction

In this study I sought to explore critical literacy practices of an exhibit in a natural history museum in the Western United States. In this chapter, I describe the methodology I used to research the following questions:

1. How do the words, objects, spaces and symbols presented in the natural history museum portray knowledge about the exhibit?
2. How do curators understand the use of words, objects, space, and symbols in representing this knowledge?
3. How does the public understand these textual representations?
4. How do teachers respond to these multiple texts, and how does their museum experience impact their pedagogy within informal learning environments and classroom practice?

This chapter is divided into three major sections. I first discuss the key concepts behind my research methods and define my study as an ethnographically informed case study. Second, I address the context and selection of the research site and the recruitment of three participant groups: teachers, curators, and visitors. I also discuss my research role as a native-born Taiwanese woman. By keeping journal writing through the process of the study, I was able to articulate my bias. Third, I describe the procedures I used for data collection and analysis, giving concrete ideas about how my findings generated from raw data. All names of places and people are pseudonyms for ethical reasons. IRB approval is included in Appendix F.
Ethnographically Informed Case Study

Ethnography was uniquely suited to my inquiry into museum literacy and the responses of teachers to museum texts as literacies are plural, multi-vocal and fluid and they represent multiple experiences in discourse (see, e.g., Gee, 1996; McCarty, 2005; Wink, 2000). Knowing that literacy/ies is a kind of social practice that occurs every day, my dissertation research called for an ethnographically informed case study that focused on literacy practices of a museum and its curators and a key group of its participants – teachers.

Structured observations of this public space and the people who use it provided the context for a focused examination of the responses to museum displays of a key group of museum “consumers” – teachers. In this sense, my study is a type of case study of this public education space and a sector of the public who make use of it. Yin (2008) suggests case-study methods are particularly valuable for investigating a contemporary phenomenon in which the researcher has little control over the events that occur in the real-life context. According to him, a case study is an empirical inquiry that relies on multiple sources of evidence that need triangulation (Yin, 2008). Stake (1997) proposes that a case study seeks to define both what is shared with other cases and what is particular about the case itself. In my research, I sought to uncover the relationships among natural history museum texts, settings, and teacher-participants in order to place the interpretation of these texts in their sociopolitical and sociocultural contexts.

There are two ethnographic traditions this study reflects. First, it is in situ, and it involves extended observation over a period of time. I researched a public setting (e.g. a museum) that is familiar to many people in order to “make the familiar strange”. My
purpose was to expose the cultural norms that underlay and guide textual representations developed by curators and museum personnel. Second, I also sought to look and see within this social setting in order to understand how the public, especially teachers, responded these textual representations to the two Hohokam exhibitions.

Ethnography is a particular form of qualitative/descriptive-interpretive research (Wolcott, 1997; Jessor, Colby, and Shweder, 1996). The nature of the ethnographic enterprise itself, from Wolcott’s (2008) perspective, is not only a “way of looking,” but also a “way of seeing” through the lens of a particular culture. As a way of looking, ethnographic studies ask researchers to be engaged in three fieldwork procedures: participant observation (experiencing), interviewing (enquiring), and archival research (examining). In those tasks, ethnographers are required to look, listen, and report. They may use technological tools, such as cameras and tape recorders in their fieldwork, but the primary research instruments are themselves (Wolcott, 2008; Fetterman, 1998).

Ethnographers, however, have to go beyond just a way of looking. Wolcott distinguishes ethnography as more than just a set of field methods and practices. It is a way of seeing and requires “mindwork” that must occur before, during, and after the fieldwork experience (Wolcott, 1997; 1995). As Wolcott (2008) points out, “…an ethnographer’s ways of seeing tell us more about the doing of ethnography than do an ethnographer’s ways of looking“ (p. 70). Ethnography includes how ethnographers study culture and the interpretive framework that ethnographers impose on the subjects of their study. As a process of inquiry, ethnographers need to take responsibility for making culture explicit in whatever they observe. In that sense, ethnography can become a personal way of seeing.
This ethnographic approach helped me focus on the concrete particulars as I sought to understand the cultural nature of museum literacy from both emic and etic points of view. For constructing emic accounts, I offered an insider perspective through data collection and analysis as I have worked with museum staff as an intern. For constructing etic accounts, I presented an outsider perspective as I was born in Taiwan and is a new resident in the U.S. Additionally, ethnographic research, as Wolcott emphasized, provided me with a flexible set of methods for feedback, course corrections and discovery.

I confronted a series of struggles and problems when I began this ethnographic research. Before I started collecting my data, I asked myself the question: Do museum texts or contexts really refer to a culture-bearing group? If the word ethnography means “a picture of the way of life of some identifiable group of people” (Wolcott, 1997, p.329), how can I interrogate this cultural context from the perspective of the “stranger” – that is, with fresh eyes? I gradually came to understand that “ways of looking” alone, as Wolcott points out, would not make my study ethnographic. I had to think about what I saw, along with what I might see to guide my inquiry. That is, in the ways of seeing, my fieldwork became mindwork (Wolcott, 1995) and I became the tool through which this research was conducted. That is why examination/analysis of the data through my personal lens was important.

Context

Research Site

This study was conducted at Western Museum of Natural History in the west of the U.S.. The museum is about an eighty thousand square-foot facility with a budget of
over one million dollars per year. My research focused on the display of prehistoric Native Americans: the Hohokam, who has been the subject of significant anthropological and archaeological investigations for many decades (Crown, 1990). I explored two exhibits. One is a permanent exhibit *Hohokam! The Ancient People.* The other was a special exhibit *Hohokam! The New Discovery* that opened in the fall of 2007.

I selected this museum because it featured a multitude of exhibits representing Western natural and cultural history and also because it is dedicated to enhancing the public knowledge of native cultures both before and after the development of a written historical record. Its mission also includes promoting a greater understanding of diverse cultures past and present in the West of the U.S. Research and education are the main emphases of the museum. Scholars and visitors can participate in various museum activities such as classes, workshops, lectures, and labs. Additionally, I chose this museum because it recently held a special exhibition *Hohokam! The New Discovery.*

When I interned in the museum in 2006, I have noticed that its Hohokam collection profiles a vitally historical text to the public. This significance of collection, as Arnold (2006) points out, reveals how the modern museum operates museological practices which the process and content of collecting involve intellectual, psychological, and economic consideration. This particular museum holds over forty-five thousand objects in trust for the city and the state. Most of the objects were acquired either through donations or active excavation programs in archaeology and paleontology.

*Teacher Participants*

The key participants in this case study were eight in-service teachers from a large metropolitan area of the western U.S. I reviewed the museum's running log, a primary
source, to identifying and recruit teacher participants who used the museum as an educational resource (The log is in the public domain.). In addition, I used a “snowballing” (Hammersley and Atkinson, 1983) technique in which teachers and curators identify other teachers based on their personal and professional networks. Teacher participants were recruited to reflect a cross-section of gender, teaching grade level, subject teaching and social class. These qualities were considered not only in terms of the teachers themselves, but also in terms of the students they served.

The teacher-participants were five females and three males who ranged in age from 49 to 61 years and who taught grades 2nd to 9th. All eight teachers were native English speakers and each identified him or herself as Caucasian. Only two teachers were teaching at the same school; the others taught in different school districts. Teaching experience varied from 34 years to 5 years, and teaching was their second or third career for seven of them. A description of the teacher participants can be found in Table 1. Betty is the only teacher who scheduled a field trip for students to visit the specific Hohokam exhibits. Other teachers scheduled field trips for general purpose to explore different topics in the museums.

Curator Participants

The second group of participants included the curators of education, paleontology and anthropology employed by the museum. They were interviewed in their workplaces. The curators are one female and two males who were in their early 50s at the time of the study. A description of these curator participants is found in Table 2.
Table 1

*Description of Teacher Participants*

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Age</th>
<th>Gender</th>
<th>Subject</th>
<th>Grade Level</th>
<th>Years of Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Betty</td>
<td>56</td>
<td>Female</td>
<td>Biology and Agriscience</td>
<td>9-10th</td>
<td>20</td>
</tr>
<tr>
<td>Frank</td>
<td>53</td>
<td>Male</td>
<td>All subject</td>
<td>5th</td>
<td>6</td>
</tr>
<tr>
<td>Sarah</td>
<td>61</td>
<td>Female</td>
<td>Special Education</td>
<td>7-12th</td>
<td>17</td>
</tr>
<tr>
<td>Debbi</td>
<td>49</td>
<td>Female</td>
<td>All subject</td>
<td>6th</td>
<td>5</td>
</tr>
<tr>
<td>Tracy</td>
<td>56</td>
<td>Female</td>
<td>All subject</td>
<td>Preschool/2nd/Special Education</td>
<td>34</td>
</tr>
<tr>
<td>Gary</td>
<td>52</td>
<td>Male</td>
<td>All subject</td>
<td>K-6th Gifted</td>
<td>32</td>
</tr>
<tr>
<td>Lucy</td>
<td>49</td>
<td>Female</td>
<td>Science</td>
<td>7th</td>
<td>8</td>
</tr>
<tr>
<td>Scott</td>
<td>59</td>
<td>Male</td>
<td>Social Studies</td>
<td>8-9th</td>
<td>30</td>
</tr>
</tbody>
</table>

Table 2

*Description of Curator Participants*

<table>
<thead>
<tr>
<th>Curator</th>
<th>Age</th>
<th>Professional</th>
<th>Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helen</td>
<td>55</td>
<td>Education</td>
<td>M.A. in Health Management</td>
</tr>
<tr>
<td>John</td>
<td>57</td>
<td>Anthropology and Archeology</td>
<td>PhD in Anthropology</td>
</tr>
<tr>
<td>Mark</td>
<td>52</td>
<td>Paleontology</td>
<td>PhD in Paleontology</td>
</tr>
</tbody>
</table>
Visitor Participants

A third group of participants were visitors in the two galleries. These participants were observed opportunistically. Their naturally occurring behaviors were interpreted.

Researcher Role

Informed by Wolcott’s (2008) notion of ethnography as “a way of looking” and “a way of seeing,” I used a reflexive approach to data gathering, analysis and interpretation during the stage of research. The principle of reflexivity I applied, as Hammersley and Atkinson (1983) claim, “we are part of the social world we study”; rather than “engaging in futile attempts to eliminate the effects of the researcher, we should set about understanding them” (p. 14, 17).

In this study, an added dimension was my personal background as a native-born Taiwanese woman. I wrote reflective journals to jot down my own responses to museum texts and other aspects of data collection, analysis, and interpretation. Sometimes I used English; sometimes I used Chinese. This kept me writing regularly and it provided the opportunity and data for me to recognize my own hidden beliefs, values, and assumptions.

Data Collection

I used various techniques of data collection over a year-and-a-half period in 2007-2008. These included structured observations, in-depth ethnographic interviews, archival research, and a reflective journal. I conducted observations of two Hohokam exhibits first and followed these with interviews of curators and teachers. Data collection was practiced according to elements of the ethnographic research cycle described by James Spradley (1980). I made descriptive observations, conducted a domain analysis, focused observations, formulating a taxonomic analysis, and then conducting more selective
observations. The process is not linear but ongoing through the stages of data collection, analysis, and writing up findings and interpretations.

Structured Observations of Museum Contexts and Texts

Mason (1996) claims that observation, and in particular participation observation, is the method in which researchers immerse themselves in a setting to better understand the social processes involved. By this method, I systematically observed dimensions of interactions, relationships, actions, and events in the museum. An observation protocol was applied (Appendix E). I perceive my role as a researcher in this study to be that of an observer with a participatory role. I spent six weeks attending closely to the exhibits and investigate elements of the displays such as labels, visuals, models, diagrams, and the variety of ways such as interactive and hands-on exhibits, films, and demonstrations that museums speak about science, history, and culture. This time included participation in and observation of museum visitors, docents, and museum staff members’ interactions with objects/texts. Each observation period lasted approximately two hours. An important part of my fieldwork was to document docent tours; these were particularly revealing in terms of how museums authorize particular accounts. I also attend three relevant museum staff meetings and took detailed field notes.

Photographs of Museum Exhibits and Texts

I took photographs of selected museum displays and texts with the permission of museum officials. These photographs helped elicit responses to the exhibits from teacher-participants during interviews. Photographs are a particular form of representation that can better elicit and evoke information, feelings, and memories in interviews (Harper, 2001). I stored these photographs in a laptop to show teachers before I asked the third
cluster of my interview questions: Interpreting Exhibits. I noticed that teachers addressed more details about the exhibits when they saw photographs of the display.

**In-depth Ethnographic Interviews**

I used a modified form of Seidman’s (2006) tripartite interview structure that blended the three-interview sequence into a single, 60 to 120 minute interview (Appendix A and B). Specifically, I sought to elicit: (1) participants’ background experiences as they related to the museum exhibits through focused life history questions; (2) the concrete details of participants’ experience of museum exhibits; and (3) the meanings participants made of these public education spaces as they incorporated museum knowledge into their curricula.

Focused life history questions asked participants to reconstruct early experiences in their families, at school, and at work; these questions also relate to early museum experiences. I used photographs with questions to elicit the details of the museum experience, I and asked participants to reconstruct their experience of the exhibit. For example: “What did you see in this exhibit?” “What is its primary message?” “What was your reaction to the object/picture?” “What do you believe your students learned from it?”

The questions to elicit meaning addressed “the intellectual and emotional connections” teachers made between the exhibit and their teaching practices (Seidman, 2006, p.18). These questions included: “What is implied without being specifically stated in this exhibit?” “What values and lifestyles are promoted in this exhibit?” “What messages are missing in this exhibit?” Interviews yielded rich and detailed information about educators’ reaction to cultural institutions, their learning experiences, and their
teaching practice. I recorded each interview with a digital recorder and recordings were transcribed by a professional transcription company. To ensure correct transcription, I listened to every tape carefully to proofread each section. The total, eleven in-depth interviews generated an enormous amount of text. Appendix A is the interview questions I developed for teachers and Appendix B is the interview questions I developed for curators with Seidman’s interview protocol.

Archival Research

Museum archives record institutional history and guide institutional identity, and ideological discourses are embedded within the historical development of a museum. I collected data from historical records in the museum to examine how the discourse and historical influences had contributed to the museums’ modern institutional form. I also accessed related magazines, records and photographs about the Hohokam, and documents about the West at the ASU library. I used the Internet to access websites of the museum, the history association, the city and the state to locate newspapers, maps and photographs. News from these public sources portrayed the interests of educators, sponsors, governments and community groups. These historical archives helped me comprehend the culture of the Hohokam and, at the same time, I gained an understanding of the museum’s background, mission, and relationship with particular communities. I could also see how the emergence of the museum was related to social and political affairs in contemporary society. This part of my research helped me examine how and why museums legitimize their role and voice within the cultural, national, and community contexts in which they operate.
Other Data Sources

Additional sources for analysis included an Educator’s Resource Guide, a note that the curator John presented the original ideas of exhibit elements, and the demographic profiles of exhibits. I also had several informal talks with some museum staff and volunteers in different settings. When conversing with the art designer, I realized what consideration the team group had to make a profile of canal. When conversing with a volunteer worked in site, I got a picture about how the volunteers helped and analyzed the artifact. After talking with them, I wrote down my reactions and thoughts about each conversation. These memos were used to understand how the exhibits created a voice with different media.

Data Analysis

I triangulated the data from field notes, interview transcriptions, and archival material, and used other data sources to critically scrutinize textual meaning and participant responses. I coded data to identify and categorize information that occurred frequently or that seemed particularly relevant or significant. I coded my data by hand and used MS word and Excel to tally the results. In the early stage of analysis, Spradley’s (1979) domain analysis has been used to identify the significant incidents from field notes. The constant comparative method (Glaser and Strauss 1967) was used to code the data. The complete analysis was a continuous, ongoing procedure as follows:

Preparing and Organizing Data

I organized my data as it related to the research questions. On the whole, data from field notes were related to my first and third research question: “How do the words, objects, spaces and symbols presented in the natural history museum portray knowledge
about the exhibit?” “How does the public understand these textual representations?” Data from curators’ interviews was mainly related to my second research question: “How do curators understand the use of words, objects, space, and symbols in representing this knowledge?” Data from teachers’ interviews was related to my fourth research question: “How do teachers respond to these multiple texts, and how does their museum experience impact their pedagogy within informal learning environments and classroom practice?”

Curators’ interviews, teachers’ interviews, the archival material, and the other resouces also referred to both the second and third question. Other data sources such as reflections, memos, and photographs supported systematic analysis about the data.

*Coding and Categorizing Field Notes*

I encountered a problem when I began my observations to take field notes in the gallery. On the one hand, I found visitors’ reactions were repetitive and plain. It was hard for me to generate thick description (Geertz, 1973). On the other hand, I seemed to lose focus on what I should observe. I decided to do what Spradley (1979) suggests. I conducted focused observations for a domain analysis. Categories in the exhibit information emerged from my field notes for domains that I could begin to analyze. For example, diorama is a kind of objects and family is a kind of visitor. As more and more categories emerged, I was able to identify some domains that were meaningful and see different perspectives on central issues. Through the object domains, I found that certain objects attracted more visitors than others did. In the visitors’ domain, especially adults and children together generated more conversation when doing grounded puzzles or seeing dioramas. Then I decided to focus on how adults guide and orientate the attention of young children and how those literacy practices generated more conversations.
Through the domain of visitors, I recognized how visitors responded to the texts and what these certain behaviors generated in the galleries. After I reviewed and identified three domains (Table 3), I felt more confident about what I could focus on for related categories. I returned to the research site to make more descriptive field notes. When this new data were collected, I added several new categories and started to code data as show in Table 3 below. In the initial analysis, I looked for categories in events and behaviors. Then I named and coded them on document. At last I compared codes to find consistencies and differences.

Table 3 Domain Analysis from Making Focused Observations

<table>
<thead>
<tr>
<th>Objects</th>
<th>Labels</th>
<th>Visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replica</td>
<td>Interpretive</td>
<td>Silent/ No talk</td>
</tr>
<tr>
<td>Diorama</td>
<td>Knowledge-based</td>
<td>Ask questions/</td>
</tr>
<tr>
<td>Real object</td>
<td>Objective</td>
<td>Information exchange</td>
</tr>
<tr>
<td>Map</td>
<td>Suggestive</td>
<td>Touch the objects</td>
</tr>
<tr>
<td>Diagram</td>
<td>Academic</td>
<td>Take notes</td>
</tr>
<tr>
<td>Milieu</td>
<td>Educational</td>
<td>Explain/read out labels</td>
</tr>
<tr>
<td>Decoration</td>
<td>Subjective</td>
<td>Come back again</td>
</tr>
<tr>
<td>Theme</td>
<td>Open-ending questions</td>
<td></td>
</tr>
<tr>
<td>Puzzle</td>
<td>Persuasive</td>
<td>Browse</td>
</tr>
</tbody>
</table>

An important element in my field notes was labels on the museum walls. These written texts in the galleries contained information that the curators and the institution wanted to communicate to their audiences. I decided to get a close look at each label and understand how the curator described objects or presented ideas with words. I did not transcribe all the labels, but I did write down several labels that said something to me at that moment. When I copied the texts of the labels, I also wrote down my reflections. For some labels, I kept the form of the text the same as its original. At first, I struggled to get
all copied label in order to find the quantitative patterns. Soon I found that it was unrealistic to deal with such a large number of texts. Therefore, I decided I would use a constant comparative method (Glaser and Strauss 1967) to analyze the copies of labels. The categories such as interpretive, knowledge-based, objective, and suggestive etc emerged. This inductive method helped me to ground the examination of topics and themes from the categories of labels, as well as the inferences drawn from them, in the data. In doing so, I identified the different types of label linked to different exhibits. For example, Hohokam! The New Discovery exhibit had more academic labels by using some archeological terms, while exhibit Hohokam! The Ancient People had more suggestive and instructive labels to invite visitors to participate, such as “Follow the directions above to make a pictograph like the hand pictured here.” Moreover, I learned that certain words, such as archeology, archeologist and research, did appear significantly from label texts.

Both this data and curators’ interviews supported my analysis about institutional discourse. The curators are aware of the discourses that the institution wanted to present to the public. At last, I integrated these categories into five assertions associated with the curator’s literacy practices (Table 5 on page 48).

**Coding and Categorizing Curators’ Interviews**

I started with reading the transcript of curator Helen because she was my first interviewee and I had met her before beginning my research. This rapport contributed to the rich information generated during the interview. When I read her interview transcript, I pondered my research questions more deeply. I coded several pages of her transcript with the same procedure I had used on the field note data. I followed this analysis by reading and rereading the transcripts of other two curators. When I had read through each
transcript a few more times, categories began to emerge. I then went back to the Helen’s transcript and coded the entire document. These codes became the basis for a content analysis to determine the presence of certain words, concepts, themes, phrases, characters, or sentences within curator’s interviews and field notes (e.g., Berelson, 1952; Krippendorff, 1980). This laid the foundation for the final layer of analysis and that was to determine emergent themes. When distinguishing the patterns from curators’ interviews, I undertook both cross-sectional (across data sets) and categorical (within-data set) analysis (e.g., Mason, 1996), to draw on the constant comparative method to tease out emerging categories and themes from field notes.

After I examined the data in each category, I created a tentative list of all categories from the list in Table 4. These factors impacted how curators use literacy elements to prepare exhibits.

Table 4 Categories of Analysis for Curators’ Interviews

1. Job as a curator
2. Communication to visitor
3. Power relation
4. Labels
5. Objects
6. Institutional policy
7. Social capitals
8. Museum education
9. Other museum visits
10. Learning
11. Effective field trip
12. Interpretation
13. Cooperation/competition
14. Function of Museum
15. Audience
16. Double voice
17. Volunteer
These categories, based on the "how" and the "why" of the data, were generated for more precise sub-category development. I combined the data of field notes to make connections between the categories. Meanwhile, I noticed that categories were not mutually exclusively, and that they could be assigned to different categories. For example, the category “learning” not only grounded curators’ viewpoint of interpretation, but it also acted as a communicative channel that curators tried to deliver through displays. I wrote statements for merged categories to identify the patterns. At last, the categories were integrated into five assertions associated with the curator’s literacy practices as shown in Table 5 on page 48.

*Coding and Categorizing Teachers’ Interviews*

The analysis of teachers’ interviews followed the same procedures I used to analyze my field notes and curators’ interviews. However, I used a chart to analyze the data I had gathered that was relevant to the research questions within and across the eight teachers’ interviews. I used a cut and paste technique and put all the answers to each question in this chart. This allowed me to compare similarities and differences across interviews. The categories I used to analyze the literacy practices of teachers and students in this museum setting are shown below in Table 6 on page 49.

As I did the curators’ interviews, I integrated these categories together and wrote a statement for each assertion as shown in Table 7 on page 50. As patterns emerged from this data, I noticed that teachers’ background experiences influenced their literacy practices, and I decided to create a profile for each teacher (Findings on page 113) so that I could best represent their personal interests, beliefs and values.
Table 5 *Analysis of Curators’ Interviews – From the Particular to the General*

<table>
<thead>
<tr>
<th>Integrate Themes</th>
<th>Statements/Assertion</th>
<th>Categories</th>
</tr>
</thead>
</table>
| Acting the Role in the Field      | From the job description that curators gave to me and the function of the museum that the curators define, I realized how they perceive their position and curation itself, as well as the ways they utilize their authority.              | • Job as a curator  
• Function of Museum  
• Cooperation/competition  
• Social capitals                                         |
| Viewpoint of Interpretation       | The ways that the curators use to interpret texts, such as object displays and label writing related to how they perceive learning in the museum. They show their attitude to critical literacy when they represent and interpret texts. | • Objects  
• Learning  
• Interpretation  
• Attitude to critical literacy  
• Labels                                                                                   |
| Legitimization of Knowledge and Power | Curators sense the power structure in the institution. They know who gains privileges to sound out and when.                                                                                       | • Power relation  
• Institutional policy                                                                                           |
| Communications to Audience        | Visitors are valuable to the museum. The communicative ways in the museum exhibits have something to do with learning strategies and learning styles, both reflecting museum as educational resources. The function of voluntary docent was mentioned by Helen and some teacher participants (Also see field notes). | • Communication to visitor  
• Museum education  
• Learning  
• Effective field trip  
• Volunteer  
• Audience  
• Attitude to critical literacy                                                                                         |
| Hybrid Utterances                 | The curators’ museum experiences (other museum visits) influenced their representations for their own exhibit design, and the labels they wrote.                                                       | • Other museum visits  
• Double voice                                                                                                   |
Table 6  *Categories of Analysis for Teachers’ Interviews*

1. Teacher’s learning
2. Student’s learning  (from teachers’ perspective)
3. Effective/ Ineffective field trip
4. Summarize texts
5. Contextualization
6. Posing questions
7. Follow up activities
8. Preparation for visiting
9. Comparing and contrasting
10. Museum experience
11. Museum manners
12. Curriculum
13. Teaching Philosophy
14. Function of Museum
15. Family activities
Table 7 *Analysis of Teacher Interviews- from the Particular to the General*

<table>
<thead>
<tr>
<th>Integrate Themes</th>
<th>Statements/Assertion</th>
<th>Categories</th>
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<tr>
<td><strong>Family Values and Professional Needs</strong></td>
<td>Teachers built a strong relationships with family, kinship and community networks through different literacy practices and literacy events. Museum experience relate to family activities or professional development.</td>
<td>• Museum experience&lt;br&gt;• Museum manners&lt;br&gt;• Family activities</td>
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<tr>
<td><strong>Philosophy of Learning and Teaching</strong></td>
<td>The way that teachers perceive teaching and learning determined how teachers read museum texts and define function of museum.</td>
<td>• Teacher’s learning&lt;br&gt;• Student’s learning (from teachers’ perspective)&lt;br&gt;• Function of Museum&lt;br&gt;• Teaching Philosophy</td>
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<tr>
<td><strong>Visiting Ties to curriculum</strong></td>
<td>Field trip to museums benefits. Museums provide an opportunity for students to learn. Museum is the extended curriculum. The visiting always ties to curriculum.</td>
<td>• Teacher’s learning&lt;br&gt;• Student’s learning (from teachers’ perspective)&lt;br&gt;• Effective/ Ineffective field trip&lt;br&gt;• Preparation for visiting&lt;br&gt;• Curriculum&lt;br&gt;• Function of Museum</td>
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<tr>
<td><strong>Museum Literacy Practices</strong></td>
<td>Museum literacy practices contain many aspects. Teachers practices and students practices quite different. Teachers used different strategies to engage students learning. One thing I notice is that teachers still contextualize museum literacy as fundamental literacy.</td>
<td>• Summarize texts&lt;br&gt;• Contextualization&lt;br&gt;• Posing questions&lt;br&gt;• Follow up activities&lt;br&gt;• Comparing and contrasting&lt;br&gt;• Preparation for visiting</td>
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Member-checking and Colleagues’ Support

In order to conduct member-checks, I sent the teacher’s profile to each teacher for feedback, and I asked curators to clarify things that I may have missed during their interviews to ensure accuracy and authenticity of my interpretations. The feedback sample I received from my participants is in Appendix E. After interview, I contacted with curators to verify some things I would had missed. I occasionally met with a classmate from my doctoral program to share and examine my findings. Some friends from the disciplines of engineering and psychology read through my findings to check the accuracy of my quotes from the interviewees, and they also provided feedback about my analysis.

Throughout the process of analysis, Spradley's (1980) book, Participant Observation, was one of my important references. I read and reread it to make sure all the procedures were fulfilled in my analysis. Miles and Huberman (1994) also provided a useful discussion of methods to explore and describe cross-case displays that informed my analysis. Additionally, I kept in mind that reducing data should be done “inductively rather than deductively” (Seidman, 2006, p. 117). He reminded me that it is important to allow categories to fit the data, rather than to actively create categories to fit the data. I had to admit this was a little hard since I already had a theoretical frame in my mind. I could not interpret the data without thinking through Bourdieu’s habitus and Bakhtin’s dialogism. I also understand myself as a tool of research; I have my own biases and judgments. However, I am confident about my sense of texts and believe my analysis helped me to gather an in-depth understanding of museum literacies.
Chapter Summary

The chapter described the data collection and analysis I used to investigate the literacy practices of teachers, curators and visitors in a museum in the west. Findings are organized into two chapters. Chapter 4 presented how a natural history museum portrayed knowledge about two exhibits, how curators represented this knowledge, and how the public reacted these textual representations. Chapter 5 started with a brief story of each teacher participants to illustrate their personal background, teaching philosophy, and museum perception. This followed the analysis about how teachers respond to multiple texts, and how their museum experience impact their pedagogy within informal learning environments and classroom practice.
CHAPTER 4: FINDINGS, PART I

INSIDE THE MUSEUM – TEXT WITHIN CONTEXT, CURATORIAL PRACTICES AND PERSPECTIVES OF VISITORS

Introduction

This study explored (a) how the words, objects, spaces and symbols presented in the Western Natural History Museum (WMNH) portrayed knowledge about the exhibit, (b) how curators understand the use of words, objects, space, and symbols in representing this knowledge, (c) how the public understand these textual representations, and (d) how teachers respond to these multiple texts. I also explored how teachers’ museum experience, which associates with habitus, tastes and capital, impacts their practices within informal learning environments and their classrooms. The participants were eight teachers, three curators and museum visitors. Data were triangulated with field notes, interview transcriptions, archives, and other data sources. The constant comparative method (Glaser and Strauss 1967) was used to code data.

My findings are presented in two chapters. Chapter 4, Part I presents the result of my investigation into the first three research questions. The first section, *Inside the Museum: Text within Context*, begins with background information about the research site, a brief history and the mission of the museum. A subsection, *A Way of Looking*, outlines the representation of the words, objects, spaces and symbols in the exhibits. This is followed by another subsection, *A Way of Seeing*, to explicate my cultural interpretation to the scenes in the exhibits. The second section *Curatorial Practice* describes how curators understand the use of words, objects, space, and symbols in the way they present this knowledge in the labeling of exhibits. The third section
Perspectives of Visitors presents the way visitors perceived these textual representations in the galleries. For each section, I created a graphic organizer to increase readers’ understanding of themes that emerged for each research question.

Text within Context

When I chose the Western Museum of Natural History (WMNH) as my research site, a question came to me right away. There are thousands of natural history museums across the United States. Who will be interested in knowing about a city-owned museum in the Southwestern area? My question was clarified by Hill (2005) who stated that a local museum is particularly worth studying because of the way it can reveal details, weaknesses and inconsistencies about a subject and area that is not present in national and other more prestigious museums. Indeed, when delving into the history of the city and the museum, I realized a city-operated museum like the WMNH, despite having its own priority, was actually a miniature of other natural history museums.

The museum is located in one of the fastest-growing cities in the United States with a population that increased by over 100,000 residents during the decade 1980-1990. The population includes different cultural groups and diverse communities, and new families with diverse ethnicities arrive every year. A religious group that arrived in the area in the 1800s founded the city. The city regularly holds activities such as Cinco de Mayo and Native American events to celebrate multicultural holidays and to reflect its diversity.

Bakhtin views utterances or words as expressions in a living context. Therefore, I thought a brief history may reflect upon the vision and mission of WMNH, especially in relation to whom it is serving and how it accommodates diverse socio-cultural needs. The
WMNH is owned and operated by the City of Sun. In 1966, the Sun Historical and Archaeological Society were incorporated to preserve the City of Sun’s rich history. As the collection gradually grew, the society needed a place to keep these cultural heritages. In 1977, the city council decided to establish the City of the Sun Museum and relocate it at the old city hall. However, around 1984, a disagreement arose about the direction of the museum. To make its mission clear, the Sun Historical Society set up another museum, the Sun Historical Museum to preserve the history of the City of Sun, while the Sun Museum basically focused on broader issues such as archaeology and paleontology.

In the fall of 2007, the name of the Sun Historical Museum changed its name to the Western Museum of Natural History (WMHN), because the museum attempted to attract more visitors and make the City of Sun a modern city rather than a parochial small town. The director, William Peltz, observed a need to redefine the museum. He perceived the museum as the premier natural history museum in the Western area. Its old name was sending an indeterminate and even confusing message to potential visitors. Clearly, the name change for a nonprofit museum has commercial implications. The director hoped the brand new name might recreate its identity to match its target market, as well as give the facility a regional cachet and draw thousands more visitors. This new name, actually has addressed the ambition, vision, and collection of the institution. Its mission includes not only featuring a multitude of exhibits representing Southwestern natural and cultural history, but it also promoted a greater understanding of other cultures past and present in the U.S. Moreover, research and education are the main emphases of the museum. Scholars and volunteers can participate in various museum activities such as classes, workshops, lectures, and labs.
Archaeology has been a major focus of the museum since it was established. The Anthropology Department is dedicated to enhancing the public knowledge of Native cultures both before and after the development of a written historical record. The department conducts research and develops exhibits on Native American cultures and the archaeology of this part of the Southwest. The department is currently undertaking archaeological studies at the Sun Grande, the ruins that is a platform mound concerning Hohokam and O'odham people remains. In the background river flows westwards, the mound is just greater in each dimension than a modern football field and measures 27 feet high. It preserves a group of structures that was constructed date to about 1300 BC. To make the remains intact, the ruins is not open to the public except for the Archeological day in May. Fundamentally, this heritage site has been a central task of the department to study the ancient civilization and to raise the public's awareness of archaeology.

A volunteer organization the Western Archaeology Team (WAT) works closely with the curator of the Archaeology Department to excavate, to analyze and to preserve the artifacts from the fields. The members of WAT have trained in different professions although the one thing they have in common is that they are all dedicated to preserving archaeological and historic sites. The major focus of the group is fieldwork and laboratory analysis with members working in and contributing to the field of archaeology. It is not doubted that WAT has made substantial contributions to the fields of archaeology and historic preservation in its support of the anthropology program of the museum.
The museum has held an open house event at Sun Grande every March in conjunction with Archaeology Awareness Month. Several institutions such as the Western Museum of Natural History, the Sun Grande Neighborhood Alliance, the Southwestern Archaeology Team and Sun Community College host the open house. Visitors can participate in hands-on activities and a guided tour with archaeologists on the site.

Paleontology is also a primary emphasis of the natural history in the museum. It explores, excavates records, prepares, conserves, and researches the fossil resources in the collection. In addition to working with state, university, and municipal agencies, WMNH is an official repository for specimens collected from the Bureau of Land Management (BLM), National Forest, and Fish and Wildlife lands throughout the State.

The Department of Education communicates and coordinates educational resources, programs and interactive learning experiences that augment the national and State academic standards for grades Pre-K through 6th activities, such as the annual statehood birthday party, school tour, and boy and girl scouts. The staff works closely with teachers and helps include a museum visit as part of their curriculum. The department also takes charge of volunteers. Sometimes volunteers provide administrative support or work in the gallery to answer questions and provide resources to visitors. Some volunteers staff carts with artifacts, specimens and other objects related to the hall’s themes. The museum appreciates the value of its volunteers.

The museum holds approximately sixty thousand objects of natural history, anthropology, history and art and ten thousand historic photographs in trust for the people of the City of Sun and the State. These objects are acquired mainly through donations and
active excavation programs in archaeology and paleontology. Collections in storage are rotated into exhibits or are used for educational programs, research and publications. The process and the content of collecting actually reveal how the museum operates.

museological practice through its intellectual, psychological, and economic activities (Arnold, 2006).

The various galleries in the museum attract visitors with different interests. The Southwest cultures exhibit demonstrates a diverse world. As visitors walk into the Dinosaur Hall, they see a built-up mountain with animated dinosaurs. A roaring waterfall catches their attention. The hall also displays plenty of dinosaur skeletons and fossils. The movie gallery shows movies that have been filmed in the State. In this museum, visitors can also find jail cells, a history courtyard where visitors pan for gold, a walk-through mine, an artificial cave filled with beautiful mineral specimens, and a native peoples’ gallery includes a replica of a Hohokam village and pottery.

During the period of my investigation, the museum was presenting the culture of the Hohokam in two galleries. One was a permanent exhibit *Hohokam: The Ancient People*. The other was a special exhibit *Hohokam! The New Discovery*.

A Way of Looking: Hohokam! The Ancient People

The museum utilizes exhibits to tell stories like a literary work develops themes to explore ideas. In order to make these motifs clear to the audience, the museum and the curators manipulate, expand, condense and highlight a wide range of texts that include words, objects, documents, photographs, spaces and symbols. Drawing on the notion of dialogism (Holoquist, 1990), the texts in the WMNH can be identifies in two senses. One is the utterance echoes of larger constructs of power/knowledge and social practice. It
usually presented through design idioms and objects. The other is the utterance comes from particular texts which can be recognizable by features of the words and phrases, such as quotation and citation.

*Space and Symbols*

In this section, I describe how design idioms connect to each other and explore what stories the curators want the displays to tell. This permanent exhibit, *Hohokam! The Ancient People*, focuses on ancient cultures of the Southwest from around 300 B.C. to 1450 A.D. The gallery presents displays of prehistoric artifacts and replicas of Hohokam homes excavated by museum archaeologists in the City of the Sun area. In the entrance, visitors first encounter a diorama depicting hunters and archeologists juxtaposed in the same space and time. The Native hunters are chasing the large, ice-age mammals while some archeologists are recording information from a Paleo-Indian site with modern gear. This scene seems to illustrate what archaeological practices are and how an archeologist might be associated with human activities for a prehistoric society. Without written records, archeologists can only comprehend the past through objects found at the site.

Visitors follow the traffic flow by reading a map on the wall that outlines three major historic cultural groups in the Southwest: the Anasazi, the Mogollon and the Hohokam. The map is not keyed to any single time period but shows the greatest geographic range of each culture. Next to the map, visitors can see the Ceramic TimeLine, a chronological development of pottery with reproductions set in wide, slim individual cases on the wall. This display traces the development of the three cultural groups by showing the changes in their pottery styles through time. Several glass cases display ethnic jewelry, shells, baskets, mini-figures, and tools.
The petroglyph display indicates the Hohokam carved and painted on rock. The meanings of these symbols are not completely interpreted, but show that the people created them to record tribal events. The representational figures such as animals or abstract patterns such as circles and spirals are also found on their pottery (Gronemann, 1994). In the center, visitors can see reproductions of pithouses that symbolize Southwestern architecture. The light in the gallery is dim, and only the interiors of the pithouses and the glass cases have spotlights to highlight the displays. This creates an atmosphere of the past, which provided a realistic sense of time and portrayed what the world of the Hohokam should look like.

Words

Labels in the gallery accounted for many layers of information. Most label titles were capitalized and bold-faced, and they usually began with a question followed by the answer. Different font sizes were used to discern different levels of information. These kinds of labels attempted to intrigue readers’ curiosities and created a dialogical space for the author and the reader. The questions probe the exhibit and are almost always close-ended, such as “Would you like to be an archaeologist?” “Have child's ever made great discoveries?” “Do you think you could make a great scientific discovery?”

These questions can be answered in a few words or be responded to with short answers, such as “yes” or “no.” They are not analytic, synthetic, or constructive at all. Even though the pronoun you was used to invite more interaction, the answer was simply a regurgitation of facts delivered through top-down communication. The absence of open-ended questions made the exhibit a monologue, which is “deaf to the other’s response” (Bakhtin, 1984 p 292). The questions may also be restrictive and may mislead
WHEN DID THE FIRST PEOPLE COME INTO THE SOUTHWEST?

Over 10,000 years ago the great glaciers began to retreat at the end of the ice age. Nomadic people followed the herds of large Pleistocene animals across the Bering Land Bridge and into the New World. More of the famous ‘kill sites’ of these paleoindian hunters have been found in ........ than anywhere else in the new world.

Native American groups of this Southwest have oral traditions going back in time to the very origins of their people. The traditions speak of the creation of the people, in the most sacred places in the tribal lands. The oral traditions usually state that the people have lived in their homelands since the beginning of time.

Following the question, the writer provided more background knowledge about the early inhabitants of present-day Arizona. The first paragraph says when and why the first people came to the Southwest and supports it with archeological evidence. The second part addresses oral traditions among Native American groups. To me, the label read as a monologue, which the label writer attempted to use as an inquiry to reach his/her argument. Yet there was no space for the reader to ponder questions or to elicit a well-thought response. Moreover, I think the label writer may have wanted to show scientific evidence found in an excavation and include the data source from oral history at the same time. Otherwise, one might not have any idea how the two incidents related and may see some of the information as unnecessary. More than that, the phrases are broken into fragments such as “kill-sites” and “Bering Land-Bridge” and this made the label unreadable.

Some labels attempted to be instructive and assumed the potential reader would be a child. Imperatives were used to guide the reader. For example (Field Note 8-15-08):
Try making a small brick of mud. Dirt that has clay of caliche in it works best. To see if there is clay in the dirt at your house, add water to it and try to roll out a ‘snake’.

Get an adult to help you with the fun project.

Follow the directions above to make a pictograph like the hand pictured here.

Some labels introduced names for the past society with further explanation to show pictures or objects. For example, the label titled in capital letters, “WAS IT EASY TO GRIND CORN INTO FLOUR?” (Field Note 8-15-08) told the story of many generations of Native American women prepared corn by grinding it into flour using tools like a mano (hand stone) and metate (grinding slab). To impress the visitors, the text not only showed a picture to demonstrate what the objects were, but also provided duplicated mano and metate in the history courtyard for visitors to grind corn. This historical representation of objects reflects how the gallery curator used the modern reproductions to make meaning about the past. The representation was finalized as a monologue without an expected response, just as Bakhtin pointed out: “Monologue pretends to be the ultimate word. It closes down the represented world and represented persons (1984, p. 292-93)

Objects

Artifacts represent space and time of the past as the object itself tells a story. One of the outstanding objects in this gallery was the duplicate of pithouses that represent the ancient architecture style. It is thought that the Hohokam constructed these semi-subterranean houses with mixed materials such as caliche, clay, mud, and plants. Inside the pithouse a reconstructed jar neck, rim, and bowl represented the life of the Hohokam. Most of the objects such as jewels, shells, rocks, mini figures, and tools were in the glass
cases. Along with labels, visitors had clues about how people utilized these objects in the past. The objects also revealed techniques the Hohokam applied to arts and crafts such as etching, painting and carving. Another outstanding display was the Ceramic Timeline that attracted many people. But some potteries were moved from the case and there is no explanation on what and why the timeline was classified. The audience probably has no idea about how the pottery signified the culture. The murals and dioramas also shaped the cultural image of the Hohokam.

A Way of Looking: Hohokam! The New Discovery

Space and Symbols

This special exhibit explored the life of ancestors who lived in the desert environment for over a millennium, from A.D. 1 to 1450. According to the chief curator, John, the purpose of the exhibit was to introduce the past culture to general visitors and let people know what the archeologists had excavated in Sun Grande as its artifacts were little known by the public. On the introductory wall panel, the curator introduced the inhabitants and the collapse of the Hohokam and explaining what they did at their cultural apex and how they got there (Field Note 8-15-08). Finally, the exhibit illustrated the way archeologists learn about the past and what the museum does to advance this knowledge.

When visitors walked into the gallery, they might have been attracted to a diorama with a full-size earth oven called a *horno*. In the center of the gallery, there was a replica of a pithouse floor that served as the home of Hohokam families from about A.D. 900-1150. On the right side of the wall, was the profile of a prehistoric canal and a reproduction called Homo. In addition, rare and unusual artifacts such as copper bells and
pyrite mirrors that had been bartered were displayed to show the network of trade and interaction among different cultures at that time.

The exhibit for this part of the Southwest was a representation of the past, and an introduction to the early agriculturalists - where they came from and what happened when the prehistoric Southwest collapsed. The wall colors in the gallery attempted to recreate scenes of the desert for visitors. The gallery was arranged to display an open room plan with several single points of emphasis, such as the village people and the floor of the pithouse. The manipulation of space drew visitors’ attention to featured objects and led them through clusters of exhibits. The background images on labels displayed native people dancing and playing musical instruments. These seemed to represent the culture, but unfortunately they made the text a little hard to read.

*Words*

Words functioned as a principal carrier of meaning and incorporated particular messages into the exhibit. The purpose of the exhibit could be understood from reading the Introduction Panel in doorway. To explore the Early Agriculturalists - Hohokam, the curator posed questions to engage the visitors: “Where did the Hohokam come from?” “What happened when the prehistoric Southwest collapsed?” A label titled “What We Do Know” is an example (Field Note 8-12-08):

*What We Do Know*

We do know that there is a large-scale collapse of population in the late prehistoric American Southwest...We also know that around AD1000 the Hohokam built their great irrigation network in the City of the Sun area.

The label “What caused the “Hohokam Collapse?” presented the current conclusion held by the curator/archeologist. It incorporated some new ideas, particularly
about the collapse of the irrigation networks, the rise in populations, and the overuse of water resources. The word choice also reflected what age level and prior knowledge the curator assumed the visitors might have as some terms were presented without further explanation. Also, a graphic illustrated how the Hohokam society changed through periods of time: the “Pioneer period”, “Colonial period”, “Classical period”, “Sedentary period” and the “Historic O’odham” period without stating what the classification was based on. This was because the museum team speculated that visitors would have prior knowledge from the permanent exhibit in another gallery. John admitted, “We didn’t do as much background information on the Hohokam in this exhibit as we normally would and that was because we have some of that material over in the other, other gallery” (Interview #9, p 5). John’s endeavor was to create a space for visitors to participate in the dialogues. However, since the label writing used an academic orientation, I assumed that he expected scholars or researchers as an audience, rather than a general audience to the gallery.

Conveying the voice of the curator, the labels in this exhibit were quite different from the one in the Educator Resource Guide. For example, the label about the horno seen in the gallery attempted to narrate how the objects were discovered, what it looked like, and how it functioned by referring to the relevant person and culture. Moreover, American anthropologist Frank Cushing was introduced in the text. It appeared to me that John wanted this text warranted by a famous scientist. I recognized intertextuality with which the variety of utterances was incorporated. For example (Field Note 8-15-08):

On hot afternoon in 1887, Frank Cushing scanned the ground for clues of buried features in the Arizona desert. Suddenly he noticed a strange, donuts shaped pile of buried rocks, charcoal and debris, and intriguing place to dig! His excavations
uncovered an “horno” Spanish for oven). It was a large circular pit with walls that were so heavily burned that they looked like asphalt. Common features in Hohokam sites, hornos often measure 6 feet in diameter and 6 feet in depth.

Used much like the pit ovens of the Hawaiian luau, hornos were heated with mesquite fires to extreme high temperatures. Food, including agave and corn, was placed in the heated earth oven, the oven was covered with dirt to seal in the heat and the food was left to cook for hours.

Instead, the text seen in the Educator Resource Guide was concise and transmitted simple concepts - the size and the function of the horno. For example:

A common feature of the Hohokam village was a “horno”, or pit oven. Measuring as much as six feet in diameter and six feet deep, the horno was heated by mesquite fires to extreme high temperatures. Food, including agave hearts and corn, was placed in the heated earth oven, the oven was then covered with dirt to seal in the heat and the food was left to cook for hours.

Because this exhibit was intended to focus on the artifacts and replicas of Hohokam homes excavated by museum archaeologists in City of the Sun area, the words from science such as archeologist, researcher, scientist, analysis, hypothesis, and data were emphasized. For example some label copies included (Field Note 8-12-08 and 8-15-08):

“This is a question that has always intrigued archaeologist…”
“The data suggests that this new irrigation system crossed a critical threshold of water use…”
“Studies of the Hohokam people form this time suggest high level of malnutrition and other health problems…”
“Named by an early researcher that thought they were used as ‘paint pallets’, the exact use of these enigmatic stone tools is still unclear…”

To give added authority, statements were used quite often in the label such as “we do know…” Although the word “we” representing the archaeologists did not single out any person or any theory or any scholarship, “we” implied there was some agreement or conclusion made by a group of people.
While some labels attempted to depict scientific aspects, other labels were more readable for young children and used “you” statements or posed questions to invite the readers to engage in displays and to compare past and present. The labels tried to tell contextualized stories and involve visitors. For example (Field Note 08-23-08):

If you look closely, you can see footprints made in the wet cliché (an adobe-like material) by the Hohokam people around 1350 A.D. Some of the footprints, including those of young children, have been outlined for you. Can you see others?

Compared with another exhibit, *Hohokam! The Native People*, the texts in this gallery took a stance of multivocality, dialogism, or polyphony rather than authoritative univocality, monologism, or monophony. In doing so, the exhibit elicited more context related to the readers (visitors).

**Objects**

The *Hohokam! The New Discovery* exhibit as a text did translate some information through material cultures. The curator wanted audiences to see things the archeologists saw in the field. Therefore, objects on display were either authentic from the excavation or a replica by a local artist. A label started with, “This is a portion of a prehistoric wall similar to those found in the Sun Grande mound…” to deliver that message.

One outstanding object in the Hohokam exhibit is the sophisticated canal system that represented the original irrigation system in order to respond to the arid conditions of the Southwest. This canal system was also viewed as a key concept that conveyed the importance of water use in deserts. The reproduction of canals with grasses and soils not only explained how the Hohokam changed their environment and landscape by inventing the technique of irrigation, but the reproduction also revealed how agriculture happened.
The archeologists found that there were lots of nutrients such as nitrogen in the canal water and this was an indicator of the the soil and soil conditions at the. These conditions means the Hohokam could grow food with irrigation that added nitrogen to plants. In doing so, the Hohokam was able to create man-made soils and create very excellent agricultural soils.

The museum used a hands-on, three-dimensional puzzle pot for a fun element in the exhibit. The puzzles on the floor of the museum illustrated the process of pottery and conveyed the meaning of symbols that were on the pot. John expected this puzzle as an interactive display that could convey information about how the pots were made and demonstrated coiling and things like that. Just like what he anticipated, the grounded puzzles did attract many young children as they came in the gallery and play it first (Field Note 7-18-08).

The village people model was in large, glass display case that set on a table. It illustrated the daily life of the Hohokam. The display was a still-life and I felt something missing when I looked at the miniature. First, there were no children represented and different age groups were not represented. All the miniature figures were adults. Second, there was gender discrimination in the roles displayed. That is, the females were growing plants, making pottery, grinding grains; and the males were hunting, building a pithouse, stoning the tools. It seemed to put Hohokam culture within a perspective of our modern society where the females are housework keepers, and the males work outside the home on construction (Memo 6-8-10). The representation could be interpreted from different issues such as gender role, social hierarchy, woman’s status or historical transition. The
problem is the diorama simply shows a static society and neglected different social activities among the relationship of place, space and time.

A Way of Seeing

I was inspired by Wolcott’s comment, “…ethnography entails both the way we study culture and the interpretive framework that ethnographers impose on everything. I do not seek to “observe” culture, but I take responsibility for making culture explicit in whatever I observe, because that is how ethnographers make sense of what they see. It has become a personal way of seeing, as well” (Wolcott, 2008, p.81). When I analyzed my field notes, I was trying to apply my own critical literacy awareness and asked – which literacy lies behind these texts and the context? Whose literacy? Literacy for whom? I tried to go beyond superficial looking to critically “see” and “read” the exhibits. Critical literacy, in this sense, aims to put my beliefs in perspective and to explore and account for their origins. I don’t want simply describe what I saw, I tried to tell more about how I saw through my lens of culture.

The following section involved interpretation and comparison of texts for analysis to describe the meaning through a cultural lens. The Hohokam culture was very sophisticated and it required visitor to spend time engage in texts of the exhibits. It would be very hard to comprehend all the ideas presented with only one visit. When I observed how the words, spaces, and symbols were structured with objects in the two exhibits, I noticed that the texts actually entailed what Street refers to as an “Ideological Model of Literacy” (2003, p77). That is, the texts were rooted in a particular world-view and communicated ideas about culture, history and science that dominated visitors’ conceptualization of literacy.
Cultural literacy gives visitors an idea about what messages the exhibits are conveying and why the displays are represented in that way. The Hohokam cultures were interpreted through meaning that was two-fold. First, the exhibits conveyed what the past was like by demonstrating the evolution of extinct civilizations and cultivating an atmosphere about ancient time. The types of displays, the diorama and life-size model of subjects in the pithouses were intended to shape the visitor’s image about the life of Hohokam people. The museum employed strategies, such as symbols and the orientation of space, to make these didactic displays speak for the culture. Second, the exhibits constituted knowledge about the culture by including material from the culture that dated back to prehistory. In communication of archeological finding, the Hohokam! The New Discovery exhibit especially had incorporated new information about canal system, the collapse of irrigation network, and the increase of populations. The purposes for that were to bring forward recent archeological discoveries to update people on the state of knowledge about the Hohokam and to introduce the history of the area by addressing the overuse of water resources that people face today. For John, the chief curator, this display symbolized how the Hohokam’s irrigation system was the life-blood of this agricultural group. The representations were not simply innocent translations of research findings, but rather they constituted a powerful argument about what could be learned from that system (Moser, 1999). Cultural interpretations were also embedded in the Educator Resource Guide that was compiled as a resource to aid classroom teachers. This guide included the state’s curriculum standards from third through sixth grade along with some simple lesson plans. It stressed the goal of a visit to the museum was “to understand the culture, legacy and contributions of the prehistoric peoples of the Southwest as
exemplified by the Hohokam peoples.” From the vocabulary listed that students would learn, such as archaeologist, archaeology, artifact, excavation, feature, irrigation, prehistoric peoples, pithouse, sherds, stratigraphy and sites, visitors could visualize the whole picture of the Hohokam and learn the knowledge the museum was circulating.

The cultural viewpoint that the exhibition provided was constituted by monologues. The space and symbols shaped an image of the Hohokam as early Native Americans. The words through the galleries were pre-determined and had little room for dialogue. Although it was possible to see some quotations and citations in the texts, ultimately the exhibitions showed a monolithic Hohokam culture. Because of the underlying monologic approach, “no response is expected from it that could change anything in the world of my consciousness” (Bakhtin, 1984, p. 293).

Historical literacy requires that visitors understand the past as a whole and that they find deeper meanings in the representation of history. In the text of two Hohoakm exhibits, curators intended to indicate that this wasn’t just something that happened in the remote past that we have no connection to, but that the past really affects how things develop historically and even today. The past and the present are bound together in an interpretative act and history can be seen as theatre in which the events shape meaning through performance. The time and place produce an ethnographic moment (Dening, 1996). In John’s note work, he wrote the “Main entryway to the gallery will have be constructed to look like the deteriorated entrance to a Hohokam room, like the Casa Grande, palo verde, creosote used to give an overgrown, Indian Jones type of feel” (Interview C2). The theatre in this display was created with aesthetic and visual elements to symbolize an ancient culture, and it was presented by materials such as the ceramics,
tools, architecture and ruins. History in this case, defined a society from history according to its material artifacts that proved an ethnic link from the prehistoric and ancient peoples to modern nation-states.

Historical literacy gives us dimensions to better understand our humanity. An archaeological site holds the clues of prehistorical culture, land use, settlement, and exploration. An artifact, like a piece of pottery, did not simply show the techniques used and an aesthetic object, it also aroused feelings and memories about the past. The profile of a canal not only revealed the civilization of the Hohokam, it also implied the shortage of water nowadays. When visitors walked around the Hohokam displays, they could see a society that was constructed to manifest its history. On the other hand, the displays also demonstrated how the museum reconstructed knowledge of the Hohokam from the artifacts recovered but also how it decided which findings would be significant.

Scientific literacy was structurally embedded the display labels by two kinds of utterances that conveyed institutional discourses. One was the utterance produced from an objective stance, such as the “archeologist found,” the “researcher agreed with” or the “archeologist discovered”. This usually did not refer to a specific person, but indicated instead a collective ideology. For example, when talking about a symbol that might have been present in Hohokam society, John said, “But it’s only suggestive. We haven’t cracked that one yet. So unless we can really make a strong statement that’s scientifically based, we don’t put that in (Interview C2).” The statement meant a group of people shared the same beliefs and values. It is part of literacy practices in which knowledge and experience were shared and quoted as Bakhtin’s “intertextuality.”

This kind of institutional discourse was also seen when a certain interest group or
people were mentioned. For example, a text give explanation on *why study Archeology* says the museum and its Archaeology Team had excavated many sites, such as Sun Grande and the canal park as well as others and had discovered important information about the past. Another text honored the archeologist Dr. Omar A. Turney who had committed himself to documenting the work of the ancient “Canal Builders” and to advocating public archeology (Field Note 8-12-08). These examples implied a politics of representation by the museum curators and validated what the museum appeared to be telling visitors.

An institutional discourse to highlight archeology as a discipline of science and to promote archeology was identified through label texts in and out of the galleries. Not only had the dioramas by the entrance conceptualized what archaeologist do, but also the texts in the hallways and galleries conceptualized what archaeology is, what archaeologists do and how sites were excavated and interpreted. For example:

“At this site, archaeologists found skeletons of slaughtered mammoths…”
“Archaeologists determine the religious and ceremonial life of a prehistoric people by interpretation of artifacts and architectural features.” “This exhibit is based on the archaeological site of ……. on the …… in ……….”

Those texts told us that archeologists find, determine and display evidence from archeological sites. The museum encourages a career as an archeologist for children. A text label said: “Would you like to be an archaeologist? Becoming an archaeologist takes an understanding of science, math and social studies. It takes hard work in school to become an archeologist, but it’s exciting to make discoveries!” (Field Note 8-12-08)

The exhibits are literacy events in that curators appropriate voices from different sources such as scholars, art designers, educators, and directors. The visitors may find
that some displays look familiar. For example, a diorama that depicts archeologists standing at the present to look at the past is similar to the one presented in another museum. Besides, the ancient people are portrayed as naked, dark-browned color with a straight hairstyle that is also similar in many ethnographic exhibits (Figure 1 and 2 on page 75). Moreover, a chart “Hohokam society: change thorough time” (Figure 3 on page 76) used three categories: House style, Pottery, and Public Architecture to demonstrate the different stage of cultural impact. I wondered why these three indicators rather than others such as clothing accessories were used. There must have been some reason that a layperson like me may not understand. These wonderings led me the conclusion that ethnographic objects are aspects of research and representation, and that museums teach almost unconsciously. They construct the past and present with tangible reminders of an ancient people and past events that contributed to our present. That is, museums convey “a system of highly political values” through programs, operations, and methods of presentation (Gain, 1998).

Bakhtin’s dialgism provides conceptual tools for us to understand how the author engages and produces complexity of perspectives through exhibitions. The interplay of voices such as monologues or dialogues represent certain values and beliefs for the institution. This ideological implication makes the representation of objects in museums far from neutral (Sorensen, 1999). They demonstrate political, ideological and aesthetic dimensions that cannot be overlooked. Ideally, audiences would own the competence to see behind the hidden curriculum. Museum visitors intent on examining the objects in an exhibit will be engrossed in the story being revealed, and they may not be aware that objects have been manipulated and placed by an unseen and unknown design team.

Figure 3: A chart titled *Hohokam Society: Change Through Time* at the Western Museum of Natural History.
Curatorial Practice

How and why curators used words, objects, space, and symbols to represent knowledge in the museum is a complex process. It is related to curators’ knowledge bases, social network, cultural capital, educational backgrounds, likeness and language use. Consequently, museum work is not only a field where curators struggle for position, but work at the museum also includes a structure of social relations among the curators, staff, director, and audiences. The structure of work in a museum is like what Bourdieu argued is changeable in the daily interactions. It changes as the individual’s position within a field changes (Harker, 1990). In this next section I discuss five topics that emerged from my analysis: (1) Acting the Role in the Field, (2) Legitimization of Knowledge and Power, (3) Viewpoint of Interpretation, (4) Communications to Audiences, and (5) Hybrid Utterances (Figure 4). This figure denotes how the curators understood the use of texts in representing knowledge for the exhibits. This figure also shows how curatorial practices are affected by the habitus, tastes and capitals of the curators. The grey box shows curators’ social network with others.
Figure 4 Cluster Diagram of Curators’ Curatorial Practices.
Acting the Role in the Field

The museum is a field of cultural practices where a hierarchical system is structured internally by its participants in terms of power relationships. In this social arena, the three curators act as agents and work within a matrix of professional and cultural expectations that affect who they are, where they are located and what they represent. That is, curators foreground themselves, their knowledge and specialization to represent other social subjects and agents, working as the interpreters of creative works originated by others. Along with cultural practices as a curator, their cultural capital such as academic degrees, commitments to curation and different resources are also anchored in certain behaviors and values, which may also be called habitus.

Generally speaking, curators have various responsibilities associated with the working system of the museum. The primary function of curator is different from one institution to another. Things that curators may get involved with include exhibit preparation, care of the collections, research, documentation, and public programming. In the Western Museum of Natural History, curators are assigned different tasks based on their particular specialties. John and Mark are expected to carry out original research on objects, to guide the museum in its collecting and to share their research through exhibits and publication. Helen basically takes care of educational programs, communication, and public relations. Generally, all curators need to work together in order to present an exhibit. How curators install an exhibit is a story about the transformation of the museum as an institution. They do not just collect artifacts or specimens and put a collection together for display. They also need to do everything they can to motivate people come in and visit the museum.
The three curators in the WMNH all hold advanced academic degrees in professional field that contribute to how they perceive their roles as curators quite differently. Helen has her master’s degree in health management and business administration. She began her curator career as a volunteer in a zoo. She mostly viewed herself as the communicator for the museum. Parts of her responsibilities are to deliver public speeches, to promote the exhibits, to coordinate activities, and to correspond with teachers and students. Even though since the museum budget was cut she has had to share the marketing responsibilities, work on grant writing, and promote membership, she thinks these new duties are still related to education. They help her to understand how learning happens in the museum and how the museum interacts with community. Helen believes the most important thing for her would be the best interest of museum visitors and the museum. She pointed out, “I have probably more than the other curators much more interest in our visitors in the enjoyment and safety and then education of our visitors while they’re here in the museum” (Interview C3). This disposition might be because she had worked with adults in continuing education and with children in zoo tours. The two positions helped her better understand what people think and what people learn.

John has a Ph.D. in anthropology. He had his curatorial experience while in college. He has worked closely with several stakeholders that include university researchers, community groups and volunteers to develop new interpretive ideas to promote the collections since he’s been in his position. He is often called “the canal guy” by his colleagues and is known for his extensive studies of the prehistoric Hohokam irrigation systems in the southwest. He cofounded the Western Archaeology Team.
(WAT) that works to recover information from sites slated for construction prior to their destruction. This group has played a key role in the preservation of the Sun Grande and the opening of the archaeological park. When in the field, he considered himself an archeologist who worked for cultural management. He also teaches at a community college and directs the college’s archaeological field school at Sun Grande. John is an advocate of preservation archaeology and he dedicates time to encourage public involvement in the field of archaeology. He said, “Most of my work was done working with the public programs and publicly working out in the field doing more of that end of museum work, research, and things like that than actual exhibits” (Interview C2). Not only that, John also thought that a curator is like a coach and needs to work with a team to make the exhibits understandable, fun and interactive. John’s awareness of roles as a college faculty member, cultural manager, presenter for public programs, curator for museum collections, or coach in a exhibit team demonstrated multivocality, which can be understood in a simplified sense as many voices.

Mark, the curator of paleontology, had been interested in biology since his youth. After he completed his B.A. in paleontology, he decided to work on his master’s degree in geology and found that his interests leaned more toward biology and paleontology than geology. So he entered the doctoral program with a professor who was a herpetologist. Subsequently, most of his research and publications before he became the curator of paleontology at the museum were herpetology rather than paleontology. He viewed collection and research as the two primary jobs for his position. The collection he is responsible for includes rocks, minerals, fossils, and biological specimens. He also practices a leadership role with collections at another natural history museum and a state
university. He declared a responsible collection should be focused towards things that aren’t replications and that his team is competent to analyze, research, and publish on or at least facilitate the work of others who analyze, research, and publish. Besides this focus, he believes teaching through exhibits is another aspect that curators must fulfill. He said, “because here the game is to get people to pay to come in the door and hopefully we would with one or two or three take-home messages that they remember” (interview C3). Mark’s account demonstrated intertextuality in relation to the large system of the museum practices. That is, his utterances did not appear in isolation, but in relation to the text that appeared in the mission statement of the museum to engage in activities that can provide revenue to support the operation of the museum. It resulted in an institutional discourse which also sustains the direction to attract as many visitors as possible. These activities emulate a theme park in the entertainment industry.

Exhibit planning is teamwork. All three curators have worked together to author many exhibits. For the Hohokam! The New Discovery exhibit, John had the main responsibilities to design the layout of the exhibit and oversee the installation. He worked with different departments to create the displays and arrange objects. The art department helped him to represent concrete ideas. John said, “It’s just amazing what an artist can do working with an archeologist to present images of the past to the public”, and “…the exhibit guys make it fun and make it look good and the exhibit guys are amazing” (Interview C2). He was very satisfied to see the displays - canal profile and the horno – had attracted so many visitors. John also works closely with not only artists but also the Department of Education and he relies on advice from them. He said, “I don’t know curriculum. I mean what does a fourth grade teacher want to show her class? What’s
going to meet their curriculum requirements and standards? I don’t write for a fourth
grade audience so that often, I need [people] like Helen and educators and we’ve had a
number of people who’ve been very good at this, be able to look at my work and say,
‘Okay. There’s a great opportunity here to meet these curriculum standards and
requirements’” (Interview C2).

Although John believed the teamwork went well in planning the *Hohokam! The New Discovery* exhibit, Helen actually felt she and her department were excluded from participation. She said, “Um, there’s almost no…um, they [had] a few formal meetings and I would be in the exhibit team, but I virtually have no input and the Education Department is usually not consulted on what would be in the gallery or what would be the input, and it’s very old fashioned and traditional that way.” It appears that might be not exactly true, because the Department of Education did create and distribute educational materials for the exhibit. It might be partially true because the voices of educators are often muffled with few opportunities to lead or direct the work of others in this natural history museum. Helen felt that the Department of Education had no participations in all exhibitions but one which was an exhibit displayed images on handmade grave makers. What Helen revealed reflects the power relations among different departments. According to Helen, the ideology in this field is “any museum you would go to, you would hear the same… story.” (Interview C1). Although museum education has developed as a discipline in its own right, the underlying agenda remains that the Department of Education has far less power in a science-oriented museum. Moreover, compared with other disciplines, the salary range of the average education specialist is much lower. I interpreted this phenomenon in WMNH as institutional habitus rooted in a
larger social, which constitutes (and is constituted by) a network power relation among its participants.

Tension occurred when curators in the WMNH attempted to legitimize certain values and cultural capital within that space. While three curators have different roles in the museum, their curatorial practices in representations and interpretations are different. For example, as the curator of education, Helen tries to make labels on exhibits readable for different groups so that they include no jargons or vocabulary that is too difficult for the intended audience. She prefers to use short paragraphs and large print. John and Mark, conversely, tend to word labels from a scientific perspective and make them more academic. They think that only some words capture the complete ideas, and also that visitors can and should learn from hard descriptions. In that way they can actually take “something” home.

When John used the word “epistemology” in a label, an educator told him that no fourth grader would understand what the word “epistemology” meant. John was a little bit upset, but he admitted, “They helped to interface between us as scientists and the public also and make it much more presentable” (Interview C2). John critiqued his writing style as “long-winded”. However he said that, “most of my writing probably would be better for a museum in context. Most of the words I use and the ways I try to get concepts across are things that I actually develop, not from writing the labels, but from doing public lectures” (Interview C2). He has made presentations about the Hohokam and different aspects of archeology to the public for years. He uses lectures as a way of judging how well an audience can understand presented information. When his audiences look puzzled or bored, he knows that he is not getting through and that his
presentation needed to be adjusted. John does not have any over-arching rules or structure he uses to write a label, but he tries to be very concise and to the point. He considers his label writing as successful when other people review the texts he writes and make very few editorial changes or suggestions.

On the other hand, Mark was frustrated whenever he wrote a label that tried to introduce some new words or terms that he thought perfectly captured a whole bunch of things in a package when the Department of Education disagreed with him. For example, in one case he used the word “integument” to describe what he was not sure was hair or feathers or scales in dinosaurs. He said, “I might use the word integument instead of hair or feathers or scales. Integument encompasses all three of those words” (Interview C3). Unfortunately, his wording was refused by the Department of Education because it was too difficult for the average audience. As a result, a label was written that had “a very low level of sophistication.” Mark knew that simple labels for exhibits were needed to make sure everyone could understand them, but he also believed that exhibits also needed sophisticated texts to provoke public interest or excitement.

Helen joked about her role as one to discourage the label writer. She had a certain judgment about what a label should be. She commented “… I would say a lot of the labels [in the fossil gallery] do not necessarily reflect what I think. I think that often they’re way too hard and that people don’t understand and they don’t understand what we’re trying to tell them because they’re written at a level that might be of interest to an academic person or very well-educated person” (Interview C1). However, in some cases she felt powerless in revising labels. She stated that Mark (the curator) “has final say and a lot of times when I would suggest to him [to adjust] the label, he won’t, you know. He
has final say…” (Interview C1). Label writing, in this sense, not only implied ideas about curators’ tastes, which demonstrated differences in their literacy practices, but also showed evidence of power relationships in the field. When readers read the label, it may be an interest to ask who make decision and whose literacy counts.

The way that curators responded to their profession reveals the different dispositions that the three curators possessed. As Bourdieu points out, in the field of cultural production, a relationship between positions and position-taking is mediated by the dispositions of social actors (curators in this case). Their feeling for the role in relation to each other determines how they will respond to the rules and constructions of the rules of social “grammar.” This feeling to act and react is what Bourdieu called “habitus.” In my analysis, the three curators showed their own dispositions through their expressed perceptions of their job duty, cooperation and tension among themselves, and through label writing. Their manners, skills, knowledge bases, social network, educational level, academic credentials, qualifications, language use, likenesses and differences all impacted their curatorial practices.

**Legitimization of Knowledge and Power**

Bakhtin suggests that no utterance can be produced without reference to its social, cultural, and historical context. Bourdieu oversees that one’s taste, habitus and capital exist within a structure of power in the field. These two notions bring me to a critical perspective to look at how the three curators unconsciously or consciously legitimize themselves and also cast social differences in a larger, socio-political-economic context. That legitimization is especially reflected in the processes of developing collections and planning exhibits.
From the perspective of curators, museum collections are a form of cultural production and a source of knowledge. In Mark’s words, “a museum is the collection, collection is the museum.” In Mark’s mind, galleries are not a true museum because they have no collections. Since the task of collecting gradually shifts from the university to a museum because of the cost of maintenance, museums become “the root source of knowledge” (Interview C3). When reading facts from a science textbook, a reader is likely to learn the source of that information may be from a museum collection. If museums don’t collect, analyze and report on its research, then “the textbook has nothing to say” (Interview C3). That is, museum collections grant what is counted as knowledge and how that knowledge is made available to the public. Mark pointed out that in most cultural institutions curators have privileged positions from which to access social networks and resources that become a means to hold knowledge and power. That is not a new concept. In 1992, the American Association of Museums published Excellence and Equity, which addressed scholarship as a hallmark of museums, and which stated that the pursuit of knowledge of collections should be carried out “in an atmosphere of intellectual rigor” (Hirzy, 1992, p. 20). Mark’s observation and AAM’s statement reflects a collective consciousness that curators embrace – that museums are powerful social institutions which define and distribute knowledge.

Legitimization of knowledge also occurred when planning and designing an exhibit. John mentioned one purpose for the Hohokam exhibit was to bring excavation in the field into the gallery. Another purpose was to update people on the state of knowledge with the Hohokam so they would know about some of the things archeologists had recently learned. That meant, particular ideas about the collapse of irrigation networks,
the increase of populations, and the overuse of water resources were incorporated into the museum as new knowledge. Furthermore, the artifacts like pottery, jewelry, canals and architectures were exhibited not only to depict the Hohokam culture, but they have also become symbols that represent Native people and show how knowledge is shaped. John said, “I think what we do is we try to present not only what we know, but a little bit of the epistemology of how do we know what we know” (Interview C2). That is, John wanted visitors to not only see the culture of the Hohokam, but to also identify the source of knowledge. The profile for use of the canal became a good demonstration to achieve this goal. “Here is what we see in the field and here is the kind of information that we can get from that and I [installed] a more expanded version for the exhibit. We had a little bit about how we determined water flow and things in the canals. So we’re showing that we’re actually, we’re not just asking the questions, but how we’re getting the answers” (Interview C2). When curators put museum elements on display, they are actually creating particular kinds of beliefs for the public. In this sense, curators automatically internalize the rules that the institution utilized to govern the circulation of cultural production.

The legitimization of power was seen in museum bureaucracy. The WMNH was operated under guidelines of the board and the direction of the director. It seemed that no matter who was in charge of the exhibit, the director got the final say. John said, “One thing I’ve learned in museums is that the director of a museum is everything” (Interview C2). The leadership style of a director affects the curatorship. If a director tends to manipulate exhibit presentations or take over the control of the collections, curators usually will have much less involvement with exhibits. As a contrast, if the director
allows curators to make decisions freely that will allow them to act as professionals. John found the current director was a professional who gave curators freedom to act. When he discussed the criteria for a collection, Mark also said, “I am free to conduct my own…to define my own criteria beyond the ridiculous broad guidelines given to me by my job description” (Interview C2). The two curators found this kind of leadership style fit in their job compatibility. John and Mark have a very close relationship with the director. It may be because that the director’s academic discipline is Archeology and has an ambition in building up a very strong natural history museum for the community.

In an unconscious way, cultural capital is practiced to promote or to decide whose values count. Curators use their cultural capital in the cultural marketplace to claim and maintain their position. Given a higher status in our society, curators owned a privilege to place symbols and meanings through exhibits. That network of power relations shaped their habitus as a mouthpiece for legitimized knowledge. To Mark and John, the actions of collection, preservation and display are not simply to classify objects to catalogue, but to conceptualize knowledge for the public- The audience received answers for their questions. Through curatorship and museum bureaucracy, this kind of authority and legitimacy are reinforced again and again. Curators’ positions imply an objective definition of practice and of the products resulting from it (Bourdieu, 1993). Whether formally articulated or tacitly understood by curators, this definition imposes itself upon them, shaping their ideology and their practices.

*Viewpoint of Interpretation*

Visitors may notice several posters on the wall when they walk in the hallway through the South American exhibit to the old Hohokam exhibit, One poster has a
paragraph titled, “Interpretation is one of the most important aspects of archeology, because it allows the objects to tell us about itself and the culture of which it came from” (Field Note 7-31-08). The statement clearly points out that every object has its own biography. George Brown Goode, an Assistant Secretary at the Smithsonian and leading museologist of that era, also claimed that “an efficient educational museum may be a collection of instructive labels, each illuminated by a well-selected specimen” (Alexander 1979, p. 12). Both statements address how a museum carried out its mission and educational role though interpreting an object. However, interestingly, not everyone knows how an object is interpreted. As a matter of fact, a curator is a presenter who is using an exhibit to make a series of points. Her/his discourses in representations of exhibits reflect the complex of conceptions, classification, and use of language that characterize a specific sub-set of an ideological formation.

The media and the activities that curators want to use for interpretation are quite different. Helen preferred a docent who was a Native American to help in the gallery to demonstrate the Hohokam culture. Despite the positive feedback she received from visitors, John believed this idea was unnecessary. This difference could be because John wanted to keep the exhibit “professional” and “scientific”. A Native docent with ethnic connections to the exhibit but lacking archeological training could potentially provide a misleading cultural interpretation. While aware of the museum itself as a resource, Mark expressed a concern about interpreting an exhibit. He described interpretation as “the necessary evil.” On one hand, he was glad to see people draw their own conclusions from objects. On the other hand, he was frustrated that people interpret exhibits very differently than what he might wish. He gave the example about the idea evolution. He
said, “People who don't believe in evolution, don’t want to believe in evolution. We always see things according to our backgrounds. The exhibit was not pleasing to people” (Interview, C3). He disliked interpretation for objects that, from his perspective, have a power of their own. Mark argued that an object could reveal itself without much interpretation. He compared the difference between reading exhibits and reading books that channel a different communicative model, “If people want interpretation, they should read books about objects.” For him, the form of a book provides more room for the author to interpret objects. Indeed, a good exhibit allows objects or pictures to speak for themselves without clutter or over-elaboration.

Mark expressed the sense that achieving a perfect exhibit is impossible. For him, a perfect exhibit is word free and objects oriented. Curators have to choose artifacts and specimens well to illustrate what they want. Even though making interpretations for the public is necessary, he believes a better way is to show a series of objects to give an appreciation of what a scientist does every day. “Or you can make a statement like dinosaurs have hairy covering and that’s an interpretation. And they can imagine dinosaurs have fur. Or …but to show them a fossil from the (Jiahu Fauna) in China which has these little things, these little impressions on the stone, and say this is what we think the fur is or this is why we think there’s fur. That’s making them think too and making them think do I agree.” (Interview, C3). Obviously, an interpretive principle that Mark wanted to practice is provocation, not instruction (Tilden, 1977).

The difficulties to achieve effective interpretation make John think about doing an exhibit that contrasted pseudo-science with an authentic display to test what the audiences believed before and after viewing the exhibits. Moreover, when assigning
names to some Hohokam symbols, such as birds, frogs etc. or symbols that may represent the idea “water” or a design element in ceramics that may have special meaning, he would like to use the word ‘suggest’ instead to identify the symbolism. He said, “I have a big problem as an archeologist saying much about that. Some archeologists are more willing to do that. But I’m very strongly based in science” (Interview C2).

Another example shows how interpretation can be hidden in plain sight. Helen told me that she was giving a presentation to fourth grade students in a school setting. When she mentioned the Hohokam culture was prehistory and had no written language, one little girl raised her hand and said, “I think you're wrong. I think there was a written culture that you don't understand,” she said, “because when you look at the pottery, there are stories all over the pottery” (Interview C1). Helen was surprised but she knew the little girl was right. If we looked at the pottery closely, we can see the symbols such as dogs, birds, people and other animals depicted on the pottery that is one kind of language and a story from the culture. This incident helped Helen reflect on her own ideology of how she looked at a prehistoric culture. She said the fourth-grade girl comprehended the culture in a way she had never thought about. She admitted, “… I mean just because we don't know the story doesn't mean it's not there” (Interview C1).

Mark noticed that most museum studies programs focus on the cultural side that is almost irrelevant to how things are actually done in a natural history study. He mentioned few staff in this museum that came from a natural history background, and most of the other people came from cultural background. That gave him somewhat of a cultural shock in the beginning. “I was amazed that culturally these two museum fields have just clawed up on different tracks though have not communicated and have a different culture.
There is a fundamentally different culture to a natural history museum than to a cultural [institution]. And sometimes they are at odds. I think that tells us interpretations are very different” (Interview C3). Mark’s comment, to some extent, reflected tensions between the Department of Education and the curatorial definitions and interpretations of how to most effectively deliver content knowledge to museum audiences.

These issues of interpretation remind us that curation itself is a modern practice and it has become a social, political and cultural issue (Deepwell, 2006). Curators are presenters, owning the power to arrange objects so that audiences reach the conclusions of the curators. Objects are the presentation, representing that a particular person is saying a particular thing about them at a particular time. The curators articulated that their choices of specimens, objects, and languages were eclectic and personal. They also realized that the exhibited objects may have several aspects, but they are using this space to make a series of points. They can see the difference when distinguishing self and others in the field, just like Mark commented, “But they are different, they’re real different. And it’s hard to put into words what my culture is and what their culture is, but it is a different culture, and it’s amazing to me” (Interview C3). Mark’s comment relates to Bourdieu’s theory that, “Those who have monopoly on discourse about the social world think differently when they are thinking about themselves and about others (that is, the other classes): they are readily spiritualist as regards themselves, materialist towards others, liberal for themselves and dirigiste for others, and, with equal logic, teleological and intellectualist of themselves and mechanist of others”(p. 80). Seeing others in a different way actually is habitus that differentiates curators’ interpretive approaches in exhibit planning.

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Communications to Audience

It is always a challenge to create meaningful and engaging programs and exhibits. The communication process in exhibits is designed to reveal meanings and relationships of our cultural and natural heritage through involvement with objects, artifacts, landscapes and sites (Heritage Interpretation, 2012). Clearly, the purpose of interpretation is to get the communication smooth. There is what visitors expect to get from an exhibit, and there is what the curator wants to tell them about the exhibit. In order to communicate with the audience, curators need to answer the questions, “Who is the audience?” “What's this? Why was this here?”

The interest of visitors is supposed to a priority for the museum. Curators always think about audiences when planning an exhibit. John said, “The one thing that really is always first and foremost in my mind is what I want people to know. What do I want them to walk away with? Is it working” (Interview C2)? Helen and Mark also noticed that visitors expect some take-home messages when they visit museums. For this specific Hohokam exhibit, the team had expected it would bring in more school students, particularly fourth graders since the exhibit was tied to their curriculum. In relation to that, the chief curator John started to think about what the target audience might need to know. Despite knowing who the target audience was John still encountered many barriers. He said, “I can come up with a lot of things that I think are important. But what does that audience really want to know? What do they want to learn? And I still haven’t come up with a good way of understanding that” (Interview C2). John thought maybe he was just not trained well in visitor study. As a curator and scientist, he presents his specialty well, but he cannot fully understand the needs of his audience.
When curators indicate museum-goers, the word “visitors” “viewers” “patrons” “audiences” “learners” “people” “children” and “folks” were used in different contexts. For instance, “visitors,” “people,” “audiences,” “tourists” and “folks” mean causal museum-goers in general circumstances. “Learners” and “children” especially indicate school students who mainly have a specific purpose to come to the museum. “Viewers” are situated as seers to objects or labels. “Patrons” implies museum-goers are clients who pay and attempt to gain what they want from the museum. The choice of naming visitors suggests how curators classify visitors to meet their expectations. However, John did not notice that the population of the audience changed much from one exhibit to the next. That meant people who come to the museum may belong to a certain cultural group.

The key concept that the curator wants to get across for the specific Hohokam exhibit is irrigation and its importance because that’s what made them unique and “no one else did that in the pre-historic new world, not on man’s scale” (Interview C2). With that in mind, John was able to work with the designers to consider a series of design elements such as technology or three-dimensional objects to represent information. When thinking about exhibit, John felt more comfortable about how he would communicate with the audience.

Curators communicate with students through teachers’ packages, handouts or worksheets that can deter students from simply socializing with peers so they get something from their visit. Helen disagreed that some teachers and students view a museum field trip as an out-of-the-classroom activity. She believed an effective field trip needed to be well prepared. It works better for students when they have the opportunity to learn about the subject beforehand. Even though the students cannot learn a lot of detail
in a short visit, they still cope with a massive input of stimulations. A teachers’ package of the Hohokam culture corresponds to the educational goals the state identified for students in grades four through six. The package also presumed if the display matched the standards, school districts would be more willing to visit the exhibit.

Curators consider visual materials a good way to hold the attention of visitors. When information is represented spatially and with images, visitors are able to focus on the connotation of objects and connect ideas easily. They can make best use of their visual memory. Mark regards the visual elements such as the villages and the dioramas in the Native Hohokam exhibit as strongly visual and feels they function better than a huge text can. John values the reproductions serve a strong educational function for visitors. He commented, “It really shows not what they look like in an archeological context after they’ve eroded, busted up and burned, but what they look like in the more what we call the systemic context; what they look like in the culture when they were being used. So I think that was kind of an interesting display thing to do that. We actually had those made by a local artist and archeologist” (Interview C2). John attempted to include more three-dimensional objects to provide different experiences and different ways of knowing in exhibits. He found the public was fascinated with artifacts and he hoped their initial responses would be, “Gee, that was made by a person like me a thousand years ago.” Then the audience can initiate more related questions such as, “Well, how did that person live. How was that object used? What does that mean in terms of their lifestyle?”

**Hybrid Utterances**

Effective communication requires information about how the exhibits are delivered to audiences and how they perceive the exhibits; however, curators’ preferences
on learning theories might impact what they practice to reach an effective exhibit.

Bakhtin (Holoquist, 1990) views language as an ideological tool where different voices contest each other. All language appears dialogic and carries ideological thought.

Curators’ museum literacy/ies, and the communities they associate with structure a hybrid utterance that affects their preferences and judgments.

When volunteering in the zoo, Helen realized that she could not really understand the animals unless she understood plants. Thus she went to a desert botanical garden. Then she realized that she couldn’t really understand the plants unless she understood the people. Then she became very interested not only in biology and natural history but also in the cultural history of this area. Helen did not go to a museum until she was 18 years old. Her first visit was the State Capital Museum for her high school trip. She had vague memories of seeing government chambers and things like that, but she still remembered how stunned she was when she saw a grizzly bear standing in the center of the rotunda at the zoo. She had seen many bears and read many facts about bears before, but by seeing the real thing she sensed how powerful the message of the object. She said, “…l, that’s when I knew that museums were visual, that you could learn from seeing the object…” (Interview C1). When she visits other museums, Helen likes to watch what visitors do such as what they talk, what interests them, and how much time they spend looking at a label or reading it. When she sees people particularly interested in a display, she will go over and try to read the label herself. She wants to find out what and why that particular label or object was of more interest than a label or an object in another space.

Mark loved to visit new museums and to look for new ideas that he could scan, foresee, steal and use to make his presentations more effective. The natural history
museums are definitely his first choice since they are related to his professional work. His second favorite is technological museums in a broad way, such as railroad museums, aviation museum since he noticed how technological displays captivate people’s attention and provoke the thought. He remembered a three-dimensional display, OmniGlobe, a 14 inch diameter sphere, in the San Diego Natural History Museum. This interactive sphere not only displays the natural earth, but also displays geophysical and meteorological data, showing ecology, and demographics. Mark said, “And I thought it was riveting and not just me. I watched the public after this. And there are people who stood there; they were in their seats for a half-hour watching it which to me was a great tribute to how interesting this was to people and how effective a demonstration of continental drift it was” (Interview C3).

Social network also appears to affect curators’ utterances. There are many people Mark considers to be very important in his life that shape his ideas. They include his father who is also a biologist. He was also influenced by some distinguished American paleontologists, particularly George Gaylord Simpson and Ned Colbert. “I’m always still fortunate that I had those opportunities” (Interview C3). Like Mark, John is very active in his professional field and enjoyed work with other professionals. He was a co-founder of Western Archaeology Team (WAT). He said, “I found in archeology that I really, really loved working with avocational archeologists, not only doing the professional work with other professionals, but working with people who had an interest in archeology and I found that it’s not very difficult to train people in field techniques, and I found they could make tremendous contributions.” The people Mark and John referred in his life reveals to me how hybrid utterance inscribed in his mind through his practices. Mark and John both
teach in a community college. They view themselves as scientists who have responsibilities to deliver knowledge and to educate people to be critical. Mark always emphasizes a thought process in teaching. He wants his students to get answers not just by reading from a book, but also by asking questions to reach a conclusion because that is what a professional does. For example, instead of looking for answers from a book, he asks students about what and how she/he thought when finding a lizard that needs a name it. He asserted, “The public must understand how these things are reached and in a very real sense, in the political sense, share with us the ability to act on this knowledge. If they don’t have the ability to think in a logical scientific way, we may be in trouble” (Interview C3). His notion about teaching methods confirms what he thinks about the purpose of exhibiting objects in a museum. Both of them are to give students and visitors an appreciation of what a scientist does every day.

Perspectives of Visitors

It is hard to understand how a person comprehends something by just looking at her/his actions. However, observation of the visitors’ behaviors makes it possible to interpret important phenomena such as time spent and attention-span in the galleries and their choice of the display area that may answer my research question: “How does the public understand these textual representations?” In this section my findings are interwoven with field notes that describe verbal and non-verbal behaviors from teacher participants and curators. In this section, I describe four categories that emerged from my analysis: This is illustrated in Figure 5 on page 100. This figure denotes how the museum visitors understood textual representations in the two Hohokam exhibitions.
Figure 5 Cluster Diagram of Perspectives of Visitors.
Visitors as Cultural Consumers

Museum visitors are not passive cultural consumers as they actively interact with the environment and are influenced by their personal and social context (Falk and Dierking, 2011). Visitors have expectations and act as if they are buying goods or services from museums. Drawing from a self-direct survey with 15 returns that was administered by the museum, I found that some visitors are actually eager to write down what they see about the museum and its exhibits. Two people wrote their least favorite exhibit was the Hohokam but did not give any reason. A former science educator and geologist was disappointed that the gift shop sells altered rocks along with 'natural' minerals. The person thought the store should be “education-focused.” Two people complained that the shelves of mineral were very dusty and looked unprofessional. Another visitor remarked, “I am shocked at the cages for the wild animals here. Small. No plants, Easy for children to knock on. Please upgrade to follow the example of many modern zoos.” Also one person wrote, “Lighting is very bad in some areas that prevent reading and learning in cave walk Masledon. Top of stairs.” Even though these responses were from a small segment of the visitors, their comments suggest to me that visitors who have prior museum experiences have expectations about what a natural history museum should be. They value the museum as not simply a cabinet of curiosity, but also a public realm that visitors can evaluate and examine. The survey was voluntary, but no matter what the comments, opinions, or truths, they indicate the audience will attempt to communicate with the museum.

Cultural consumers have a mindset about what services museums should provide. It is “paying for goods”. Second grade teacher Sara expected that the museum would get
more involved in students’ learning than stress other behaviors. She said, “The child is told to stand outside. I go in and pay and now their person comes down and talks to the class… They said, ‘These are the rules, what you’re going to see, what you’re going to do…’ [then] She said just bring all the children in and she had to stay behind the counter, talk to us. I pay and… do not get enough help” (Tracy, Interview #4). Cultural consumers consider learning is the most important purpose of visiting and they anticipate something that make the learning experience enjoyable and productive - more than just following the rules.

Even so, a museum is recognized as a public place like a library, and visitors are expected to know how to follow the rules of this public space. Outside of the museum, the museum staff was using a microphone to announce the rules to a group of school students, “No running, keep quiet, no touch, and stay with a group in the galleries.” Inside the museum, a mom talked to her children, “You can’t touch it,” when they tried to tap a pot on the ground of the pithouse. “You were not supposed to walk on it,” was often heard when people saw the flat ground of pithouse (Field Note 7-16-08). They did not know they were allowed to walk on it. These scenes show that museum manners of visitors are construed to a particular image such as a place for learning or a place where you need to keep quiet and a place full of precious things. Museum visitors may unconsciously take museum manners for granted.

Visitor as Group Learners

Research such as that by Ferguson et al. (1995) proposes that visitors draw on texts in museums in a number of ways. My findings also suggest that visitors responded to texts differently in relation to their companions. Visitors who were alone kept quiet
most of time while visiting, but some them did read labels aloud or talk back to
themselves. Visitors who were part of a group were more than likely to generate a
productive conversation, especially a family group or an adult/child group. Within these
groups, visitors shared experiences and invited conversations. Adults tended to read texts
aloud or paraphrase for children. More often, they would appropriate words from the
labels into their conversations.

By its nature, family learning in museums is a collaborative process. A dialogue
within a family group recorded in my field notes showed how adults oriented the
attention of children and engaged their learning.

Female adult: “Look at that” (She pointed to a glass case that
displayed the scene of a Hohokam village. A boy runs to her)
Boy 1: It is dirty water. (He pointed to the the river.)
Male adult: They are trying to fish.
Boy 1: Some straw house.
Boy 2: One tried to build one.
Female adult: That is pretty cool.
Boy 1: Here is a little village.
Female adult: Do you like to live in the house like that?
Boys: No.
Female adult: Why not?
Boy 1: It would not be easy. (Field Note 07-31-08)

Additionally, within a family questions are more likely posed as adults or parents
are there to help young children understand the deeper meaning of displays. For example,
when a child walked by a diorama and cried aloud, “Cactus” for what was actually a
horon that was used by the Hohokam as a cooking pot. His father walked close to the
display to read the labels and explaining to him what the object really was. Another
example showed how children posed questions and inquired about what they observed. In
the gallery, several children were together in the front of the glass box of the Hohokam
village. One of them called, “Grandpa, come here. This river is really dirty.” “Why does it get dirty?” They were curious about what had happened to the water in the river. Also in my field notes, “[T]here were two girls standing in the front of the glass box of the village. The older one was talking to the younger one by pointing out something. It seemed that she was explaining the displays to her sister” (Field Note 7-16-08). Four boys and a mom came in. The mom held sheets of paper and a pen. They separated as two groups, two boys went to the Horon and stared to discuss its display. Another two boys with their mom went to the ground of the Hohokam pithouse. The mom was explaining something to the boys. After a while, the boy group moved to the irrigation canals and continued their discussing. The boy and mom group shifted their attention to the glass boxes that displayed the tools (Field Note 7-16-08). These events indicate groups of learners actually get to learn from two sources - the exhibit itself and their companions.

For group learners, the process of learning involves observing objects first, reading labels, and then at last discussing or dialoguing with companions. The topics that group visitors discussed were extensive such as: Were the visitors allowed to walk on the ground of the pithouse? How was the diorama made? How were the tools used in their days? The technique of comparison and contrast between today and the past was also applied.

The displays in the gallery had the capacity to facilitate visitors’ understanding of a wide range of complex concepts (Dierking, Luke, and Foat, 2001). However, I found that effective learning was not what messages were delivered to you, but with whom you learned. Debbi, the sixth grade teacher talked about how effective field trips were when
students were with parents. Parents served as a provider of information in the museum setting. They can discuss the exhibit with the children who then show more interest in what is displayed (Interview #7). I think that is why most teachers I interviewed still remembered the moment when they visited museums with their family even at very young age.

Visitors as Literacy Participants

Museums are ideal venues for experiencing concrete and visual models of the world. Objects provoke visitors’ experience and lead to connections and various topics that include social, cultural, historic, scientific, artistic and technological subjects. The visitors develop more connections between the past and the present when they are able to see these objects.

There's an old saying that *a picture is worth a thousand words*. It may be true; however, written texts with the symbol system of a language is not a decoration as it serves an important function for objects displayed. Visitors, especially adults, actually took time to read and attend to the label to get some facts and the background of objects (Interview #7). Most of the teachers from my interviews said they read labels when visiting museum if there was something intrigued them. Even curator Helen said reading a label has become a habit as it helps her know how the present and describe objects. When I observed visitors’ reaction to the *Hohokam! The New Discovery* Exhibit, I heard a child cry, “Look at these puzzles, Daddy.” His siblings ran to the puzzle station with him and tried to put the puzzles pieces of the ground together. Their father was staring at a display and did not respond to them. Soon they ran to the pithouse floor and walked around the gallery. Their dad was still standing at the same place. The children called
again, “Dad, come here” then they went to another gallery. “I am reading,” the dad finally responded back. “Come on,” the children called. After these interruptions, the dad gave up reading and followed them (Field Note 7-31-08).

The time most of visitors spent reading a label, from my observation, ranged from five seconds to five minutes. Sometimes school students would spend more time than this on reading certain labels as they looked for the specific information or answer that they needed to fill in the Scavenger Hunt worksheet. Some people just read the labels silently; some people read aloud and discussed the content with their friends/family. In addition, visitors most of time did not go through the whole exhibit. They skipped some elements in the gallery. Some visitors, especially groups with little children, used this gallery as a hallway and walked directly to another area like gold panning.

Displays in glass cases may allow visitors to see the objects, but a hands-on activity definitely provided an interactive opportunity that encouraged learners to touch and this reinforced information they had just read from labels. Visitors expected to have hands-on experiences with the objects and to be actively involved with the exhibits. They were learning informally and being entertained simultaneously. The popular area for children in the Hohokam! The New Discovery Exhibit was the giant pottery floor puzzles lying on the ground. Those big-sized puzzles, as I observed, made the exhibit more interactive. Also, when children played with these puzzles they would recognize the patterns from the pottery. Other displays such as the canal profiles and the pithouse ground also engaged visitors in learning.

Literacy experiences were enhanced when tour guides steered a group through the displays. I recorded in my field notes that a group of students gathered together to watch
a docent who is a Native American introduce tools that were used by the Hohokam. The docent demonstrated how the hunting tool may have been used in the past and compared that to its use in the present. Students were very focused on his demonstration, and they asked many questions that showed what they wondered about. The docent mostly answered students in a humorous style and allowed them to operate the tools.

A female docent who worked in another gallery showed me how the Hohokam produced spindles and used them to spin cotton into yarn. She also told me the Hohokam people were among the first people to raise cotton in the Southwest. Several teachers I interviewed also mentioned the benefits of listening to docents when visiting the museum. Gary, the gifted program teacher said, “Yeah. That was very good. We had a gentleman there who was a docent and showed us how to make some Native American tools. I believe he made a Native American spear or instrument or something. That was very, very good. The children were fascinated with that” (Interview #5). Docents attempted to show that the past was a continuation of the present, not separate from it. In the demonstrations students not only had a physical object to observe the characteristics, they could also relate the object to a certain context. Tracy, who brought her second grader to the museum, also described how docents helped students learn, “Yeah, they had a bull [bone] and they let the children hold the bull [bone]. We talked about how old the bull [bone] was and it helped them get their minds around what it was like 2000 years [ago]” (Interview #4).

*Visitors as Seers into Other Cultures*

When I took field notes in the special Hohokam exhibit, I heard many people who were astonished by the naked, miniature figures of the Hohokam people. Young children
made fun of the display. In addition, some children walked through the floor of the pithouse and acted as if they were living there. One boy pretended to take something from the empty pot that was sitting on the floor. Another boy squatted on the pot as if he were having a bowel movement (Field Note 7-16-08). Also, a teacher expressed her surprise about seeing the Hohokam people had achieved such a high level of culture in our interview. She used the word “civilization” to describe this cultural process (Interview #2). These repeated themes indicated to me that some visitors might interpret the culture in a very superficial way. They saw the prehistoric inhabitants as simple, undeveloped, out-of-date and primitive people. This was also a concern for Helen, the curator of education. She wondered, “When I see people coming through here, I'm not really sure they gain an understanding of the Hohokam culture from what they see here. Like even such basic things. This was a very sophisticated culture” (Interview C1). What she worried about was how much museum visitors really grasped of the main idea about the culture. The ethnographic exhibits did not intend to offer a simple and linear experience that only needed to be observed once. Instead, the exhibits were deeply affected by a wider concern for a hermeneutic of systematized archeological knowledge and the museum space was filled with interpretation and translation. Curators expect visitors will return to gain more understanding of these thought-provoking resources.

The process of reading another’s culture in a museum setting is complex. Visitors tend to read others through the lens of themselves and this affected by their personal context, social context and physical context (Falk and Dierking 2011). Bourdieu described it this way, “To the extent that every work is, so to speak, made twice, by the originator and by the beholder, or rather, by the society to which the beholder belongs”
(Bourdieu, 1993 p. 224). The interactive experiences engaged the reader to “write their own virtual text” (Bruner, 1986 p.25). Hence, museum texts are not simply completed by curator but also by the participation of visitors. What is more, the exhibits that curators create are not simply to induce a standard reaction but to provoke whatever is most appropriate and emotionally lively in the reader’s repertoire. The creator, the seer/reader/visitor, and what is seen actually co-create a cultural life with meaning of its own and construct new meanings for the displays.

Chapter Summary

This chapter presented the findings of my investigation into the first three research questions. The first section, Text within Context, answered the question, “How do the words, objects, spaces and symbols presented in the natural history museum portray knowledge about the exhibit?” The second section, Curatorial Practices, answered the question, “How do curators understand the use of words, objects, space, and symbols in representing this knowledge?” The third section, Perspectives of Visitors, answered the question, “How does the public understand these textual representations?” The next chapter presents the findings for the fourth question, “How do teachers respond to these multiple texts, and how does their museum experience impact their pedagogy within informal learning environments and classroom practice?”
CHAPTER 5: FINDINGS, PART II

BEYOND THE FIELD TRIP- PROFILES OF TEACHERS AND TEACHERS’ PERCEPTIONS AND PRACTICES ON MUSEUM LITERACIES

Introduction

In this chapter, I used my teacher interviews to develop profiles of the eight teacher participants to provide readers with a full picture of their backgrounds and to show how their beliefs, philosophy, and social networks played a role in their daily life. These profiles reveal a set of dispositions that teachers acquired through their personal history and different social milieus. Their literacy practices, teaching philosophy and museum experiences are manifested in terms of their habitus, taste and forms of cultural and social capital. Since I agree with what Bakhtin’s (1981) perspective on language as a point of view, I used direct quotes from the interviews and these statements are in italics. Definitely, their rich, complex, personal statements have the greatest credibility.

These profiles are followed by my cross-case analysis in which I discuss the similarities in the teachers’ responses to multiple texts in the museum. This analysis also illustrates how museum experiences impact their pedagogy within formal and informal learning environments. Analysis of the interview transcripts, one for each teacher, and my notes yielded five organizational structures: Family Values and Professional Needs, Teaching Philosophy and Learning Styles, Visiting Ties to Curriculum, and Museum Literacy Practices. Figure 6 illustrated teachers’ habitus, tastes and capitals enacted their perceptions and practices on museum literacy. The grey box shows teachers’ social network with others.
Figure 6 Cluster Diagram of Teachers’ Perceptions and Practices on Museum Literacy.
Profiles of Teachers

Betty’s Story

When the curator of education in the museum learned I was looking for key informants for my dissertation, she referred me to Betty, a biology teacher, who had requested the museum sponsor the admission cost to an exhibit for her 10th through 12th grade students so they could trace their own heritage back to the Hohokam. “The teacher might be a good candidate,” the curator told me. I contacted Betty and she responded quickly. We met on a beautiful afternoon in her school that was located in a tribal area.

Betty told me this was her second year working at this school. The population of the school, according to her, was mostly at-risk students. One-third of the students received special education services and half of them could hardly reach their grade’s reading level or compose a five-sentence paragraph. Moreover, many students didn’t even know where other countries were except for Mexico. Betty saw that many students disvalued themselves, so she wanted to help them develop better self-esteem and realize they could make a difference and do what they wanted in life. But sometimes she was discouraged by her students’ attitude. She said they just don’t have any pride. They don’t have any self-direction that thinks that they can achieve anything and even if they think they do, here on the reservation for example, they get paid when they turn 18 anyway from Casino revenues. From her point of view, students need to be pushed to walk out of their comfort zones.

Since most of her students are Native American with Mexican backgrounds, the visit to the Hohokam exhibits matched the gap between them and society. She remembered that her students cried out, Oh my gosh, it’s for real when they saw the
artworks and relics in front of them. Therefore, she thought the exhibits not only tied into her curriculum, but also established a strong personal connection for students. She commented, *I think the most meaningful was because they are this Hohokam tribe and then they did identify with the whole migration and they interspersed with the Spaniards and then how this state has set up because that has a lot of really cool things about the western and this ice age thing even were fossils found here.* The field trip was a big success. Students gained deeper knowledge about their ancestors.

Generally, to prepare lessons ahead of time, Betty would go to the museum herself before the field trip. She would spend a great of time and energy to check museum websites to find resources. For this particular visit, she even developed several worksheets for students. She also used websites to enhance students’ vocabulary. Most of the follow-up activities she developed were related to vocabulary and writing. She said, *the vocabulary in this museum’s signs has been very good and then I try to incorporate it as well. In this diagram, the children need to be able to compare and contrast. They’re not too good at that so some of the museums have invited…have provided some really good opportunities but I have gone to a lot of web sites and oh! This is cool. Um, the room I showed you.*

She recalled once that her students asked lots of questions about words when visiting the exhibit *Star Trek* in a science museum. She found her students learned how to put things in context in a different way. For her, vocabulary or technical terms are important for students to understand content. That was why she usually had students read out of a textbook. Since students would feel embarrassed to read aloud when they encountered a word they didn’t know, she could easily distinguish what words or phrases
might difficult to them.

Although she loved outdoor activities most, reading and visiting museums are also among her favorites. She is the kind of person who could stay in a museum all day and look at almost everything. Typically she would touch objects (if allowed), take notes, read labels, and watch interactive videos. Sometimes she might talk to curators or guides to ask questions about certain things that she might not understand. She appreciated that museums presented literacy events in different forms so visitors could see and touch displays. She thought the Western Museum of Natural History provided a fabulous resource and enrichment for students, especially her students.

Before she was a teacher, Betty worked at several places: a plant nursery, a cotton field, a weather station, and a desert botanical garden. She likes to be outdoors and those work experiences gave her a better understanding of Mother Nature. At the time, it was unusual for women to study agriculture and animals. Women were supposed to stay inside or study something like literature, she said. She hung around with her dad who worked in an agricultural field and young Betty generated interest in working with animals, plants, and nature. Her parents gave her a horse even though it was expensive. She tried to get this interest across to the students when they asked why she was so interested in biology. She responded firmly because you’re a living thing. Don’t you want to know about you? You know. Everything around you came from something that has to do with biology.

Frank’s Story

Frank is an energetic person who loves to work with people. He was a retail store manager before becoming a teacher. Part of his job was to make sure his colleagues became well trained in customer service. Since then, he has been interested in training
people and in helping people get better at doing their jobs. He thought being an elementary teacher would be his best choice to have a great impact on someone's life.

To Frank, education seemed to be the chance to change the lives of the disadvantaged. One aspect of his teaching philosophy is to help every child who is struggling to become the best person he or she can be. The No Child Left Behind legislation is something he is trying his best to follow. He emphasized that solid teaching is paramount because not only does it educate people but it also makes a society grow. He said, *if we don't teach the children young, they're never going to become good at junior high or they're not going to become good in high school levels and then go on to college. They're going to suffer as individuals but also, our society will suffer because we're not going to have those people that need...that have certain schedules...skills and they're not...those people won't be available. So, then they'll go to, maybe other countries for those...that resource, which is knowledge or intelligence or ability or those skills, and I just want to be sure that our students have a good chance in this world."

A fifth grader, from his point of view, is the stage when students start thinking independently. That meant he would use activities to teach them to explore the world in their own mind. He asked students to imagine one problem with a perspective up close and then to going back further and further and further. He thinks that with this method, students will become problem solvers and think more critically about the world.

Frank considers museums, which he believes are full of knowledge, as good learning environments and supplements to classroom teaching. He maintained that *the more information that the museum can give to students in a way that is interesting, then the better students can learn.* He prefers hands-on activities that students can be involved
with. He said *I think it involves engagement. It involves the interest and involves a connection that you can make with the child’s mind or brain.* However, Frank also believed that a lecture type of tour guide was most effective when a school group takes a field trip to a museum. He especially emphasized the function of a docent in a gallery. With the instruction of the docents, students gain more knowledge about the displays. In addition, videos also work for students. His students tended to learn better when watching a related video, or when they saw and touched substantial things such as dinosaur fossils.

Frank believed that resources outside of schools open up more possibilities for his students and motivated their learning. He mentioned that some of his students claimed they wanted to be anthropologists when they discussed what kinds of future careers they were considering. That would not have happened if the class had not gone to the museum. He said, *I think that [visiting the museum] starts keeping them interested, and the more interest they have, the harder they're going to work in school. The harder they work in school, the more successful they're going to be. And then they end up doing some other career.* He thought the Hohokam exhibits helped tie into the American history class his students would study later on. No doubt the Hohokam exhibit with three dimensional displays of the canal system, pithouses, and tools would give students a direct experience of Native American life.

Frank also felt that literacy experience could be well developed by teachers after a visit. He pointed out that 5th and 6th grade students face the most difficulty in reading non-fiction texts. If displays in museums could demonstrate the concepts well, students would become more interested in the topic. Then teachers could teach them with scientific methods in writing and in inquiring. Little by little, students would think more
logically and become better readers and writers. Frank also identified museum websites in the Internet as valuable resources. However, his class did not visit museum websites on a regular basis. They only downloaded materials for scavenger hunts and word searches before visiting museum.

Besides going to museums, Frank enjoyed outdoor activities. He grew up in a suburb in Minnesota, and his family participated in many outdoor sports such as water skiing, baseball, football, soccer, hockey, camping, hiking and running. Frank kept that active lifestyle even after he had his own family. *The outdoors is our museum* he told me with a smile.

*Sarah’s Story*

Sarah always loved to be involved with children with special needs. She began her first career in a retail store after her four sons grew up. When she realized her passion was teaching, she prepared for a second career in education.

The person, who influenced her the most, especially in education, was her 11th grade history teacher. *He cared about students,* she recalled, *I still remember he said 'If you're going to do something in life, do it well. If you're going to kill somebody, kill everybody standing. Don't make me a witness, because you're going to get the same thing.'* She was very inspired by his encouragement. *‘Put your whole heart and soul into it.’* That also became her philosophy on teaching practices.

All of her students, ages 14 to 22 years old, have mental disabilities. According to Sarah, the students rarely express their needs verbally. Only one student was able to use verbal communication. Sarah used to work with these students at the elementary level in special education. But when her students went to the high school, she decided to move up
with them so that she could continue to take care of them. When I asked what the students’ regular curriculum was, she answered, *We don't have one. We do fun stuff.* The so-called “fun stuff” is activities such as cooking, taking a walk, and watching TV that could stimulate her students’ senses. Besides these, students needed to participate in physical therapy, occupational therapy, speech therapy, music therapy and other therapies.

Sarah’s students were confined to the classroom, but they tended to do better outside the classroom because they became more alert when other young people were around. That is why Sarah tried to bring them to places like museums and malls once a week. However, they have very few choices since most of her students use a wheelchair, which limited how far they could travel. The students are limited not only by their cognitive level and physical disabilities but also by access for disabled people in places Sarah wants to take them. She said, *We are limited. We're really limited.* Visiting museums gets the students out of the classroom; however, she has noticed that most museums do not consider children with special needs. She said some museums like science museums have many hands-on activities but they just didn’t work for her mentally challenged students. Although art museums have many visual elements, their displays lack movement to trigger her students’ interest and imagination. Sarah was disappointed that museums seemed to be places for “regular” students not for disabled students to learn. Since her students have special needs, they needed to be stimulated by sound, light, movement, and touch. She used the word *accessible* to indicate the kind of museum her students need. Sarah said the WMNH, *that particular museum is very accessible to us. I like the movement they have, the layout furthermore, ... that is one of the two places that we can actually go and our students, you know, the dinosaurs, the*
movement. They see the river coming down and everything in it. It’s one of the two places that we really enjoy going to. She said her students were excited when they saw the Dinosaur Mountain in the WMNH. Unfortunately, she did not feel that her students learned anything from the displays. For them, the visit was just an outing. 

When Sarah visited the museum alone (i.e. without her students), it was typical for to walk around and read the labels. She didn’t remember any field trips from her school days, but she was impressed by museums that she had visited before such as the Henry Ford Museum and Science and Industry Museum in Chicago which both have lots of hands-on displays. She noticed that many new display techniques had been applied to the museum displays. For example, the Henry Ford Museum used to have all kinds of little antiques simply laid out in rows and rows and rows like washing machines. Now, the museum exhibited big locomotives and cars and has a miniature drive-in theatre and a motel inside.

Visiting the WMNH was an enjoyable experience for Sarah because she likes to know about the past. She thought the Hohokam exhibits that delivered the message about simple life were educational. She and her colleagues are talking about going back again with their own families.

Tracy’s Story

Tracy first became interested in teaching when she was in high school. She already knew teaching would be something she wanted to do for her future. Around 9th or 10th grade, she volunteered in an elementary school and babysat her younger sisters who later became a teacher. Her mother was also a teacher all her life and she was a role model for Tracy.
There were several years of ups and downs in her childhood, but her family was generally very stable and routine. Her father kept the same job for his entire life. The family lived in the same house, went to the same church and the same school where her mother taught. During the summer time, she and her four sisters always put on a musical such as My Fair Lady with other neighborhood girls to entertain themselves.

Family was always the priority for Tracy. She got involved in her four sons’ sports and other school activities. Family vacation time was spent visiting different family members. Since Tracy’s husband is a pastor, the family’s social life is mostly related to church. Through their servitude, she learned quite a lot from many Christian professional people who helped her in different aspects of life.

As a teacher in a Christian school, Tracy emphasizes the importance of character development. Nurturing her students, caring for them, and having high expectations are three points that illustrate her philosophy of teaching. Interestingly, she emphasized a child’s developmental stage or levels many times in our interview (Interview #4 note). By knowing a particular age group, she feels more confident in setting expectations, both behaviorally as well as academically. She accepts children at whatever level they’re at and then begins to set goals and to push them to the next step. To facilitate the learning process, she constantly asks students questions like, What do you think? She would not provide direct answers but would help students learn how to discover them.

Tracy has always considered a museum an extension of the school curriculum. Field trips provide an opportunity for students to explore something they have never seen. One reason she brought her second grade students to the WMNH was because of the dinosaur gallery. Early in the year her science curriculum involved fossils so she tried to
tie the field trip into the curriculum. It seemed that students learned better when they could see and touch something real. She considered the story of the Hohokam people to be new to her second graders. The students seemed to not pay attention when she tried to explain the timeline of development of the different pottery examples displayed on the wall. She knew this simply reflected a process of learning for a different age level. She believes students will make more connections to this exhibit when they explore the history of the state in fourth grade.

Tracy liked learning so she enjoys many kinds of museums. She is a visual person and prefers to learn things from hands-on activities. Although she does not spend a lot of time in a gallery to study certain subjects, she would read the labels that intrigued her. However, if she goes to the museum with other people, such as her husband or her students, she usually does not have enough time to read the labels because others would want to move on. For her, learning about objects is one of the important functions of museums. A great museum has a wide variety of exhibits and accommodates children of different learning abilities. Moreover, a great museum reinforces information with visuals and hands-on activities. Most importantly, a great museum does not overwhelm its visitors. She asserts that museum visits solidifies the students' vision of what they’ve read. She said, \textit{sometimes they [students] read things in a textbook or nonfiction book, whatever, and they just kind of go over it, but when you get there [museums], just sometimes seeing it, touching it makes something click the objects or solidifying.} . . . She also thinks museum visits reinforce literacy experiences of students. Not only can students easily make connections between signifier and signer, they can also initiate their own inquiry. She said, \textit{reading the information in different ways like in that [inaudible].}
You know, it’s not just a sign but they connected the sign with, you know, going to the... you know, the object or you lift up this thing and you take a guess, you know, in a question and there was that matching thing, you know, if they were doing. So, it’s those kinds of, things I see an improvement as far as literacy and, uh, trying to reach different levels of learning rather just standard signage.

Tracy asserts museums can reinforce literacy and give extensions to curriculum. She has participated in many workshops related to literacy especially at the preschool level. If there was any suggestion she could offer to the museum about literacy enhancement, that would be more hands-on displays.

Gary’s Story

At the time of the study, Gary had retired two years previously, but he still worked with gifted children out of pure joy. He had many connections to talented students. Early on in school, Gary and his older brothers were in a gifted program and Gary skipped a couple of grades. However the sad story was that he never had a good teacher. His teachers seemed to not accept his creativity and talent. He had horrible experiences in school and that is why he wanted to get into education. He decided to go into the field of elementary education even though he had a degree in law and another one in psychology. All he wanted to do was to make a difference in a gifted child’s life. Almost all his life has been devoted to working with gifted children. He said, I got involved in a gifted program thirty-two years ago and I’ve worked as a gifted specialist. I’ve worked as a gifted principal for twenty years and have basically dedicated my life toward the lives of gifted children.
When Gary talked about his family he seemed to be very proud of his upbringing. His grandparents came from Italy. He described his father who was the first generation in the United States as a very intelligent man who had inspired him in many aspects. Despite growing up very poor, Gary’s parents provided the best they could and passed the value of education on to their children. He still remembered his parents brought him and his brother to visit different museums on weekends. Maybe it was not something for some family, but Gary knew that the expense caused his father to work hard during weekdays. Therefore, Gary persisted in finish his college even though he needed to handle four part-time jobs after his father died. During that difficult time, his aunt was a big support to him.

Like his parents, Gary tries to provide what he could for his children. The major activities in Gary’s family are reading, taking children to places such as museums and zoos, and traveling to different cities. Reading especially intrigues the whole family. Gary’s three children are intelligent. His daughter was in a gifted program as well. His younger son, even though not in a gifted program, had the most potential of the three.

Teaching for Gary is to make a difference in a child’s life and to create teamwork and appreciation of one another’s talents and skills. The relationship between teachers and students is what Gary appreciates most. To him, the atmosphere of a learning community enhances life-long learning. His students always keep contact with each other after graduate. He said, our gifted classes are like family. We support each other. We back each other up. We get along great with each other and once they graduate and go their separate ways, they stay in contact with each other. It’s incredible how many adults, gifted adults, that are out there were gifted students will still contact people that were in
their classes twenty years earlier even if they're living in another continent or, you know, other countries or whatever.

Gary tries to teach students to appreciate museums. He believes learning opportunities extend far beyond the classroom and said museums are wonderful places to learn. Every year he scheduled two or three museum visits because going to museums broadened his own knowledge in the different subjects that he taught. Since his teaching covered a lot of different areas such as law, oceanography, desert mountain survival, archeology, anthropology and architecture, he usually looked for resources from museum exhibits in order to plan insightful lesson units. More recently, schools are finding it more and more difficult to take students on field trips. Gary feels dissatisfied with the administration of education in the state. He said the state does not value education and does not budget enough money for students. The funding cuts not only affect schools for field trips, but it also hinders children’s opportunities to expand their knowledge and get resources from cultural institutions.

Scott’s Story

Knowing that I needed an informant for a local perspective, my friend Lisa referred me to her colleague Scott who teaches in the City of the Sun school district where the museum is located. Scott is a social studies teacher and he brought students to the WMNH several times. He is very familiar with the museum and the history of the City of Sun. In fact, he grew up in the city, and he has witnessed how it grew from a small farming town of 16,000 people to a big city of 600,000 people.

Before he was a teacher, Scott worked for a car company, a cookies company, and at a construction job. He didn't consider a teaching career until he had his own children.
He wanted to be a good father and wanted to gain knowledge of strategies to help his children learn. Another reason was that he wanted to show his father, who was a teacher for thirty years, that there was another way to teach. Scott’s father was an outstanding teacher in his time, but from Scott’s perspective, his father did not develop a good relationship with students. Unlike his father, Scott loves to have more connections with students. He enjoys seeing them mature. When his former students come back to see him, he is always eager to ask them to teach him something. He feels that everyone, even his students, can become his teacher.

Scott would like to be a coach on the side as he teaches students to be independent learners. He said, *I want to be the guide on the side and not the sage on the stage, and it goes back to the concept of if you give a person a fish, they'll eat for the day. If you teach them to fish, they can eat the rest of their life. And I think that's really the concept here is that we have to teach.* His philosophy was most likely influenced by a basketball coach in his high school. The coach did not counsel students academically so much, but he always showed support and assistance that helped students see the bigger picture of their future.

Scott mentioned many other influential people in his life. One thing he learned was to look at things more deeply instead of being stuck on the superficial stuff. He faced a financial struggle when he decided to get into teaching and needed to work part-time to make ends meet. Several of his peers encouraged him. He never gave up his passion to teach. Scott said, *I understood that going into teaching wasn't for the money. I understood I was going to have to work other jobs besides teaching to support myself. I understood a lot of things going in and I chose it because I really had caught the bug. I really enjoyed working with children.* To him, the most rewarding thing in teaching is to
see how students grow and make connections and learn from each other.

Scott is an advocate for public education improvement. As an associate of the Center for Teacher Success, he facilitated professional development of teachers and helped them receive funding from large corporations. He also belongs to a committee that evaluates and recognizes outstanding K-12 public schools that serve as models of overall educational excellence in Arizona. He mentors student teachers and interns because he likes to help new teachers develop their own teaching practices. His enthusiasm in teaching has actually influenced some of his nephews to also pursue careers in education. Because so many people have helped him, Scott is paying them back by helping others in return.

Regarding museums, Scott finds that museums enhance and enrich learning in many ways. First, students engage themselves in a deeper level of learning through physical contact with objects. Second, displays in a museum enrich what students do in class and they bring greater depth of meaning to what students study. He said, “...museums are one of those resources that we need as learners where things are affirmed and verified... and it is not the same when you look at the pictures in the book. He still remembered visiting the Holocaust museum in Washington D.C. that displayed pictures, videos, and real artifacts from different concentration camps. His students had already learned about the Holocaust before, but they were more shocked and depressed when they saw the real things. They couldn’t hold back their emotions and just wanted to leave the exhibit. Students said to him, This is depressing, Mr. Johnson. This is awful. This is worse than we knew. The texts in the display actually played a role in evoking students’ feelings and they were different from when they simply read from a textbook.
Another example was when he brought students to the state capital museum and met with officials and saw the depository for state archival documents. Students cried out, *Gosh, that's what we studied. This actually did happen*, Scott said, *When we go and see it and they hear about it and they hear the stories and the people and they start realizing really humanity was involved in that, now they start to relate with that and they develop a relationship with it.*

Two principles that Scott emphasized in his teaching philosophy were making connections and inquiry-based learning. He uses the three Rs: Relevance, Relationship, and Rigor to guide students in seeing how different systems in this world are related to each other. He also used the five E models of Engagement, Exploration, Explanation, Elaboration and Evaluation to involve students in active learning. He does not want to limit students’ learning to just what’s in a *box* or the well-structured curriculum in our schools today. He wanted to allow individual initiation and encourage students to explore because *that's what science is and social studies is and that's how we learn.* Scott believed social science could change the life of people.

*Debbi’s Story*

Debbi got her teaching position five years ago. She had stayed at home to raise her own children, and she joked that she was unemployed for 12 to 13 years. Then she was an office manager for a land investment firm. When her children grew up, she went back to school and worked on her elementary education degree because teaching was the career she had actually wanted to pursue. There were quite a number of teachers in her family. Not only is her older sister a teacher, her oldest daughter was also working on her teaching degree at the time we had our interview.
Debbi is a history lover and she described herself as a curious person. Family, especially her father, was a big influence on her. She said, I love teaching and history and that came from my father who pretty much drove us to every museum and capital building. When she was young, her family traveled to many different states which provided her with opportunities to see a lot of different things. Even with her own family, she loves to participate in museum events and outdoor activities together. Once, she brought her children to an archeological event at the WMNH. Her daughter found a piece of pottery when she was digging. Although the little girl became upset because she had to give that pottery back to the archeologist, the incident actually inspired her daughter’s interest in learning more about related topics.

Debbi’s philosophy about teaching is to do things that help children understand and succeed. She always looked for innovative and new strategies to make learning more interesting. In her teaching, she usually applied the five C’s concepts of Coaching, Communication, Change, Consulting, and Courage. The school that Debbi teaches at is a Title One school that has a large number of English as a Second Language Learner, mainly Bosnian and Croatians. She described her students as a disadvantaged group in an unfavorable circumstance so that means our resources and the children’s resources are limited, and their level of experience is very narrow. So I have to bring the world into them because they’re not necessarily getting out into the world to see it. She noticed that not many of her students had had a chance to visit a museum. That meant school field trips really provided her students the opportunity to open their eyes and to touch something inside of them. She to me going to a museum, I mean we always pick museums that we can tie into our curriculum, but overall it, you know, to me it’s just an eye-
opening experience of, ‘Wow,’ you know.

Debbi considers museums a stretch of curriculum. The reason she brought her students to this museum was to study ancient civilization. She directed her students to read the labels and to get the facts. She asked them to write down at least five things that they learned from the exhibits. At first, she thought her students did not really pay attention to the displays because they just walked around. However, when following-up in class, Debbie found her students showed a high interest toward the professions of anthropologist and archeologist, and they asked many questions about what they did and how they work. She was also surprised that her students wrote articles about that museum visit in their yearbook.

Literacy is an important thing that Debbi emphasizes in her class, not only because she especially wants students to become passionate about reading, but also because she noticed how her students struggled in content areas. She said my students who struggle in math are the ones who are my lower readers. She likes to use jokes such as, “Did you hear about the man who fell into the upholstery machine? It’s okay. He’s recovered.” to help students understand new vocabulary or the meaning of a sentence. After she explained the joke, her students knew the word upholstery.

As a teacher, Debbi knew she needed to keep herself up to speed, and she has attended many workshops for professional development sponsored by groups such as the Bureau of Reading Education and the Science Center. She was very active in her school’s teacher mentorship program and literacy program. She said things get old and stale and so I’m a person who likes to keep things fresh and come up being, every class there are suppose to have different areas to come out from touching different angles every single
time so. Her aggressive attitude implied that she applied one of 5C’s core value “change” to her practices of teaching.

Lucy’s Story

Lucy is thrilled whenever she recalls the moment she made a decision to become a teacher eight years ago. She had worked as a legal assistant for 14 years and was thinking about going to law school, but a suggestion from her son’s teacher changed her mind. She took it seriously because she remembered that as a child, she often role-played being a teacher with other children in the neighborhood. After seriously considering the suggestion, she decided to go back to school for her post-bac degree and certification and she became a science teacher.

Many of Lucy’s family members had teaching careers as well. Her grandparents, who both were teachers, influenced her in many ways. She spent lots of time with them on their farm in Ohio and admired the way they cared for people. The ways that her grandparents cared about people, especially children, affected her a lot. She believes that her passion for science mainly came from her grandfather who not only taught science, but also lived it through the farm and he shared those experiences with all of his grandchildren. A strong family unit helped her to possess good family values that were modeled and passed to her. Because of her strong upbringing, she has been very involved with her own children’s activities such as camping, going to museums, sports, marching band, and orchestra. She said I try to give my own children a really well-rounded background so I keep them involved in lots of different activities.

Lucy’s teaching philosophy can be best described as bringing a hands-on approach into the classroom that gives students opportunities to explore and to do lots of
hands-on activities. She confirmed *that's how I grew up and that's how I learned and with children who come into this classroom, with all the different backgrounds, that's how they learn too.* She is devoted to helping students develop a love of science by bringing her wide range of experiences from her life into the classroom, just like her grandfather did for her.

Lucy’s family moved all around the country because of her father’s job. That meant young Lucy had a great opportunity to be exposed to many diverse areas of the country and visit various museums from all over the United States. She remembered one time very early on when her family went to see the dinosaurs in Denver Natural History Museum when she was five or six years old. Another time, she remembered seeing a live cobra attacking the glass in the Chicago Zoo and Museum of Natural History. Living in various parts of the country has allowed Lucy to visit many, many wonderful museums. Going to museums has always been an important part of her family life.

Lucy sees museums as places not only for learning, but also for shaping social experiences. She pointed out *museums have an important role in our society. They can enhance social experiences. When people go into a museum, they have to follow the rules of that museum. So it's not just going there to see what was there. It is giving the [students] that experience of that social experience of actually going.*

Since becoming a teacher, Lucy has had the opportunity to share the experience of going to museums with her students. She observed that many of her students felt anxious about going on a field trip to a museum because many of them had never been to a museum before. She helped students with their anxiety when she explained to them how they were supposed to act, what they might see, and what they were supposed to do
She used materials provided on websites before taking the students on the field trip.

An effective field trip to a museum for Lucy would provide experiences that tie to students’ learning. She remembered that once she had a curriculum that dealt with flight and space that was geared towards fifth grade students. In class she offered background information; then she took students to the flight center and did a space shuttle mission with them. They were still not quite sure what space really meant. She finally scheduled a field trip to a flight exhibit where students learned more about the history of flight and attended a planetarium show where they were introduced to learning about particular stars in the sky. A hands-on experience like this could not be achieved from reading a book. She commented that a lot of children don’t have that knowledge and so for them you know it's like, wow this opened up a whole new world for them. They never really looked up and then now they're looking at the sky in a different way. And so for curriculum purposes, it's you know -- it's perfect!

Lucy is a member of the National Science Teachers Association, a botanical garden, science center, and city art museum. These memberships are not only for her personal interest but also for her teaching base. She is able to obtain materials and resources that have to do with what she is teaching through her memberships. The information and links from museum websites are good resources for Lucy’s teaching. They show what students need to do and look for when visiting a museum. Before a field trip to a museum, she will find out the materials and make copies for students. She thinks that the field trip is not for fun only, but an invaluable learning tool for students. Getting students involved in their learning by doing packets and worksheets from the museum just helps students learn and get something important from their experience. Learning
takes time, and, unfortunately, field trips to museums don’t always allow enough time for students to experience everything they wanted to. Hopefully, they will want to go back to learn more.

**Teachers’ Perceptions and Practices on Museum Literacies**

*Family Values and Professional Needs*

My research findings regarding teachers’ perceptions suggested that teachers built strong relationships with their family, relatives, and community networks through different literacy practices and literacy events. Their daily literacy/ies was carried out through activities, such as reading, writing, participating in church services, sports and joining professional organization. Through those practices, they shared membership with a particular cultural group. Museum literacy/ies is especially acquired and reproduced in the domains of family and professional responsibilities. Teachers who acknowledged significant values for museums were most likely to choose museums as a family leisure activity. They considered museums to be institutions full of resources they personally enjoyed visiting. Their previous museum experiences had always been positive and fulfilled. They saw museums as resources because exhibits stimulate, encourage, and enrich families’ interests, learning, and involvement in art, history and science. For instance, Debbi recalled a wonderful experience when her family went to the archeological park for a WMNH event and her daughter found a fossil in the field. Tracy expressed that she would bring her grandchildren to museums since there was lots of learning.

For most teacher participants, their love of museums could be traced back to their childhood. When they were young, going to museums had always been a part of family
activities. Some of them, like Lucy, still remembered the quality moments in a museum with their family members, especially parents. This interest remained when they had their own family. They brought their children to museums just like what their parents did for them.

The museum styles that impressed teachers most were associated with their professional and personal interests. Betty, the biology teacher, loved to go to natural history museums and art museums. Sixth grade teacher Debbi, who was a history lover, preferred a history museum. Science teacher Lucy, visited the science museum frequently and associated with professional organizations to gain more resources. Social studies teacher Scott, was attracted to history museums like the Holocaust museum, and the capitol museum. Gary, the gifted program teacher, liked most museums that helped him to plan teaching units. All participants agreed different types of museums facilitated different learning.

The habit of going to a museum and the museum styles they choose is a taste that teachers gain through their family history and professional needs. This taste shapes a certain value about informal learning among teachers who seeing museum visits as a cultural activity and intellectual inspiration.

*Philosophy about Teaching and Learning*

My findings suggested the teachers’ philosophy about teaching and learning determined the way that teachers perceived museum texts. They consistently referred to learning theories they believed as they related to the museum context. For instance, when asked about their teaching philosophy, a number of educational ideas such as No Child Left Behind, the “5Cs”, “3Rs” and Einstein’s Relevance were mentioned. Some teachers
considered the purpose of teaching was to help students make connections with knowledge and challenge students’ comfort zone. The teachers’ purpose was also to assist students as they became better learners. From their points of view, students need to be taught to construct meaning based on their experiences. In the museum setting, they sensed students might see something without a full understanding of it. They might not be able to appreciate cultural values at first glance. Therefore, teachers needed to do something to make the museum visit more effective. For example, Scott understood his students’ stereotype of Hohokam pithouses as old, dirty living space by relating the pithouse architecture to their current housing. Some teachers noticed younger grade students had short attention span so that they were not able to focus on exhibits for a long time. Other teachers instead, saw students as active learners who could self-learn in museum settings.

Teachers articulated their own learning styles that involved their preferred methods of taking in, organizing, and making sense of information. There was a strong belief that a visual learning style made learning more interesting and that it reinforced learning for the retention of memories. Furthermore, they asserted that how knowledge was presented in museums determined students’ understanding of certain concepts. If the ideas were presented in visuals or as hands-on activities, students were more likely to catch the ideas easily.

Teachers identified learning by seeing and learning by doing as two powerful aspects of museums. Objects, graphics, photos, and documents helped students visualize the concepts and allowed them to make connections from their immediate experiences. Betty, for example, liked to learn by seeing and touching (if possible) through “real”
artwork. She found that her students had a very touching moment when they saw how their Hohokam ancestors were presented in the exhibits. The teachers were also aware of the way that objects help learning. They confirmed that artifacts become meaningful when a visitor can construct and interpret through them. It is like Scott said, “An object has no meaning. We bring meaning to it by other information we can connect to it” (Interview #6). Moreover, hands-on activities and interactive exhibits also promoted learning. Some teachers, like Tracy, preferred the hands-on methods that offered students the opportunity to participate learning actively. She recognized that it is the way she learned and the way most of the children learn.

Interestingly, teachers compared their students’ museum experiences to their own backgrounds. Teachers who taught or had taught at Title I schools found that at-risk or low-income students had very few experiences with visiting museums because their family had no money to spend on those visits. They confirmed that museum field trips helped open students’ eyes and provided them with a venue to see the world. Lucy recalled that a field trip to a planetarium really “opened up a whole new world” for her students (Interview #8). While the teachers articulated the differences in their class museum visit, they were really saying museum visits are social experiences that every student needs to have. Through these experiences, students will know what a museum is and how to behave in a museum setting.

A power relationship was generated when teachers viewed students’ learning in museum settings is aimless and unintentional. Teachers who owned more cultural capital perceived students in an inferior status and felt a responsibility to make learning actually
happened. Unconsciously, teachers constructed the museum-learning habitus through literacy practices inside and outside classroom.

Visiting Ties to Curriculum

Teachers declared a museum visit an extension to the curriculum, a stretch and an educational site with facts and knowledge from the museum’s resources. They all agreed museums provide an opportunity for students to see real things that enhance learning through seeing, smelling, and touching the artifacts. Field trips to museums benefit students’ learning and should be funded in a regular base. Interestingly enough, despite teachers recognized that museum visits would enhance learning for students, most of the teachers were not able to recall any specific school field trip in their school years. That could mean retain what people learn in a museum setting might be a challenge.

Besides viewing museums as a form of entertainment for their students, or “fun,” the purpose of scheduling a museum visit for these teachers was to integrate the exhibits to their curriculum and open a window for learning. For example, if the curriculum was learning about space, a planetarium visit would likely be scheduled. If the curriculum was learning about dinosaurs, a natural history museum would be the choice for a field trip.

Teachers said the Hohokam exhibits were mostly related to curricula about social studies such as American history and Ancient Civilizations, as well as science such as Archeology. None of the teachers identified relationships with math concepts such as geometry and measurement that the curator had addressed in the Educator Resource Guide. Overall, teachers applied the concepts of the exhibits into their classroom teaching in a variety of ways. Debbi viewed the Hohokam exhibits as an introduction to other ancient civilizations. The visit helped her to strategize how to describe what ancient
civilizations had to offer, what could be learned from ancient civilizations, and how the Native people worked together to develop things. She used the visit to delve into ancient civilizations and world religions when her sixth grade students studied geography and cultures. She said, “In the very little time that we’re allowed to do that you know, so we really use it as kind of a prep thing before we head into ancient civilizations” (Interview #7). Her lesson unit covered agriculture and geography and focused mainly on how the canal irrigation system developed the society. Scott comprehended the Hohokam exhibits were about the change of the environment in modern culture. He compared and contrasted technology, electricity, and water storage between the past and the present. Then, he concluded how human beings changed over time to adjust to their environment to make life more convenient. Although Lucy had not applied any concepts from the exhibits to her science curriculum at the time of our interview, she expressed that she might focus on the notion about how things have changed overtime.

After visiting the museum, most of the teachers said they usually did follow-up activities such as identifying terms, discussions, or writing a journal entry - they thought might strengthen students’ learning. Some topics may not be explored right after a visit, but they could be mentioned later on as they connected with the curriculum, just like when Tracy said, “…when you go somewhere and in a month or two later, something comes up in the curriculum, you can refer back to remember and then promote that discussion” (Interview #5).

It is important to notice the function of museums to teachers. Even though learning in a museum was conceptualized as a free-choice manner in which learners could pick up on their own interest in the setting, most teachers perceived the museum
environment and displays as still no more than an auxiliary curriculum for school.

*Museum Literacy Practices*

Teachers conceded that a museum is a literacy enrichment environment and they appreciated what the museum had done to promote literacy. The texts on the wall were the significant elements that teachers identified as literacy events in the museum. The pamphlets, manuals and educators’ package were also identified as texts that enhanced background knowledge about the exhibits. Their museum literacy practices can be identified in many aspects, such as reading the labels, taking the notes, joining the professional groups, inquiry, preparing worksheets and questions for students and following-up after museum visiting.

Museum literacy/ies were revealed through four-folded meanings. First, some teachers conceptualized museum literacy/ies as fundamental literacy/ies that was similar to literacy practices in the classroom. Reading labels, taking notes as well as writing worksheets and journals were especially stressed. They perceived reading a label as a way to acquire facts, information and knowledge about the objects. Their ESL students who have difficulties with understanding a word often lost the meaning of the texts and needed more assistance from teachers. Word recognition, therefore, was the key point for students to understand the texts in the museum setting. Taking notes and writing worksheets helped to check students’ engagement in the museum setting. These literacy activities kept students busy and required students to focus on the messages the exhibits delivered. Some teachers were more aware of the museum website, and they used it to help students become familiar with the exhibits. They adapted educational materials into their own handouts or download worksheets such as scavenger hunting from the website.
Second, some teachers perceived a museum as a form of higher learning for motivated students who had great memories and who were able to carry what they learned into creative projects afterwards. Those teachers did not use worksheets in the museum setting because they thought the worksheet was trivial and an insult for active learners. They preferred to initiate discussions or group project for the follow-up. Those teachers found the most effective way for the museum to promote literacy was to use the guided tour at the museum. Gary was impressed by a demonstration when a docent showed how to make a Native American tool like a spear. He said, “That was very, very good. The students were fascinated with that” (Interview #5). Scott preferred to have a tour guide who was knowledgeable about the exhibits who could make connections during the tour of the museum. He said, “Some guides are really knowledgeable. They are very good at taking questions and bringing people in and others are just really [dry] they sort of just go through the facts…” (Interview #6). Debbi also found it worked very well when she asked parents to guide students through the museum field trip. She thought the dialogue between parents and students actually enhanced their learning. Most of the teachers agreed that when students had a chance to meet docents from different professional fields, they also learned more deeply about specific topics. Students were usually attentive, and they would produce lots of questions when guided by an experienced docent. If possible teachers requested a good docent for their field trip to the museum.

Third, teachers perceived museum literacy as not only for students, but also for themselves. Teachers engaged in literacy practice that utilized skills such as surfing websites, Googling, and planning a lesson. They would spend a lot of time doing research
before scheduling a field trip. Betty, for example, would go to the museum website and download the teacher’s manual or she would search for relevant information through the Internet. For this particular visit, she designed a worksheet for students to fill out that involved reading and writing. Frank went over the museum exhibits in advance with his own family to find something that he might want to introduce to students. To some extent, teachers’ literacy practices in the museum could be different depending on if their visit is with or without students. All of the teachers revealed they spent more time reading labels when they go to the museum alone. But when teachers went with their students, they were easily distracted and could not concentrate on displays.

Fourth, teachers did not sense museum literacy as a place for social practices. They pictured museums and its exhibits as places to learn and expected them to present unbiased facts and to enshrine cultural values and truths (Gain, 1998). Reminded by the exhibit pictures, most teachers could retell the primary messages such as the canals, the past, agriculture, Native Americans, and a lifestyle that the curators tried to convey to the audience. They notice the lack of interactive displays that made learning less effective. However, they were not able to identify what was missed or unexplored in these two Hohokam exhibits. Teachers did not contemplate how museums theorized culture, history or science. They appeared to be satisfied with what the curators presented in the exhibits and thought the exhibits were thoroughly described. Teachers, in that sense, considered what they could learn from the displays, but not evaluate or critique how and why learning was endorsed in certain ways. In the museum field, teachers as cultural consumers were often silenced and unconsciously accepted a “banking” view of knowledge production, which it appeared they received from the museum.
Chapter Summary

This chapter presented the teachers’ perception about their museum experience and the museum literacies. The first section described teachers’ personal backgrounds to illustrate how their beliefs, philosophy, and social networks played a role in their daily lives. The second section was my cross-case analysis that described how teachers responded to multiple texts in the museum and their literacy practices within formal and informal learning environments. The following chapter is conclusions and concerns of my dissertation.
CHAPTER 6: CONCLUSIONS AND CONCERNS

Introduction

Previous studies have addressed little about critical literacy in a museum setting; therefore, the purpose of my study was to investigate critical museum literacy in a natural history museum. I used two Hohokam exhibits in the Western Museum of Natural History as the springboard for a comprehensive discussion of representations and interpretations in the museum’s texts. Specifically, my research questions were:

1. How do the words, objects, spaces and symbols presented in the natural history museum portray knowledge about the exhibit?
2. How do curators understand the use of words, objects, space, and symbols in representing this knowledge?
3. How does the public understand these textual representations?
4. How do teachers respond to these multiple texts, and how does their museum experience impact their pedagogy within informal learning environments and classroom practice?

I drew on Bourdieu’s habitus and Bakhtin’s dialogism as theoretical frames as I collected and analyzed my data. Data were collected and triangulated with field notes, interview transcriptions, archives, and other data sources to critically scrutinize textual meanings and participant responses. I employed Spradley’s (1979) domain analysis to sort and categorize data in the early stage and Glaser and Strauss’ (1967) constant comparative method to code data. My major findings were that the museum was a field in which the curators and museum staff struggled to position themselves. Museum texts
within this context represented embedded beliefs and values that were interwoven with the curator’s habitus, tastes and capitals, as well as institutional policies.

Conclusions

I discovered four major themes associated with critical museum literacy in my data:

*Critical Museum Literacy 1: Representation and Interpretation*

The Western Museum of Natural History (WMNH) was the dialogic space in which the meaning of Hohokam cultures was produced and circulated, and in which a hierarchy of importance was conveyed through the displays (Sorensen, 1999). The words, objects, spaces and symbols presented in the museum emerged as both monologue and dialogue to indicate that the two Hohokam exhibitions were a juxtaposition of representation and interpretation in a human-built setting. For example, the curator John made ‘academic sense’ of a collection, and then the designers and other staff translated this into ‘visual sense’ (Hall, 1987). That means, the curator, the designer, and the museum staff were communicators who negotiated the representation. The process of negotiation was not visible to visitors who saw the exhibits. Through my research I could see how cultural, historical and aesthetic modes were represented and how their meanings were constructed as a result of the representation. For example, the Hohokam exhibit was opened not only to clarify the prehistory Native people belong to, but also to celebrate a cultivated culture from the past to the present. Artifacts like pottery, jewelry, and baskets have become their own symbols that represent prehistoric people, and through the interpretations of the curators, this kind of authority and legitimacy is reinforced again and again.
The representation of an object is "an image, likeness, or reproduction in some manner" (Oxford English Dictionary). Just like the diorama of the Hohokam village displayed in the gallery, it does not simply resemble a static community, but casts it as something else – a representation of the social structure of particular Native Americans and gender differences at that time. It is not a copy but is “some sort of material or cognitive process that is different from what it represents” (Brummett, 2003, p. 4).

Therefore, when seeing things represented for us, we need to have a sense that ‘representation’ actually means present again and implies an analogy of reality. Specifically speaking, representation is a shadow of objects. It does not exactly reflect its sources, but refashions them according to pictorial or textual codes, so that the representation is quite separate from, rather than the same as, the original sources. In addition, personal or cultural biases, attitudes, and predispositions are invoked in that sense (Chaplin, 1994). The result is that when something is represented by another, it reflects a perception, attitudes and beliefs and values of that interpretation to the audience.

My findings call for attention to the process of meaning making in this “informal” learning setting. Since learning occurs in a museum as a self-directed activity, a museum visitor needs to be especially aware of the practices of representation and interpretation of exhibits in order to examine the assumptions, values, and beliefs in each re-presentation with a critical eye.

*Critical Museum Literacy 2: Institutional Discourse*

As a city-operated institution under the supervision of the City of the Sun council, the WMNH had its own interests and priorities. The purpose of the museum, in a sense, was to represent the history, culture, economics, and politics of the city. The exhibits
were prepared in a way that facilitated public knowledge, understanding and appreciation of the city's historic past, and promoted a better awareness of its neighborhoods. However, the institutional policy may have been adjusted based on the best interests of the museum. During the period of my investigation, the museum encountered financial difficulty and many staff positions were cut. The museum started to refocus the operation of the museum. Increased revenue was listed as a specific museum purpose in the mission statement. This institutional discourse affected the way the three curators undertook their job responsibilities to ensure exhibitions would be successful and on budget.

The WMNH has worked hard to represent itself as a research-based natural history museum. There were lots of research projects and publications that involved the curators as part of their jobs. Even though there was no emphasis on this in its mission statement, the museum had many outside resources and projects and it relied heavily on volunteer organizations and scholars, including university professors, archeologists, and historians who were leaders in their fields. They act as a think tank and contribute their knowledge to the institution. The museum also got involved with advocacy for legislation to set up an archaeological park at the local and national level. The WMNH sought to be a research based institution in decision making about collecting, exhibitions, programs and so forth. This mission echoed the American Association of Museum’s policy in scholarship: “initiate scholarly research in conjunction with colleges and universities and with other museums” (Hirzy, 1992, p. 20). All of these interests form the character of the museum and call for the attention of visitors.

The curating practices confirm that a museum is a field in Bourdieu’s sense, in which people practice their daily lives. It maintains a structure of power, builds up social
networks, and divides social classes. Foucault (Macdonald, 1998) argued that power and knowledge are thoroughly mutually implicated: power is involved in the construction of truths and knowledge has implications for power. As social and cultural institutions, museums, to a large extent, reflect industries in modern society. They are not simply places to remember the past, honor culture, or educate the public, but also places that represent power and reshape knowledge. This institutional discourse reflects values within which meaning and ideology are embedded in an explicit and implicit way.

The institutional discourse reflects a cultural arbitrary that the museum impose on the public. Cultural arbitrary, in Bourdieu’s (1977) notion, indicates “durable constructions of the unconscious…an act of cognition and misrecognition that lies beyond- or beneath- the controls of consciousness and will.” It is “a form of doxa—knowledge that is in the universe of the undiscussed” (p. 168). Bourdieu means that our practices cannot be considered separately from the cultural characteristics of the society. However, the public may take these practices for granted in daily life and may not be aware of the arbitrary power imposed. In the case of WMNH, the curators were authorized by the institution and they conceptualized what counts as knowledge in a natural history filed through the process of collection, exhibit planning and displays. Cultural arbitrary, therefore, reinforces a power structure and cultural reproduction. Understanding how curators use intertextuality as writers and presenters can improve our museum literacy as individuals and as groups.

**Critical Museum Literacy 3: Curators’ Habitus, Tastes and Cultural Capital**

The habitus of the three curators was identified through their family backgrounds, academic degrees, job positions, social networks and the organizations in which they
affiliated. The way they acted as curators, viewed power and legitimization, and the way they communicated with audiences were all attributed to their habitus. Their habitus determined their tastes in literacy practices such as exhibit planning and label writing. Their habitus also reflected how they marginalized or benefited certain interest groups. As one example I mentioned in my findings, Helen wanted a Native American docent to serve as an informal educator in the gallery, but John did not support the idea.

In the WMNH, Curators, as a product of habitus, hold opportunities to present knowledge to their audiences. While Helen, the curator of education, felt little free will about what she could decide in her position, John and Mark viewed their jobs as flexible and self-defined. They were aware of the system and got involved in “playing the game” in the field in which they practiced competition and cooperation through curatorial processes. However, it was not clear that they fully realized that their views and practices had become part of the museum social structure, or their own socialization within that institutional culture. Behavior and belief cannot be recalled, as Bourdieu (1990) points out, for habitus acts “as principles which generate and organize practices and representations that can be objectively adapted to their outcomes without presupposing a conscious aiming at ends or an express mastery of the operations necessary in order to attain them” (p. 53).

Curators, of course, have their likes and dislikes regarding how exhibits should be presented. Their tastes mirror their competence and understanding and these are internalized or socialized through their educational backgrounds. Their tastes entail who they are, what they act and might act, as well as what they should know. In other words, they hold cultural capital, social capital and symbolic capital, as defined by Bourdieu
This capital reflects their manners, skills, knowledge bases, social networks, educational level, and language use.

Curators’ tastes convey their preference for different types of literacies such as writing the labels, displaying the objects and collecting artifacts. It ‘classifies and classifies the classifier’ (Bourdieu, 1984, p. 6) which means there is someone who thinks something is good and the other is less so. It not a freely chosen/discovered penchant for baseball over hiking or a physiological predilection for vanilla ice-cream over chocolate but is what Bourdieu called “amor fati, the choice of destiny.” It is “a virtue made of necessity which continuously transforms necessity into virtue by inducing ‘choices’ that correspond to the condition of which it is the product” (p.178). According to this view, the preference of going to an exhibit over a bookstore or the decision to drive to the shopping mall versus watching a football game at home is indeed a choice, “but a forced choice, produced by conditions of existence which rule out all alternatives as mere daydreams and leave no choice but the taste for the necessary” (p.178). The three types of capital are dispositions that have been manifest in different ways. Capital is formed not only by the habitus of the family, the community, and the society (Harker, 1990), but also by the social class that the individual belongs to. Curators, in this sense, share certain discourses, such as an aesthetic taste, a value of knowledge, and an awareness of visitors, with the cultural groups to which they belong.

The collecting and displaying of objects was an act of classification. Not only did they simply put museum elements on display, curators also created particular kinds of belief and values for the public (Macdonald, 1998). As Pearce (1990) suggests, no presentation of an object is neutral. Instead, it is a “rhetorical act of persuasion” (p. 138).
When curators speak of a masterpiece of art or display a scientific concept, they also reflect the criteria of taste and value by which it was judged to be great.

My analyses present challenges for the museum practitioners, who may not be aware of how their habitus, tastes, and capital influence their literacy practices in informal learning settings. Critical museum literacy, therefore, calls for recognition of the process of authorship in museum settings. The public needs to identify who is responsible for the museum exhibits and representations. In an informal learning environment such as a museum, visitors should be aware that authorship is never neutral.

*Critical Museum Literacy 4: Teachers’ Habitus, Tastes and Cultural Capital*

My findings showed that teachers’ *habitus, tastes and cultural capital* all affected their museum visit choices and the ways they constituted appropriate teaching methods inside and outside the museum setting. The teachers’ habitus was shaped by their schooling, family values and the communities with which they were associated. Even though the teacher participants came from different social classes, they shared similar dispositions and tastes: for example, they enjoyed reading or outdoor activities, they acknowledged the importance of professional development, they viewed museums as resources, and they identified learning strategies in museums. Though not all of the teachers grew up in a museum family, their parents did bring them to the museum frequently and placed a high value on that kind of informal learning. *Museum visiting* was most likely as part of their leisure activities. When going to another state as a tourist, museum visiting would likely be part of the visit.

The teachers’ habitus also influenced their beliefs on teaching reading and writing. It probably came from their teacher preparation program or professional
development and their museum experiences. They appropriated teaching methods or concepts such as the 3Rs and 5Cs for the classroom as well as the museum settings. They taught the way they learned. Museum visits mainly tied into the formal curriculum. Reading, writing and discussions were emphasized as the same practices in the classroom. In addition, students needed to be assisted as learners in order to gain more understandings of the representations and interpretations of the displays.

The cultural capital that teachers accumulate actually helps them gain status in a museum and allows greater access to the resources social institutions provide. Most museums work closely with teachers in order to promote exhibits or bring in school students. They invite teachers to explore exhibits, schedule teachers’ workshops, provide curriculum ideas and provide out-reach programs for classrooms. Even though teachers tied the museum visits into the curriculum, teachers in this study did not clearly articulate why and how the two Hohokam exhibits were represented as they were. They did not pay attention to messages that could be missed in the exhibits. Mostly, they held a positive stance about museums and its exhibits. They showed more praise than criticisms of the exhibits.

Teachers’ habitus may have hindered their willingness to critique the primary values of museums as educational institutions. They did not sense a need to look “behind the scenes.” That might have been because they were not aware of the dominant role that museums and curators play in society. They seemed to think what museums were simply auxiliary and peripheral resources. Since schools only schedule museum visits once or twice a year, knowing the politics of displays appeared to be of little importance.
Yet museums have contributed to the educational landscape through for hundreds of years (Kratz and Merritt, 2011). It is crucial, therefore, to look beyond specific pedagogic functions intended by museums to inspire visitors. Teachers and students especially need to move beyond a transmission-oriented or “banking” notion of learning, and develop a more critical literacy perspective.

Concerns

Critical literacy within museums is increasingly important since museums are viewed as a social space for the public. In my study, many teachers identified the museum as a social institution from which students could learn social interaction. That is, museums have collective guidelines to follow; students or museum visitors should act in a certain manner in a museum. This acting and agency not only recreate a social structure of the cultural field (Bourdieu, 1993), but they also reinforce the habitus, tastes and capital of museum goers. Therefore, a question was brought out in the analysis of the data: Who is going to museums? Even though museums make a big effort to approach the general public, unconsciously they still divide the social class. As consumers within a “temple of knowledge,” museum visitors are classified as a dominant class that owns more cultural capital in the society. Teachers who are working at a Title 1 school informed me that most of their students did not have a chance to visit museums. Although this study did not attempt to identify the demographics of visitors, apparently students who are in lower socioeconomic schools encounter an entrance fee barrier. Their family cannot afford the cost of admission. Therefore, there are usually more diverse family groups on the free admission day, the first Sunday of every month.
These phenomena indicate that the museum makes its knowledge available to certain groups, even if it unconsciously differentiates among social classes. Sadly, injustice still exists since the exploration of Bourdieu’s survey in the 1960s (1984). In his study, Bourdieu investigated art museums in France and found a solid relationship between cultural consumption and social class. He argued that only the elites who are at the top of the social structure participated in leisure activities labeled as high culture such as museums, concerts, and theater. If we see museums as part of curriculum and informal learning resources just like a computer to basic skills, we need to be careful about the access of museums.

Another concern is that many teachers conceptualized literacy as fundamental skills such as learning vocabulary, spelling and punctuations, and writing on topics just like one of the school subjects. Students would acquire these abilities from a language arts classroom and eventually gain so-called mechanical skills to read and write. It is believed that this learning process enables people to become a literate body. Therefore, museum literacy is understood as no more than a supplement of the curriculum, and it is practiced as skills of reading and writing in the classroom.

Teachers need to elaborate on the process to acquire museum literacy and understand that museum literacy is not just one-way knowing. In this fast-changing and multicultural society, even though we know how to read and write, it does not insure that we own the ability of critical thinking. Museum literacy/ies is far more than a skill to read labels and write a journal entry. It is the ability to evaluate, analyze, and apply information that we acquire through the word and the world (Freire and Macedo, 1987). Museums are a form of media and need to be examined in terms of the way they attempt
to communicate to audiences. Literacy practices and literacy events in a museum, such as collecting, preservation, classifying and categorizing are not neutral, and they lie at the ideology of curators and the museum itself. A museum as a social institution operates for its interests and priorities. Curators, as speakers for the museum, deliver hybrid utterances for the institution. That is why it is important for audiences to rethink texts and context when reading the texts in a museum setting and ask - What was the context of the original text? Did the curator intend any relation to the theme? What kind of power did the curator exercise in editing the words of others? Audiences must be expert readers of texts for both what the curator says and what the curator means so the audience knows what they really mean. The audiences must realize the meanings hidden in the words to be sensitive to why the curator chose the word, as well as the curator’s interest in the issue. If the audiences own the ability of critical literacy, they can make that ideology explicit. That is how critical literacy works.

One implication of this study, then, is the need to inform educators and museum professionals about the importance of critical museum literacy. This study has not only explored museum literacy from a critical perspective, it also calls for incorporating critical ideas into museum education. By pointing out how culture, history, and science are constructed as clusters of meaning and value by museums and their exhibits, both teachers and students can become aware of power relations. They will understand how exhibits influence their beliefs, values, and interpretative literacy practices. In addition, they will be encouraged to view displays as partial and positioned perspectives and read them in this light.
I believe teachers, especially, need to be aware of critical museum literacy. An understanding of critical museum literacy will better link curriculum design and pedagogical practices to enhance the effectiveness of informal learning. It is a long-term, ongoing endeavor to develop critical literacy awareness in a museum setting. A network community for educators is recommended so that they can learn in an interdisciplinary fashion.

In short, the conclusions and concerns discussed in my study illuminate a spectrum of policies, expectations, and possibilities that surround critical museum literacy. More research on visitors’ perceptions, classroom practices, and student mediation of curatorial practices need to be done in order to establish critical literacy in museum settings. Schools and museums need to build a partnership to practice critical museum literacy.

Chapter Summary

My research questions examined literacy practices in a natural history museum. The participants were curators, teachers, and visitors. This chapter detailed the conclusions about four major important issues associated with critical museum literacy: (1) Representation and Interpretation, (2) Intuitional Discourse, (3) Curators’ Habitus, Tastes and Cultural Capital, (4) Teachers’ Habitus, Tastes and Cultural Capital. In conclusion, the presentation of displays was determined by what curators intended – either monologue or dialogue. The interpretations through texts endorsed certain viewpoints of learning and knowledge. Teachers and the public did not appear to be aware of the powerful communicative role that the museum plays in society, and consequently all the representations and interpretations were taken for granted. In
addition, museum literacy/ies were practiced in a fundamental way as current practices in the classroom that may not have supported the development of critical literacy. This study also presented two concerns that call for future study. Finally, the very goal for critical museum literacy is helping students and teachers develop intellectual strategies in reading the word and the world (Freire & Macedo, 1987).

The next chapter is my personal account. I saw myself as an integral part of this study. Throughout the study process I continuously (re)discovered who I was as a researcher and negotiated what my habitus, tastes, and capital meant to me. As discussed in this final chapter, my grand tour has led me to learn, relearn and unlearn the word and the world.
CHAPTER 7: THE GRAND TOUR

Introduction

“Let’s begin by talking about your background experience and what led you to become a curator/teacher. Can you tell me a little about your growing up years?” That is the question that I first asked my informants during interviews. I attempted to use a grand tour question (Spradley, 1979) to locate their experiences from the past. When I determined my dissertation needed a Chapter Seven, I also asked myself the same question, “Let’s begin by talking about my background experience and what led me to the United States. Can I share a little about my growing up years?”

My growing up years were very stable. I was born in Taiwan, grew up in Taiwan and thought I would stay there forever until one day I felt empty inside and I was eager to swim to another new world like a fish.” I need to go to the beach to see the whole sea!” I told myself. It was 2001. I quit my editorial job and concentrated on preparing for the language test. One year later, I was in the U.S. with my curiosity and desires for knowledge. My journey to this country and to the language and literacy program at Arizona State University was not smooth, but was full of ups and downs. I encountered both challenges and rewards. Sometimes I lost focus, but through God’s mercy, I always was able to find new ways to keep going.

In this chapter, I situate myself as a foreigner, a graduate student, a museum intern, and a researcher in different contexts. I share my negotiation and adjustment when I encountered cultural shocks. The experience of living in a foreign country revealed to me who I am and what my habitus, tastes, and capital are.
Language, Culture and Me

I still remember how scared I was when I spoke in English when I first came to the U.S. Every time I opened my mouth, I blushed and felt embarrassed about my accent. I thought no one would understand what I said. Language barriers made me feel lonely, frustrated and naïve. In my graduate class, I sat quietly in the background. My classmates probably thought I was weird. They didn’t understand that I kept silent not because I had no idea about the topic, but because I needed more time to elaborate on what I might say. It was also because my cultural values emphasized listening more than talking most of the time. When I felt frustrated, I always reflected about what Fu said, “When I had difficulty understanding the others, or reading and thinking like my peers, it was not because of my low English language ability or my lack of knowledge of the Southwestern world, but because of my different ways of reading the words and the world and my different ways of expressing myself” (Fu, 1995, p. 13). That reminded me that I am who I am. Language helps me identify who I am and see things through a different cultural lens. Why should I feel ashamed about my accent? Even many well-educated English speakers have a hard time pronouncing my Chinese name with accurate four-toned phonics.

Despite feeling isolated among different cultural groups, with a new cultural perception, I learned exciting things on this continent. I was first inspired by the idea of teacher as researcher, Paulo Freire’s critical pedagogy (2000), and a broader perspective of literacy/ies. Teacher as researcher told me that a teacher needed to take action research to task and inquire about what he/she believed in teaching and learning. Paulo Freire’s notion “conscientization” told me that people need to fully understand the political
realities that affect their lives and impede their struggle to improve socially and economically. Critical literacy told me that problem posing brings interactive participation and critical inquiry into the existing social phenomenon and expands it to reflect what one believes and values.

I learned, unlearned and relearned. Gradually, I came to see language as a resource that symbolized aspects of a struggle over political power and economic capital (Ruiz, 1984). I recognized language as a social practice. Our language use, language choice and language learning was influenced by the ways we perceived language. We use language to situate ourselves in different contexts, and take account of our cultures and identity. Learning a language is not simply a cognitive process, because it also involves interaction and transaction with others and the environment.

I still feel like an outsider and sense a distance with this society, not simply geographically, but also culturally and psychologically; although my English is not sufficient to understand all the nuances of things American, I am more aware of who I am as a mom, a wife, a daughter, a graduate student, a Chinese teacher and a researcher and how I situate myself based on my gender, age, ethnicity, class and race. A parable told me that a young fish asked an elder fish to define the nature of the sea. The young fish complained that although everyone talked constantly about the sea, he still couldn’t get a clear understanding of what it really was. The wise elder noted that the sea is all around the young one; it is where he was born and where he will die. The young fish couldn’t see it because he was part of it (Alvermann and Phelps, 2001). I found I was that young fish. Before I came to America, I was not aware my actions and myself were influenced by my own cultural beliefs. Until I used a different language to think, to observe, and to
articulate another culture, I found I was much more closed to my own culture.

The Museum and Me

I started my research internship with this particular museum in 2006. I wrote a letter to the director and asked if I could do my research internship there. He quickly responded and I was able to observe the museum. During the intern period, I worked closely with Helen, the museum's curator of education, as well as other staff members. Although my internship did not take place daily, I tried to expose myself to the entire museum through attending staff meetings and undertaking a variety of specific projects, such as exhibit design, planning and installation, educational programs, and administrative tasks. These opportunities allowed me to experience a wide range of museum literacy/ies.

By exploring different kinds of projects, I became aware of how the museum organized its identity, space, collections and exhibits to make meaning. I learned that authority can influence research and curatorship practices. For example, a label may be written from several aspects during the period of exhibit planning, but the final decision-making may not be audience-based, but made out of compromise to authority. This phenomenon actually brought out many questions about interpretation that seemed to become a popular term for people in the humanities field. Freeman Tilden, in his book *Interpreting Our Heritage*, written for the National Park Service, defined interpretation from an educational perspective as: “An educational activity which aims to reveal meanings and relationships through the use of original objects, by firsthand experience, and by illustrative media, rather than simply to communicate factual information” (1977, p.8). Speaking further, interpretation relies heavily on sensory perception, such as sight,
hearing, smell, taste, touch, and the kinetic muscle sense, that allows the museum visitor to experience objects emotionally (Alexander, 1979). Through words and verbalization, interpretation complements the rational process of learning. Noticing that language and experience are key elements to making meaning, planners and designers should be more careful and allow multiple layers of information.

Many people consider museums as temples of knowledge. As a matter of fact, a museum is a place that offers broad interpretations about the origins, meaning, and value of objects, as well as theories about thoughts and behaviors of the people who made them and used them. These interpretations are not unbiased. Instead, they are deeply cultural, social and political. The most important thing is how we identify and remove bias from interpretation, prejudice and stereotypes. From the perspective of museums, can we increase the likelihood that visitors will have a positive interaction with the resource if we raise their critical literacy? And, who has the authority to interpret? The curators? The museum staff? The authors of the artworks or the audience?

I felt that not all museum staff were sensitive to this issue. Although the curators tried to look at things from different perspectives and disciplines, their planning was still inevitably embedded in their own ideology. I remember a meeting for an exhibit that featured photographs that documented handmade grave markers in the Southwest. All the participants were comparing a traditional cemetery and a hand-made grave marker. I couldn’t help but raise the question, “What does tradition mean?” I wondered if it indicated an Anglo tradition or Hispanic tradition. What about other cultures? That was the moment for me to contemplate cultural literacy. I then realized curators and museum staff represent different cultures and societies through their uses of language and literacy.
Several exhibits I observed in the museum were quite interesting. They made me think about how the museum conveys past and current views of culture and cultural history, as well as how the collections influenced the research and strategies of exhibit planning. For example, I found that an exhibit, “Arizona and the Movie”, had embedded gender stereotypes in a hidden way. The objects used by males were majority. Visitors could only see a few women’s items in a glass box. I told my findings to a male staff member. He was surprised at what I saw. He said he never noticed that women seemed to be misrepresented.

It is true that male hierarchy can be a reason why displays features women in a particular way or why they are excluded altogether. Cultural expectation is another reason. The exhibit showed the nature of the collections and long-held assumptions about the history during the period of Southwestern exploration. In the case, the objects that were used, made, bought by or depicted by women could be interpreted in ways that allowed honest and fair appraisals of women’s roles in society. As the audience, what we should learn is that we should take the meaning critically and not passively receive messages from others.

Another thing I questioned is the authenticity of objects. How were objects determined as authentic? Did it matter if objects were not the real thing? What was the criteria for the authenticity of objects? Some objects in the exhibit “Searching for the City of Sun: Finding Ourselves in Our History, were duplicates. The replica artwork typically became a craftwork. The historical meaning had disappeared. I believed it a dilemma for historical preservation, especially for primitive art. I don’t have answers for this but I will keep that question in mind.
Everyday Critical Literacy/ies

At the age of three, my son started to pick up rocks wherever he went, even in a friend's garden. He put them in chocolate boxes and sorted them by shapes. To be true, these rocks were not very special for me, but they definitely were meaningful to him. I noticed that once in a while he only picked up oval rocks. Soon after, he showed more interest in sharp-edged rocks. Day after day, I found his boxes full of rocks. I suggested to him to throw away some of them. I guess that suggestion gave him heartbreak. But I insisted and explained that we didn't have enough room for all the rocks. His rock collection said to me that every collection might have some meaning for the collector, but not totally be comprehended by the audience.

Yes, everybody collects something. I remember that one of my hobbies at a young age was also collecting. I liked to collect the cards, photos, and book briefs from the newspaper. These objects remind me of many wonderful things when I looked back at my collections. I realized that rocks, to my son, aroused the same feelings. The objects we see in museums also awake our memories. However, we don't know why curators collect these things. How valuable these objects are. Or, I shall say, we may agree or disagree with curator's judgment about what shall be collected, and what shall not.

My Korean friend, Sasha, told me that she found something interesting when reading an atlas that she bought for her son. The atlas was organized in an order: North America, Europe, Australia, Asia and Africa. She wondered why North America was the first and Africa was the last. I went back to check my children’s atlas. The order was just what Sasha said.

Those incidents remind me that the representations in museums are political just
like the world is represented to us. How many people know the Harvard Museum of Comparative Zoology was built to disprove Darwin? I didn’t until I read Sharon Macdonald’s, *The Politics of Display.* Inspired by her points, I started to think why most of us accept evolution but not creation as a science and why most of us expect museums to tell the truth. As cultural consumers, we easily accept texts, visuals, and symbols without thinking of the thematic, poetic and rhetorical strategies behind the scenes. Critical literacy, therefore, is a way of reading and writing that deliberately looks at what texts are doing to the reader/writer (i.e., how they work on us) in terms of systems of privilege. Any exhibits and planning are purposeful with ideology embedded in a hidden way.

I consider a museum as not only a place to celebrate learning, but as a place to communicate identity, gender, social class, and power relations. Objects exist as social, not material, truths in the museum context. They convey the institutional discourses. I wished to explore who gets to speak in the name of science in the museum setting and inquire into the role of museums in shaping the values that influence the wider society.

As a literacy educator, I am especially interested in the way that people know the word and the world. Like Freire (2000) pointed out, “each man wins back his right to say his own word, to name the world.” People will deal critically and creatively with reality and discover how to participate in the transformation of their world by participating in a dialogically educational experience. To be critical one must perceive the contradictions in reality. To be critical is a self-awareness process of learning and relearning. To be critical enables us to inquire about inequality and injustice that are often hidden.
What I Learned

I like to know people’s stories. I like to write about what I consider significant and that represents world views of others. I found that qualitative research was most suitable to me as a researcher. By using qualitative methodology, I was better able to articulate the process of cognition and effectiveness. Interviewing taught me how to use dialogue as a craft to understand other people's beliefs, attitudes, and expectations. However, there were many improvements in the process. While not using my native language for the interviews, I encountered many disadvantages. I missed some interesting points and may have misinterpreted a different culture. I wish I could have asked more detailed questions of my interviewees. I keep questioning myself as to how well I could understand from a foreigner’s perspective.

Some questions needed to be refined to provide contexts for the interviewees. For example, when I asked teacher participants, “How can museums help teachers become better critical educators?” many interviewees misunderstood it and asked “What does a critical educator mean?” “How can someone be a critical educator?” Then, I realized that this question might spark teachers’ thinking on how to be a critical educator, but the question needed to be refrained from in interviews to avoid superficial response.

I also found that my teacher interviewees considered me an associate with the museum. They appeared somewhat hesitant to give negative opinions about the exhibits, the institution, and even the whole cultural industry. They praised more than they critiqued. On the other hand, my curator interviewees viewed me as a naïve graduate student, innocent with limited knowledge of museum professions. That made them obligated to educate me (Seidman, 2006). I, therefore, got much deeper information about
their curatorial practices.

I learned a lot from the analysis of my informants’ responses. Like Spradley (1979), I believe that ethnography is both science and art. Although my study did not completely fall into the category of ethnography, the techniques I used were the crafts that an ethnographer pursues. The purpose of my study was to discover the cultural patterns people use to make sense out their worlds. Yes, I was frustrated that I am not proficient in English to do perfect interviews, but at the same time I learned that every ethnographer solves problems in ways that go beyond the data or on the basis of insufficient data.

I also learned how reflexivity plays a role in qualitative research. One day, I read a book *Reflexive methodology: New vistas for qualitative research* by Mats Alvesson and Kaj Skoldberg (2009). In the foreword, it said, “[R]eflections mean interpreting one’s own interpretations, looking at one’s own perspectives from other perspectives, and turning a self-critical eye onto one’s own authority as interpreter and author” (Memo, July 28, 2008). To be reflexive is not only to be self-conscious, but also to be self-conscious to know what aspect of self is necessary to reveal to an audience (Ruby, 1980). I think what I did was get a critical and sophisticated understanding about self and others, to conceive the communicative process in which the producer, the process, and the product hold their positions. This study helped me think critically about my niche within the museum world and the larger system of museums.

As a cultural foreigner, I was able to observe a new environment from a variety of angles. I felt I was in a unique position to contribute to literacies in the museum setting. I was curious, respectful, and appreciative towards other cultures. My advantage was that I
could see what was unseen, invisible or absent. In the end, I realized the dissertation
writing is a process, not just a product.

The story will not end here. I am sure I will still be like a fish and look for a new
vision of the sea.
REFERENCES


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sentation


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APPENDIX A
INTERVIEW QUESTIONS FOR TEACHERS
Interview Questions for Teachers

Before I start the interview, I would like to know more about you. Please help me fill in this form as much as you can.

Background Information Form

Age: ____________________________   Gender: ____________________________
Birthplace: ________________________
What language is spoken primarily in your home? ____________________________
With which group(s) do you most identify? (e.g. African American/Black, American Indian, Asian, Caucasian/White, Hispanic or Other) _______________________________________________________________

How long have you been in teaching? ____________________________
What subjects and grade levels do you teach? ____________________________

A. Background Information

1. Let’s begin by talking about your background experience and what led you to become a teacher. Can you tell me a little about your growing up years?
2. Do you have children? How old are they? What are your family activities?
3. Can you think of some important people in your life? Can you share how they influence you?
4. How did you become a teacher? What were your other jobs held before?
5. How would you describe your philosophy about teaching?
6. How would you describe your philosophy about museum’s function?

B. Museum experiences

1. How frequently do you visit museums? What types of museums do you like to go?
2. What do you typically do in a museum? (For example, do you read label word by word?)
3. What do you remember about museum visiting in school?
4. What is your experience in the use of museums (such as exhibitions, archives, websites and educational programs etc.) as resources?
5. How frequently do you organize a museum visit with pupils?
6. How frequently do you organize museum programs that come to your school (i.e. outreach programs for object handling or drama)?
7. How do you use museum websites or educational materials that museums provide with pupils? How frequently do you use museum or archive websites with pupils?
8. What do you consider to be the most effective field trip experience for students? Why?
9. Do you think that museum visiting would help you work more effectively with students? How so?
10. What do you see museums in developing your students’ literacy experience?
11. From your experience, how can museums help teachers become better critical educators?
12. Are you memberships in professional organizations related to museum or literacy?
13. Can you briefly talk about your professional development experiences (courses/workshops) that are related to museum and literacy?

C. Interpreting exhibitions

1. What did you ‘see’ in the exhibits? What is their primary message?
2. Did you see anything unexpected in the exhibition? Please explain…
3. Is there anything you expected to see and didn’t? So, you expected to see…
4. What values and lifestyles are promoted in the exhibits?
5. What was your reaction to the object/ text?
6. What led you to bring students to explore the topics/concepts/skills in the exhibits?
7. What do you believe your students learned from them?
8. What is implied without being specifically stated in the exhibits?
9. What messages are missing in the exhibits?
10. Please help me understand where the two exhibits fits in the sequence of the unit you worked on.
11. Please describe how you use or will use this exhibition as resources (e.g. teaching styles, focuses of instruction, materials used, etc.)
12. How did the filed trip experience affect your teaching?
13. How would you describe the two exhibits to someone who hasn't seen it yet?
14. Was there anything in the exhibit that was helpful to you or enhanced your experience?

Thank you for your time.
APPENDIX B

INTERVIEW QUESTIONS FOR CURATORS
Interview Questions for Teachers

Before I start the interview, I would like to know more about you. Please help me fill in this form as much as you can.

Background Information Form

Age: ____________________________ Gender: ____________________________
Birthplace: ____________________________
What language is spoken primarily in your home? ____________________________
With which group(s) do you most identify? (e.g. African American/Black, American Indian, Asian, Caucasian/White, Hispanic or Other)

________________________________________________________________________
How long have you been worked at Western Museum of Natural History? ______
What is your current position? ____________________________

A. Background Information

1. Let’s begin by talking about your background experience and what led you to become a curator. Can you tell me a little about your growing up years?
2. Do you have children? How old are they? What are your family activities?
3. Can you think of some important people in your life? Can you share how they influence you?
4. Please help me to understand your job?
5. How did you get involved in the field of museum curating? What were your other jobs held before?
6. How would you describe your philosophy about museum’s function?

B. Museum experiences

1. How frequently do you visit museums? What types of museums do you like to go?
2. What do you typically do in a museum? (for example, do you read label word by word?)
3. What do you remember about museum visiting in school?
4. What is your experience in the use of museums (such as exhibitions, archives, websites and educational programs etc.) as resources?
5. How frequently do you organize a museum visit with pupils?
6. How frequently do you organize museum programs that come to your school (i.e. outreach programs for object handling or drama)?
7. How do you use museum websites or educational materials that museums provide with pupils? How frequently do you use museum or archive websites with pupils?
8. What do you consider to be the most effective field trip experience for students? Why?
9. Do you think that museum visiting would help you work more effectively with students? How so?
10. What do you see museums in developing your students’ literacy experience?
11. From your experience, how can museums help teachers become better critical educators?
12. Are you memberships in professional organizations related to museum or literacy?
13. Can you briefly talk about your professional development experiences (courses/workshops) that are related to museum and literacy?
14. In what way do you think that exhibitions in the museum have affected public perceptions and visitor expectations of science?
15. In what way do you think that exhibitions in the museum have affected public perceptions and visitor expectations of culture?
16. In what way do you think that exhibitions in the museum have affected public perceptions and visitor expectations of science?
17. How would you explain the museum’s mission to a visitor?

C. Interpreting exhibitions

1. Can you describe what you were doing for the Hohokam exhibits?
2. What sticks out in your mind most when you plan the exhibits? Why is that memorable?
3. How would you describe the two exhibits to someone who hasn't seen it yet?
4. What can you tell me about objects in the exhibit?
5. What can you tell me about words in the exhibit?
6. What can you tell me about symbols in the exhibit?
7. Did the different texts such as videos, photographs, objects, and labels influence the way visitors looked at or interacted with the exhibits? In what way?
8. How do the Hohokam exhibits compare to other relevant exhibits that have hold in other institutions, as Pueblo Grande Museum?
9. Was there anything in the exhibit that you think was helpful to visitors or enhance visitors’ experience?

Thank you for your time.
APPENDIX C

OBSERVATIONAL PROTOCOL
Observational Protocol

Observer: __________________ Location/Scene: ________________________________
Date: ___________________ Participants: ________________________________
Activity: ______________________________ Language(s): __________
Other Contextual Notes: ___________________________________________________

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APPENDIX D

INFORMATION LETTER-INTERVIEWS
INFORMATION LETTER-INTERVIEWS

STUDY TITLE: Interpreting Critical Literacy in a Natural History Museum

Date
Dear ______________________:

I am a graduate student under the direction of Professor Teresa McCarty in the Division of Educational Leadership & Policy Studies, Mary Lou Fulton College of Education at Arizona State University. I am conducting a research study to examine and analyze literacy events and literacy practices at the Arizona Museum of Natural History in Mesa, Arizona, and to explore teachers’ responses to museum texts.

I am inviting your participation over the course of one semester. It is hoped that this study will add to the literature in the domain of museum literacy and help improve the quality and effective use of museum resources. In this study you will be interviewed one or two times. Each interview will take 60 to 90 minutes. The interview will be analyzed qualitatively and then used to provide insight into the current use patterns and effectiveness of museums. You have the right not to answer any question, and to stop the interview at any time.

Your participation in this study is voluntary. There are no foreseeable risks or discomforts to your participation. If you choose not to participate or to withdraw from the study at any time, there will be no penalty.

By participating in the study, you will not necessarily receive any direct benefits. However, you may experience some positive satisfaction in contributing information about these issues and, thereby, helping to enhance museum education. There are no foreseeable risks or discomforts to your participation.

All information obtained in this study is strictly confidential. All the names of the participants in data will be coded in pseudonyms. You will be asked to choose a pseudonym you like to be presented in data. The results of this study may be used in reports, presentations, and publications, but your name will not be known/used.
I, with your permission, will audiotape this interview. The interview will not be recorded without your permission. If you give permission for this interview to be taped, you have the right to ask for the recording to be stopped. Please indicate whether you give permission for the interview to be taped. The tapes and the master list which links to data will be destroyed after the submission of the dissertation. The transcripts will be maintained in a secure location in the Mary Lou Fulton College of Education.

If you have any questions concerning the research study, please contact Dr. Teresa McCarty (480) 965-7483 and co-investigator Sheau-yann Liang (480) 821-2357. If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Research Compliance Office, at (480) 965-6788.

____________________________________________________________________________________

Thank you in advance for your participation in this study.
APPENDIX E

SAMPLE OF MEMBER-CHECKING FEEDBACK
Dear ____________

I hope this email finds you well.

First, I would like to thank you for participating in my dissertation research “Interpreting Critical Literacy in a Natural History Museum” several years ago. You make my study possible. My study progresses slowly, but it finally closes to be completed. To ensure accuracy and authenticity of my interpretations, I still need your assistance. The attached file is a story that I weaved drawing from our interview. I appreciate if you could read it though and help me improve the accuracy.

Your name in data and paper are in a pseudonym. All information that could identify you has been removed. If you have any questions, please feel free to contact me. Again, thank you very much.

I am looking forward to hearing your feedback.

Bests,

Sheau-yann Liang
APPENDIX F

UNIVERSITY HUMAN SUBJECTS IRB APPROVAL FORM
To: Teresa Mccarty
   ED

From: Mark Roosa, Chair
      Soc Beh IRB

Date: 06/13/2008

Committee Action: Exemption Granted

IRB Action Date: 06/13/2008

IRB Protocol #: 0806003031

Study Title: Interpreting Critical Literacy in a Natural History Museum

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(2).

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects’ financial standing, employability, or reputation.

You should retain a copy of this letter for your records.