ART MUSEUM RESOURCES AND TEACHER USE

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I proposed that both Bruner's (1963) idea of the spiral curriculum and Yenawine's (1992) theories of teaching for visual literacy in the museum set the stage for significant learning for students when used together. If school teachers lay a foundation of knowledge about a museum object, especially through museum resources, then the student may transform and apply this 'prior knowledge' (explicit memories from the classroom) while on the museum visit tour. When docents utilize Yenawine's (1992) methods toward the goal of visual literacy, the semantic knowledge of the classroom is then fused with museum learning, building stronger memories and facilitating deeper understanding as students learn about museum objects. This research explored the correlation of these two theories in a qualitative manner based on observations of actual museum visit preparation in classrooms in Casper, Wyoming, and how it related to a museum tour at the Nicolaysen Art Museum and Discovery Center.

The research revealed that conditions do exist within the community that would facilitate Bruner's (1963) idea of a learning spiral, yet not in the manner envisioned. The observed conditions toward a spiral was accomplished through the participant teachers relating the museum exhibit to their operational curriculum in a variety of curricular areas, such as language arts and science, when docents related the tour to classroom learning, and not through museum resources or Yenawine's (1992) methods toward increasing visual literacy, as was previously considered.

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION

1.1 Background to the Problem

1.1.1 The History of Public Access to Museum Collections

In Europe, for hundreds of years, the wealthy and aristocracy commissioned and collected art for private viewing in their homes (Kleiner & Mamiya, 2001). For example, wealthy ancient Romans collected copies of Greek art and commissioned portraits of their family members. During the Middle Ages, decorative arts such as tapestries and Christian religious artifacts were collected by the prosperous. Later, in the 16th century, affluent Germans kept "wondercabinets"; these were special containers for natural specimens (Watts, 1999). Renaissance collectors, such as the Medici family of Florence, established galleries for their vast collection of fine art, coins, specimens, and scientific instruments. For the European lower classes the only venue for viewing fine art or artifacts was in churches.

The first public display of a European collection of art may have been at the British Museum in London during the 18th century.[1] The museum was founded by an act of Parliament and held a variety of objects including ethnological artifacts that could be visually shared by all strata of society. The Louvre, in Paris, also opened displays of art in the mid-18th century. The Louvre's collection consisted of pieces of art (or objects) previously collected by the overthrown French monarch. For the first time in these cities, all echelons of the public were able to see art and precious objects that had only been seen by the privileged class for centuries. At the end of the 18th century, many other European cities opened museums that displayed art and interesting ethnological artifacts

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[1] The earliest form of a museum display is thought to have been formed in the 3rd century in Alexandria solely for an intellectual community (Edson & Dean, 1994).

(Edson & Dean, 1994). This movement laid the foundation for public access to museum collections; and, later the emphasis of a museum visit would often involve cognitive growth and learning from the collections.

In the United States, the first museums did not open until the 19th century, and these institutions had various purposes and programs. Many of them displayed objects that were not considered fine art for aesthetic appreciation or study, but curiosities meant to entertain the public. For example, P.T. Barnum opened a display of curiosities that included a mermaid skeleton (Alderson, 1992). Other museums, such as the Metropolitan Museum of Art (founded 1870) exhibited fine art for study and even provided studio art classes (Zeller, 1989). While American museums were diverse in their collections and missions, many had programs that emphasized appreciation and the study of fine art for moral and aesthetic enrichment.

At the beginning of the 20th century, many fine art museums began to offer expanded programs that included tours for school visitors and public lectures (Grinder & McCoy, 1985; Hooper-Greenhill, 1994). In addition to promoting moral and aesthetic enrichment, museum programming expanded and emphasized interdisciplinary studies, opportunities for lifelong learning, social reform, aspects of creative expression, cultural history, patriotism, as well as educational philosophies (Williams, 1996). Toward the end of the 20th century, museums further aligned themselves with contemporary educational practices such as comprehensive art education, involving several disciplines in art such as aesthetics and art history, and museums "assumed a more central role in curriculum planning, developing educational materials and providing services to schools" (Williams, 1997, p. 83). Today, art museums in the United States plan a variety of educational

programs for diverse age groups and often take various learning abilities and aesthetic perspectives into consideration. This change reflects the emergence of professional training programs specific to art museum education as well as the cooperative efforts of museum curators and educators to disseminate information to the general public.

While substantial strides in educational programming over the years have occurred, education in the context of museums is still under debate. While education has become "central in terms of both policy and practice," no one definition of how to educate the public exists since many museums adhere to different philosophical orientations that are interpreted in various manners in practice; these orientations include art-historical, aesthetics, humanities, and social education (Williams, 1996, p. 316). While many different art museum education practices for teaching about collections are occurring, one of the most prevalent is the art historical approach, a "mainstay of art museums for many years" (Young, 1995). The art historical approach in museums often places emphasis on "attribution, iconography, period and national styles and bibliographic information on artists" (Zeller, 1989, p. 56). Judson (1986) wrote that the art historical approach involves "analysis of formal and expressive elements, content, and style; historical and cultural contexts; and biography, as well as the relationship of all these to one another and to other works and other artists" (p. 24). The aesthetic orientation revolves around appreciating collections of fine art for their formal qualities and is not as concerned with art historical information (Zeller, 1989). The social education orientation involves a reflection on culturally held beliefs, rather then dealing with art historical knowledge or aesthetic development. This orientation goes "beyond art in addressing the social, political, economic and human interest concerns of the day"

(Zeller, 1989, p.66). The humanities approach centers on using fine art collections to teach about a variety of subjects, which may or may not include the study of art history or development of an aesthetic appreciation of fine art (Zeller, 1989). During the end of the last century, Zeller (1989) wrote, "Though most museums can be identified as adhering primarily to one of the four educational orientations, in most cases elements of one or more of the others can be discerned in the exhibition and programming policies and practices" (p. 79).

Educators may apply a variety of philosophical orientations within museum programming but the main focus of museum education for school visitors today is to promote learning that will enhance cognitive growth, which includes affective and psychomotor growth (Franco, 1992). This contrasts the century old practice of museum educational programming that included "walk and gawk" tours that provided an object experience, involving sole visual interaction with the work, without any adherence to educational theory that would encourage further, active interaction between the viewer and the object and/or the tour guide.[2] While the older practice allowed for the experience and possible aesthetic appreciation of art and may have engaged some visual learners, later museum educators strove to create an environment that engaged a visitor's cognitive, affective, and psychomotor abilities for overall cognitive growth that meet the needs of a variety of learning styles (Sternberg, 1989).

As indicated above, cognitive growth involves several abilities; the cognitive, the affective, and the psychomotor. The cognitive involves thinking skills that promote

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[2] An example of active interaction with an object may include imitating holding and/or using the object or orchestrating a "sound symphony" (expressing the sounds you might hear if you were in the painting) based on the subject matter in a painting.

4

problem solving, while affective involves an "emotional level of learning" and the

psychomotor includes active physical participation in a learning activity (Sternberg,

1989, p. 156). The 20th century educational theorist Dewey (1938) believed these abilities

to be combined in learning experiences, and theorized that people often learn best by

experiences that stimulate all the abilities. Another 20th century educational theorist,

Bruner (1960), believed that continual exposure to information and giving the learner

opportunity to build on that information through the stimulation of various abilities would

contribute to learning with understanding.[3] The contemporary museum educator creates

programs to encourage learning with understanding about museum collections through a

more interactive learning environment (Sternberg, 1989; Young, 1995).[4]

The 21st century museum educators' practices to facilitate cognitive growth often

have commonalities with those of general and/or art education. For example, Hein (1998)

applied the general education concept of constructivism to the museum environment. As

applied to the general classroom constructivist teaching allows for "multiple perspectives,

embed learning in realistic and relevant contexts, encourages multiple modes of

representation and encourages self-awareness of the knowledge construction process" for

optimal learning (Wilson, 1996,pp.11-12). These components can be found in many

contemporary school classrooms and are supportive of cognitive, affective, and

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[3] The term "learning with understanding" has been defined as a "sense-making/meaning-making/knowledge building activity, resulting from mental acts in which a person creates/builds/establishes/determines new relationships and connections among facts and ideas; as understanding develops, the learner's mental model of the subject matter becomes more highly differentiated" (Cerbin, 2000). Cerbin (2000) based his definition on Dewey's (1933) theories. Perkins (1998) uses the term "learning for understanding" which he defines as a "flexible performance" in his book *Teaching for understanding*.

[4] For example, a history museum program teaching students about the trails taken by Western settlers would have goals in each of these areas. The cognitive goal for the program would be to impart the historical information, an affective goal would be to have the students appreciate the hardships these settlers faced and the psychomotor goal would be to have students pack a trunk with the types of items needed for that type of journey.

psychomotor development (Centofanti, 2002; Fosnot, 1996). In the context of the

museum Hein (1998) describes constructivism as providing comfort (physical and mental

safety), exhibits that appeal to different types of learners (referring to Gardner's theory of

distinctive intelligences that every person has the ability to develop to differing degrees)

with layered text (information provided in a variety of manners/levels), and educational

programming that draws on a visitor's prior knowledge. However, contemporary

practices that are designed to work for various learning styles, such as constructivism,

often fall short of promoting learning with understanding about museum collections for

student audiences because the museum programming is not sustained outside the museum

to allow the learner to build on or use any new information learned within the museum,

as is necessary for cognitive growth as described by Bruner (1960). Another example,

from the field of art education, is the use of comprehensive art education in the museum.

Day (1995) defined comprehensive art education as "an approach to instruction and

learning in art rather than a particular curriculum" involving art history, aesthetics, art

criticism, and studio activities (p.11). In the museum, teaching practices within

comprehensive art education are varied, but educators may use "one or more of the

disciplines" in a structured, appropriate manner to "help students understand a work of

art" while working toward a specific curricular goal (Day, 1995).

Some art museum educators, such as Yenawine (1992), are especially interested

in helping viewers attain visual literacy and apply prior personal experience to what is

seen in the museum in order to further understanding the artwork. Applying prior

personal experience or allowing students to reflect on their own lives is an effective and

affective tool for both museum and classroom teaching. Jensen (1998), a contemporary

educator, believes that letting students share personal experiences in the classroom or allowing students to associate information through questions such as, "Have you ever had this happen?", or "Could you compare and contrast this to a personal experience?" will facilitate understanding of a topic; this is similar to Yenawine's (1992) practices that pull from Dewey's (1938) theories of drawing on prior personal experience as a part of learning new information. This practice connects the students' personal life to the learning experience. However, while a personal connection may be made to the work of art that helps students further understand the artwork in one learning arena, in order to foster cognitive growth there must be tangible links between what is taught in both the museum and the classroom. Unfortunately, museum educators have no means of ensuring this consistency takes place between the two institutions.

Furthermore, many museum educators do not have enough time to foster cognitive growth with each student audience member since they may only personally interact with that audience on tours or special events and do not have the opportunity to prepare students for the visit or interact with them back in the classroom after the museum visit. Renee Marcouse of the Victoria and Albert Museum wrote, "Personal experience suggests that the museum education officer has an essential, but limited part to play in children's visits to the museum. We cannot prepare them for the visit nor can we follow it up later" (Newsom & Silver, 1978, p. 462). Many museum educators only see students for about an hour during a tour, or maybe even less than an hour during a special event (Rice, 2002). While this time within the museum is important for personal experience with the exhibits to provide a reference for discussions as well as object experiences, this limited visit does not foster cognitive growth or learning with

understanding about museum collections, and the museum educator must find avenues of continuing the educational experience of students beyond museum walls.[5] While most museum educators cannot ensure a learning experience before or after the museum visit, they may offer resources that school teachers can use in their classrooms. These resources offer multiple exposures to the same information, thereby increasing the students' opportunity for cognitive growth and understanding of the museums' exhibitions.

Museum resources may offer information concerning the museum's permanent or temporary exhibitions and may be used for classroom instruction supplemental to the visit. The museum resources, generated by museum educators, can also function as an interdisciplinary link between the museum tour and school curriculum, while extending the student's learning about museum collections. And, the museum resources can be programmed with the same educational orientation as provided in the museum (focus on art history or social education, etc.). Thus, museum resources can extend the amount of time students spend learning about museum collections and facilitate museum educators' goals of fostering cognitive growth.

1.1.2 Museum Educational Resources

Most museums' primary method for educating audiences is through signage, tours and museum resources (Stone, 1992). Common resources include travel trunks that include objects to share with the students in the classroom, teacher packets that may contain slides as well as exhibition information, video tapes and collection images that teachers borrow from the museum, and library materials for study within the museum

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[5] The Lincoln Center Aesthetic Education Center is an example of one group of educators that have addressed this issue with their programming to enhance understanding of works of art through the learner's aesthetic response.

(Amon Carter Museum, 2002; Dallas Museum of Art, 2002; Nicolaysen Art Museum, 2003).

Museums such as the St. Louis Art Museum have developed resource rooms with materials that teachers may borrow to take to their classrooms (Linderman, 1993). The Dallas Museum of Art, the Philadelphia Museum of Art, and other American museums are now using the Internet to display visual and other resources teachers can download without leaving the classroom. However, of all of the resources made available to teacher, teacher packets, "resources that contain numerous teaching aids useful for both classroom and gallery-based instruction," are the ones most frequently used to prepare students for a museum visits (Stone, 2001). These resources can be used to sustain learning on the same topics from the museum to the classroom.

1.1.3 The Teacher Packet

Teacher packets were developed to enhance a museum visit with pre-visit information for use in the school classroom and to provide a motivational set for the visit (Newsom & Silver, 1978). The motivational set should "set the stage" for new learning and behavior within the museum. In theory, these packets should also fill any informational gaps in tours and allow for reflection in the classroom tour by offering teachers discussion questions, activities, images, and didactic information. Other elements of value are driving directions, parking directions, and general information to assist teachers in planning the trip.

Some teachers do not use these resources at all, while others rely on them for pre-trip preparation and orientation (Stone, 1992). One Dallas teacher expressed that she always uses the packets before a museum visit, and has observed that students retained

information from the teacher packet and could point out artifacts during the museum tour

that they remembered from slides viewed in the classroom (personal communication,

November 7, 2001). This example suggests that teacher packets can be a useful manner

of fostering learning about museum collections as they provide a basis for classroom

discussions about collections that will be further discussed and viewed on a museum visit

tour (Callahan, 1999; West, 1998). This manner of learning, which builds student

knowledge through sequencing and layering information about museum collections, can

be part of a learning spiral that also allows for several different approaches to presenting

information.[6]

Bruner (1960) believed that a series of related learning experiences on the same

subject will build knowledge. He called this building upon earlier learning a curricular

"spiral" (Bruner, 1960). Bruner (1960) called the idea of structuring lessons to build upon

each other, challenging the student to advance to the next level, a "spiral curriculum" in

The process of education. Bruner (1960) also wrote that the spiral "curriculum should be

built around the great issues, principles and values that a society deems worthy of

continual concern of its members" (p. 52).

This idea of a spiraling curriculum may also be applied to museum school visits

if teachers utilize the pre-visit instruction as a foundation for the instruction that allows

the student to transform and apply their prior knowledge to understanding works of art

viewed during the museum tour. The teacher resources generated by museum educators

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[6] Teacher packets allow for various school educators' teaching paradigms. The traditionalist teacher may use the didactic information in a teacher packet in a lecture about museum collections, whereas the interpretive teacher may use activities and games found in the packet in connection to their curriculum. A critical or social theory teacher may draw upon more controversial issues within the materials presented and encourage the student to question the very nature of displaying works of art or objects outside of their original context.

in this case could be the necessary link between the two planes of instruction. If the same topics were addressed in both the classroom, by the teacher and the museum tour guide, a structured spiral would be built that would foster meaningful learning and cognitive growth. Without the spiral, the museum visit alone may not generate the same depth of learning. Students who have time to mentally prepare for the museum experience in the classroom (pre-visit), and continue a dialogue about the works from the classroom to the museum, will have a deeper understanding of the art seen at the museum and consequently learn more. Students also need the opportunity to connect their museum experience with classroom learning (after the visit) to extend cognitive growth.

1.1.4 Statement of the Problem

I believe if museum resources are used by teachers to prepare for the visit and the tour guide questions the pre-visit information and provides new insights, the museum tour can become a significant part of a meaningful spiral of instruction that reflects the theory developed by Bruner (1963) concerning the curricular 'spiral'. However, conditions in the classroom and museum may not exist for this ideal situation. Not every teacher prepares students in the same manner or with museum resources and the museum tour may not reference any classroom instruction or even the museum resources offered by the institution. To determine if conditions exist that could foster a 'spiral' the areas of classroom preparation for museum visits and the museum visit itself must be probed.

1.2 Purpose of the Study

The purpose of this descriptive study is to examine how teachers prepare for museum visits and if that preparation connects to the museum tour in a manner that facilitates a learning spiral. Consequently, this study necessitated probes into areas such

as paradigms of teacher preparation for the museum visit, how and if resources are being used (in a manner that facilitates spiral learning from the classroom to museum tour or as a link to classroom curriculum), how the museum tour builds on pre-visit learning and how these activities function together to promote a structured curricular experience. A critical examination of how teachers prepare for the museum visit and how this pre-visit experience (instruction) connects to the museum tour may illuminate how all teachers can make use of the museum and museum resources in their classroom to create an atmosphere for cognitive growth and facilitate learning with understanding about the art displayed in the museum.

1.2.1 Research Questions

A. How do teachers prepare for the museum visit and does this preparation link to their curriculum?

B. In what context and manner do teachers use teacher packets or other museum resources in their classroom to prepare for the museum visit?

C. In the museum, do docents present information that builds on, questions, or places prior knowledge in a new context?

D. How does classroom preparation and the museum tour facilitate a learning spiral?

1.3 Theoretical Framework

1.3.1 Museum Education Philosophies and Practices

The terms "understanding" and "learning" have become more prevalent in contemporary museum literature as many museums strive to create an arena for cognitive growth and object perception through museum educational resources (Zeiler and Surber, 1999). Many contemporary museum educators often base their practice on educational

12

theories from earlier 20th century philosophers such as Jerome Bruner to foster "learning

with understanding" about objects in museum collections (Hein, 1998; O'Connell, 1992;

Yenawine, 1992; Zeller, 1989). Bruner's (1960) writings such as *The Process of*

Education illustrate, in part, how learning with understanding can take place by focusing

on the student's own experience and connecting new knowledge to that foundation.[7]

When a student learns by building on prior knowledge the door is open for further

learning based on that knowledge. As another educational theorist, Dewey (1938),

explained, opportunities arise for continued growth by starting with what the learner

already knows or has experienced (Dewey, 1938). This means that new objects and

events should be related intellectually to prior knowledge.

In this discourse, prior knowledge will refer to explicit (short-term and working)

memories of museum collection information presented by the classroom teacher. Explicit

memories are cognitive and stem from chunks (short-term= about 7 +/- chunks) of

information for conceptual organization of large amounts of data (Jensen, 1998, p. 103).

These memories involve both semantic and episodic data, as opposed to implicit

memories which can involve procedural or automated, second nature activities (Jensen,

1998).[8] Teachers provide these chunks of information to the student in the classroom;

this information will be considered the student's prior knowledge about a subject. For

example, teachers can plan lessons about artworks in a museum. Students who then visit

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[7] Bruner (1960) defined general understanding as enabling "one better to deal with the affairs of life" (p. 4). Bruner (1960) wrote about three simultaneous processes that occur when a student learns; these include acquisition of new information, the transformation (or manipulation) of knowledge, and evaluation of this transformation. This may be interpreted as the student acquiring information in the present that links to information received in the past, which may possibly then be built on in the future. The transformation is representative of students linking old and new knowledge for deeper understanding of a subject.

[8] Semantic data includes words, symbols and abstractions, while episodic data includes locations, events and circumstances (Jensen, 1998).

the museum have the opportunity to build on their explicit memories (prior knowledge about the museum art work(s)). The students may be exploring the same types of semantic data (words, symbols, etc.) when reflecting on a work of art at the museum and transforming or applying that information. The artwork may also provide "sensory anchoring" for recalling earlier semantic data received about the work (Perkins, 1994).[9] And, during later classroom learning the student's memory of the artwork may be stimulated by thinking of the museum because some memories are prompted by remembering a location (episodic memories) and then associating the location with what was seen there (Jensen, 1998).

When taking a school group to the museum, the teacher is placed in a position that allows him/her to draw on a student's prior knowledge in order to facilitate learning from objects in the museum. The teacher may place objects in context before the visit by presenting information that will become semantic knowledge. The tour guide may also introduce new chunks of information or probe the students' prior knowledge, but the classroom teacher should have laid a foundation for the building of explicit memories. Therefore, the museum tour should be one part of a larger body of memories, or it does not foster significant learning that builds on prior knowledge. This process constitutes the "learning spiral" from explicit classroom memories to sensory anchoring of objects in the museum.

1.3.2 A Learning Spiral: Connections in the Classroom

Bruner's (1960) theory of a spiral curriculum was intended for schools to build on a student's previous curricular knowledge, but it can be applied to museum learning. Bruner (1960) believed that if material is translated for a student to his learning level and

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[9] The artwork provides a tangible visual to which the brain can connect ideas or information.

"challenging enough to tempt him to advance" then the student may be introduced to "ideas and styles" that will be revisited throughout his/her education (p. 52). If museum resources such as teacher packets are used in the classroom to lay a foundation of knowledge about objects in the museum, then a museum tour may challenge the student to look deeper at a work of art, furthering the students' acquired knowledge on the work. This learning spiral can set the groundwork for learning with understanding, based on Bruner's (1960) theory about the spiral curriculum, and can foster life-long applications of knowledge about art.

1.3.3 Visual Literacy: Connections to Prior Knowledge and Life Experience

Yenawine (1992) is a contemporary museum educator whose ideas on teaching for visual literacy in the museum are well suited to the development of a spiral from the classroom to the museum. Yenawine's theory of practicing visual literacy allows the student to not only draw on explicit memories from the classroom, but also allows for new connections to their lives. Yenawine (1992) encourages visual literacy as a way for any learner to "define their relationships to art" in a personal manner that allows for each viewer to make connections to their own life and knowledge, and allows data to be seen in relationship to past contexts (p. 297). Yenawine (1992) describes visual literacy as a manner of museum teaching that "focuses on the cultural developmental levels that characterize our audiences and define(s) their relationship to art" (p. 297). This manner of teaching will help the student visitor connect their prior knowledge and life experiences with museum learning, therefore building a personal spiral of knowledge on the same subject.

In Yenawine's (1992) approach, lectures and activities should also be correlated to audience needs, abilities, interests, and intents. These conditions foster learning for understanding through student experience, physical and mental comfort, reflection time, and flexibility. These circumstances also allow for differing docent teaching styles within the same museum, creating "an environment that arouses curiosity and increases openness" (p.295).

1.3.4 Visual Literacy and the Learning Spiral

Both Bruner's (1960) idea of the spiral curriculum and Yenawine's (1992) theories of teaching for visual literacy in the museum set the stage for significant learning for students when used together. Bruner's (1960) concept of building cognitive growth through application of knowledge in new situations illustrates how learning with understanding about museum exhibitions may beneficially occur during a museum visit. If school teachers lay a foundation of knowledge about a museum object then the student may use this 'prior knowledge' (explicit memories from the classroom) while on the museum visit tour. This is especially effective when the docent connects this learning through visual literacy. Yenawine's (1992) ideas for increasing visual literacy while in the museum encourages the idea of drawing on a student's prior knowledge and experiences, allowing connections to be made from life experience to museum objects and new significant learning to occur especially when the docent asks the student to place the object in new contexts or engage in any activity that forces utilization of the classroom learning. This study will reflect on the correlation of these two theories in a practical manner based on research of actual museum visit preparation in the classroom and how it relates to the museum tour. While many studies have focused on learning in

16

the museum, this study will focus on how the teacher structures learning in the classroom as preparation for museum learning.

1.4 Importance of the Study

Understanding how teachers can lay a foundation of knowledge for museum visits, through museum resources, as well as how the museum visit connects to that foundation to build a learning "spiral" is important to the field of museum education for several reasons. First, museum educators are interested in learning about teacher responses to museum resources, as they have attempted in the past to glean this information through surveys and focus groups. The museum surveys completed by teachers may not give as much insight into their actual experience with teacher packets as would an open interview or observation; Jaeger (1997) writes "If you called teachers on the phone or asked them face to face, you might get one answer. But if you asked teachers by mailing them a form to complete, you might get another" (pp. 450-451). Seymour Sarason suggests that "only by actually spending time in the classroom that the complexity of the teacher's job be felt" (Newsom & Silver, 1978, p. 467). However, museum educators cannot be in the classroom with every teacher. Newsome and Silver (1978) wrote, "For museum educators, as for others who do not spend much time in the schoolroom, it is often difficult to imagine what a teacher's professional life is like and what the boundaries of his world and experiences are": I believe this statement to be true today (p. 476). This study provides a broader picture of how teachers are using the museum resources and how a learning spiral may be built from classroom to museum, and this information may be shared with museum educators as they construct future resources. Second, museum educators must rely on school teachers to further student

17

understanding of museum exhibitions as museum educators have a limited time with students on a tour, so this study reveals how teachers bring the museum into their classroom. Third, learning about museum collections through resources to set a foundation for museum learning enhances cognitive growth, a primary goal for most contemporary museum educators. The purpose of this study is to reveal if conditions exist in the school classroom that could promote the learning spiral.

During the course of this research I expected to find that not all school teachers prepare for the museum visit or use resources in the same manner, not all tours on the same collection pieces would relate information in the same manner, and there may not have been any connections made from the pre-visit teacher preparation to the tour. Each teacher who uses the museum generated resources may apply their own paradigm of teaching the information, and these methods may not connect with how the docent teaches about museum collections. However, there are some methods of teaching and touring that are predominant and these may be aligned to create a more meaningful tour. For example, audience-centered practices, as discussed below, in both venues will lend to the student making personal connections to the information thus increasing the probability of understanding more about the object.

Research on this "learning spiral" in the classroom and museum may also yield a new manner of structuring museum learning for students through resources and tours. Observations of the museum-generated resources in use in the classroom (by the teacher) and their relationship to the museum tour (led by a docent/museum educator) may reveal insights on how these learning devices may more thoroughly connect to become more beneficial to student's understanding of works of art. These observations can then be

shared with museum educators to facilitate building a "spiral process" for students who are brought by their teachers to museums. Docent training may change to incorporate more information on education and how to build on a spiral of learning and student apperception. Currently, most museum docents participate in preparation meetings for tours where they learn more about museum collections for tours, but this training does not demonstrate how the collections may be used in conjunction with the teacher packets or prepare them for different types of classroom teachers. Ideally, this research will foster methods that provide conditions toward learning spirals for students structured through teachers and tour guides.

1.5 Scope of the Study

This study was limited to an examination of a sample of teachers who brought their classes to the Casper, Wyoming art museum, the Nicolaysen Art Museum, during the 2003-2004 school year. The research focused on how these teachers used the museum as a component of their curriculum, prepared for museum visits and how the museum tour related to this preparation to theoretically facilitate a learning spiral. Paradigms of museum visit preparation were examined and compared to the museum tours. Finally, the benefits of museum generated materials in the classroom as an aid creating a learning spiral will be discussed.

1.6 Delimitations and Limitations

This study was concerned with classroom preparation for museum visits and the corresponding museum tour, as well as any curricular connections that were made to other planned curriculum during the school year. The research was not focused on one particular method of museum visit preparation, but revealed variations in museum visit

19

preparation. The study did not test student learning from the museum visit or student learning in other curricular areas due to the museum experience. The study was limited to one museum visit, per classroom, in one community to facilitate explicit awareness of each situation toward the spiral.

CHAPTER 2: REVIEW OF THE LITERATURE

Many studies have been undertaken regarding the casual visitor's experience in the museum (Falk & Dierking, 2000; Pekarik, Doering, & Karns, 1999), how the museum field trip experience can be beneficial to students (Falk & Dierking, 1997; Francis, 1997; Fredette, 1982) and how students might learn in the museum during their field trips (Harrison, 1998; Hein, 1998; Jeffers, 1999; Krause, 1998; Talboys, 2000); however, studies that provide an in depth look at how teachers prepare for the museum visit experience to possibly create a foundation that facilitates learning with understanding during the museum tour or how the preparation connects to the teacher's operational curriculum are not evident. This section deals with contemporary art museum education philosophies and practices, recent studies on learning through the museum experience, and museum resources in the classroom.

2.1 Philosophy and Practice of Museum Education

A museum's mission can affect exhibition displays; an art museum may arrange displays on a sliding scale of object-oriented to information-oriented exhibits, and this can then affect audience interpretation and public programming (Dean, 1994). At one end of the sliding scale, object-oriented exhibitions allow the objects to speak for themselves, with limited signage. An object-oriented museum may not provide any public programming for further interpretation of the objects. On the opposite end of the scale, are information-oriented displays that may solely contain educational information for the audience. Objects do not need to be included within the display and emphasis is on the content of information. This type of museum display is audience-centered and tries to provide as much information as possible for public consumption. Most art museum

21

exhibitions lay toward the center of the scale, as both objects and object information are displayed.

When art museums offer public programming, the practices may be further categorized as promoting traditional object-centered learning or the more contemporary practice of audience-centered learning. And, while an art museum may exhibit a primarily object-oriented display, the art museum educator's practices can be based on philosophies that promote audience-centered learning. For example, at the Laguna Gloria Art Museum (Austin, Texas), "the art objects themselves provide the content for the art museum education curriculum" but "the curriculum is audience-centered in that the instructional strategies adopted by the art museum educators are geared toward encouraging individualized learning through participatory activities, such as art-making activities and hands-on exploratory activities, and interactive dialogue between museum audiences and museum teachers (or docents)" (Young, 1995, p. 95).

2.1.1 Setting the Stage for Learning in the Art Museum

While audience-centered or object-centered learning approaches are practiced in museums, there are also philosophies that can impact these approaches to increase the probability of significant learning for visitors. For example, museum literacy is an audience-centered philosophy that deals with enabling the visitor to make personal meaning from museum exhibits by understanding the societal context in which the exhibits were created. As Pierroux (2005) stated, "museum visitors bring with them a rich sense of identity" which "may or may not align with the narratives of curators and educators" (p. 2). Rice (2002) agrees that the museum is a "highly complex institution that participates in the social construction of culture and legitimization of power" (p.

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295). While there are some practices that facilitate this understanding, museum literacy concerns what can happen in the museum, rather then promoting a specific curricular approach.

Museum literacy is a philosophy of museum visitation that deals with the visitors' ability to actively engage with museum exhibits and facilities, enabling visitors to understand the institutions role as a mediator of cultures, both past and present, in contemporary society. This philosophy also encourages learning with understanding when used with audience-centered educational practices. Museum literacy is a phrase coined by Stapp (1992) that goes beyond "competence in reading objects" by understanding the process of how meaning is applied to the object by the museum.[10] Helme (1992) defined museum literacy as the visitor's ability to "engage successfully with the exhibit as a medium" (p.90). Yellis (1992) theorized that museum literacy should also be thought of as part of "hands-off" museum education where the visitor establishes his or her own relationship to objects. Stapp (1992) suggested that this philosophy is only put into practice when the visitor feels empowered and comfortable enough in the museum to draw upon services "purposefully and independently" (p. 112).

The visitor's "entrance narrative" is important to the establishment of actual museum literacy. Doering and Pekarik (1997) used the term "entrance narrative" to describe the visitor's existing worldview, information framework, personal experiences and emotions that support their memories (p. 20). Doering and Pekarik (1997) theorize that visitors will be most satisfied with museum experiences that "confirm and enrich" their "entrance narrative." Jeffrey-Clay (1998) wrote, "Many people repeatedly reject new information because they cannot find a way to mesh it comfortably with their pre-

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[10] Competence in reading objects is also a key features of visual literacy, as discussed below.

existing knowledge" (p. 4). The visitor wants their knowledge confirmed through the museum's exhibits. If this confirmation occurs, the visitor gains a sense of empowerment (Doering and Pekarik, 1997, p. 21). This empowerment and knowledge of the museums role in defining and shaping meaning is necessary to attain museum literacy.

A visitor's museum literacy can affect whether or not they have a satisfying experience in the institution. Doering and Pekarik (1997) wrote, "The primary factor in predicting whether an individual is likely to visit a museum of any kind is level of education," (p.21) however, the emotional response to the museum, such as comfort level and ability to navigate the institution, will determine if the visitor has a satisfying experience. Visitors may have several types of satisfying encounters depending on their purpose for visiting the museum; these include social, cognitive, introspective, or object experiences (Pekarik, Doering & Karns, 1999). If the experience of visiting the museum meets the visitors' needs for a satisfying experience, the visitors will have positive responses that foster repeat visits and participation in museum programs.

Museum literacy can be enhanced, in part, by the layout and signage of the institution. Helme (1992) wrote that achieving a museum environment that fosters museum literacy "requires a dynamic combination":

On the museum side it requires educators with a commitment to the visitor, an eye for design, and a hunger for subject matter knowledge; exhibition designers with artistic brilliance, real knowledge of the topic and concern for learning; and subject matter specialists with an interest in the exhibit medium and an excitement about communicating. (p. 91)

Bourne and Dritsas (1997) suggested exhibit components that reflect accessibility and are multi-sided (the whole family can cluster around an exhibit), multi-user (interactive components for several users), and multi-modal (appeals to different learning styles and levels of knowledge) create a "friendly" learning space for all visitors, enhancing their feeling of comfort and empowerment, leading to heightened museum literacy. Thus, museum literacy enables the visitors' learning through Visual Thinking Strategies or other museum education practices.[11]

Because museum literacy is a philosophy of visitor empowerment within the museum, it may be difficult to obtain through museum tours. The museum may structure exhibits and signage to strive for the most accessible environment, but this is not a guarantee for all visitors. To truly impact learning within the museum, educators employ object-centered or audience-centered practices.

2.1.2 Object-centered Learning Practices

Object-centered learning is a transmissive form of education where the teacher is considered the expert with information to give about an object and the student is the receiver of that information; thus the object is the focus of study. Object-centered learning often involves the assumption that "knowledge is stable because the essential properties of objects are knowable and relatively unchanging" (Jonassen, 1991, p.28). Learning in this manner is linear and a matter of acquiring and accepting information as it is given.

The traditional practices associated with the art history orientation of art museum education can be categorized as object-centered learning as it involves the research and

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[11] Visual Thinking Strategies, defined below, was created by Yenawine and Housen (2002) as a method of examining a work of art through a facilitator asking questions about the work.

dissemination or transmission of information about individual works or a body of of

works of art. Judson (1986) wrote that these older practices in art history involve

"analysis of formal and expressive elements, content, and style; historical and cultural

contexts; and biography, as well as the relationship of all these to one another and to

other works and other artists" (p. 24). Keifer-Boyd (2000) defined the practices in the art

history orientation as fostering "the development of a knowledge base".[12] For decades,

education in art museums was characterized by approaches that emphasized "attribution,

iconography, period and national styles and bibliographic information on artists" as part

of the art history orientation (Zeller, 1989, p. 56). Today, however, art historical practices

are changing to utilize new frameworks for interpreting the work in a personal,

individualized context (Mayer, 2005a).

Traditionally, dissemination of the established knowledge base depended "on

tours in a lecture format" (Young, 1995). However, this approach is considered

problematic today due to research on learning and the formulation of learning theories

that speculate that many learners are not engaged by the lecture and do not retain or place

the lecture information in the context of their prior knowledge; learners may not actively

question or discuss the information (Young, 1995).[13] In addition, Johnson (1979)

theorized that the lecture tour guide's emic (personal) perspective can negatively affect a

tour group because the group is "vulnerable" to aesthetic "assumptions embedded in the

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[12] Lately, the knowledge base has expanded to include more non-western cultures in survey studies and the incorporation of women artists in art historical texts, journals and college curriculums. In addition, art historians are spending more time probing the context of why a work within the knowledge base was created as well as utilizing new frameworks for personal interpretation.

[13] Early museum educators of the late 19th century used the lecture format tour and believed this method to be a manner of refining the unknowledgeable masses with information about master works of art (Zeller, 1989).

knowledge" transmitted by tour guides (Johnson, 1979, p.22). This also has the negative effect of taking the visitor's notion of beauty or value for granted, creating "aesthetic socialization," a phenomenon where the tour guide's aesthetic beliefs are impressed on the visiting group (Johnson, 1979).[14] Another problem is that the "lecture" tour guide may deliver a rehearsed speech that has vocabulary or references that are unfamiliar to the visitor; which can make the visitor feel intimidated or bored during the tour. The traditional lecture tour is changing to one that more actively engages the visitor's prior knowledge so as to allow more personal interpretation of the object, as discussed above; but there are still some docents that adhere to the practice for their audiences, especially for adult audiences.

Adult audiences may be more appropriate for this traditional practice because they are often self-motivated, may be auditory learners, and may already have interest or knowledge in the subject area (Grinder & McCoy, 1985; Fowler 2002). Also, this may be the way adult learners have learned in the past, so they are more comfortable and familiar with this traditional practice. They will also be less likely to assume another's perspective without question. However, some younger audiences may not be suited to the traditional practice of lecture touring because their motivations for touring differ (some are there as part of a class trip and do not care if they learn anything, whereas adults often visit the museum because they want to). These younger audiences are often more suited to learning through interaction because they may become bored and inattentive during the average length of the lecture tour (Grinder & McCoy, 1985).

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[14] This is especially problematic for young children, on school tours, that can be influenced by the tour guide's aesthetic belief (Grinder & McCoy, 1985, p.95). The teachers and students on a school tour can assume these beliefs, often without question (Johnson, 1979, p. 21).

To encourage learning and engage all visitors during the lecture tour, Duckworth (1992) suggests allowing visitors time to discuss each work with other visitors to construct their own knowledge and encourage understanding of the work.[15] The early 20th century psychologist, Vygotsky (1986), believed that learners will socially structure their own learning and this can be accomplished by allowing museum visitors time to discuss a work or interact with it in some manner. Therefore, today's guides will often allow visitor interaction, such as role-playing, questioning activities or game playing, to cater to various learning styles in addition to connecting the information to the visitor's own life to foster learning (Young, 1995).[16] While the museum object is still at the core of the learning experience, most contemporary approaches to art museum learning can be categorized as audience-centered, because the practices actively engage audience members (Mayer, 1999).

2.1.3 Audience-centered Learning Practices

In audience-centered learning, knowledge is constructed by the learner and subjective to the learner's experiences. Curriculum is based on learning opportunities appropriate to the needs and interests of the audience (Young, 1995). This type of learning can be considered transactional because the learner is asked to reflect upon the object and how it relates to them personally, and the audience-based learning practices are often designed to engage various learning styles or draw upon prior knowledge in

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[15] Duckworth bases her suggestions on Piaget's (1962) developmental theories.

[16] As opposed to the traditional lecture tour, the inquiry-discussion tour involves a dialogue between the docent and visitor where the docent asks questions of the visitor to initially stimulate interest and then the visitor probes for further object information (Grinder & McCoy, 1985). The inquiry-discussion method requires a more active audience then the lecture tour. Another type of more audience-centered tour is guided discovery where visitors learn at their own pace, according to their interests (Grinder & McCoy, 1985). The tour is more flexible, and the visitor is stimulated, by the object they view, to seek out additional information.

relation to new knowledge to build understanding. Audience-centered learning can also be applied to art museum education.

In art museum education, several practices based on educational theory are currently being utilized to promote audience-centered learning. These practices often include experience-based activities that draw upon multiple perspectives such as lessons to encourage visual literacy, Visual Thinking Strategies, free-choice touring, constructivism, or comprehensive art education.

Visual literacy, as previously discussed, is a term that has been used during the past several decades to call attention to the ability to "read" or observe and understand objects, and has become a goal for many museum educators (Mayer, 2005b; Rice, 2002; Yenawine, 1992). Originally, this term was used in reference to visual communication media such as video but has been adopted by the art world (Rice, 1992, p. 144). Practices that encourage visual literacy were described by Yenawine (1992) in "Master teaching in an art museum" as a manner of museum teaching that actively connects audiences to the art they view. Rice (1992) believes that achieving visual literacy allows for "knowing what to do when you are confronted with an object" (p. 144). Some museum education practitioners consider visual literacy practices to be "teaching through objects" (Zeller, 1989).

While teaching styles may vary, Yenawine (1992) suggested the following ways to increase visual literacy through museum tours. These audience-centered methods should be utilized in a structured program that includes providing an introduction to each object, discussion of its significance in terms of the art or culture, defining essential vocabulary, directing the viewer's attention to certain areas of the work (subject matter,

formal properties, etc.), analyzing relationships to other works, providing background data, providing suggestions that encourage thought and demonstrating the possible variety of meanings and summarizing the presentation (p. 297). Activities should also be correlated to audience needs, abilities, interests, and intents (Yenawine, 1992). Yenawine (1992) wrote, "most teaching programs should take place in the galleries (of the museum)" (p. 296) to enable the audience member to have a personal encounter with the work of art. An example of an art museum curriculum that encouraged visual literacy was the Peers on Contemporary Art program at the Institute of Contemporary Art in Philadelphia. The program was established as an interactive, peer-facilitated manner of learning about museum collection pieces for the teenage learner (Witmer & Borst, 1999).

Teaching for visual literacy should also involve an "intimate knowledge and appreciation of the subject, an ability to communicate, passion, and commitment," and be structured so information is comprehensible and retainable by the learner (Yenawine, 1992, p.295). Information should be presented so that it is understood in relation to previous information to create an environment that stimulates curiosity and a comfortable learning environment (Yenawine, 1992). Therefore, teaching for visual literacy requires not only an understanding of educational practices but also some knowledge of the discipline of art history. As Rice (2002) stated, "museum educators have a responsibility to teach both through art and about art" (p. 302). The approach to gain visual literacy as outlined by Yenawine (1992) is similar to the traditional art historical approach to learning through a lecture tour because information about the object is given to the viewer, but different because this approach emphasizes creating a personal relationship to the object.

The visual literacy approach may be problematic for school teachers who act as tour guides at the museum because generally they are not familiar with the currently accepted knowledge base in art history. This approach can also be an issue for younger tour guides, such as high school or college students who volunteer at museums but do not have the art historical knowledge to provide enough background information on individual works. These younger guides may also struggle with structuring information for various learning levels. Other audience-centered approaches to art museum education, such as Visual Thinking Strategies, not only engage the audience member in a personal manner, but allow the engagement to be facilitated by someone without an extensive art historical knowledge base.

Visual Thinking Strategies or VTS is a recent program that was developed by Yenawine and Housen (2002) for use by general education teacher in grades K-6.[17] Visual Thinking Strategies are used to assist beginning viewers in discussing works using a "rich range of thinking skills" (Yenawine & Housen, 2002). As Yenawine (2002) stated,

Now I often seek to grasp what people already know, that I can help them use to begin to decode unfamiliar work. I switch the focus from what objects say to what viewers think. Needless to say, my practice has changed. (p. 260)

While "Master teaching" (Yenawine, 1992) can be applied to all audiences, Visual Thinking Strategies were developed for viewers who are at the beginning stages of Housen's (1980) stages of aesthetic development and who, as Yenawine (1999) believes, may not be ready for abstract concepts of art which may be "beyond what Vygotsky

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[17] Yenawine (2002) especially wanted to foster viewers "observational skills, ability to probe, ability to find a variety of possible meanings, (and) openness to the unfamiliar" (p. 289).

(1978) called the learner's 'zone of proximal development'" (Pierroux, 2005, p.3). The teacher does not need any prior art background but does undergo special peer-training courses to better enable teaching about art through Visual Thinking Strategies. Currently, some art museum educators are also utilizing the teaching strategies promoted through Visual Thinking Strategies (Mayer, 2005a). The practice involves a careful study of a work of art, which, according to Perkins (1994) leads to "cultivating a thinking disposition" building cognitive skills (p. 4).

During a Visual Thinking Strategy session in the classroom, students are asked to look at a work of art while the teacher asks three open-ended questions to provoke further thinking about the work and facilitate discussion. These questions include, (1) "What is going on in this picture?", (2) "What do you see that makes you say that?", and (3) "What else can you find?" (Burchenal, 1998, p. 14). Yenawine and Housen (2002) theorize that all the students will construct shared, yet varied personal meanings about each piece through answering these questions. This approach, then, is similar to constructivist learning goals, as discussed below.

Yenawine (2002) theorized that Visual Thinking Strategies encourages personal connections with the work of art, confidence in one's ability to construct meaning, active learning and group problem solving, development of thinking and communication skills, transference of skills, and the motivation and curiosity to acquire additional information. Burchenal (1998) wrote that Visual Thinking Strategies involves a paradigm shift where instead of "teaching about works of art" teachers develop skills to "teach from works of art" (p. 15). Ideas about the works of art come from the students, instead of the teacher, thereby increasing personal connections to the works and communication skills.

The Visual Thinking Strategies program is based on the model of aesthetic development theorized by Housen (1983).[18] The aesthetic development model is a hierarchy of five stages. [19] Viewers are categorized into stages, independent of age level. The first stage is an "accountive narrative" of a work of art, similar to storytelling. The second stage is "constructive" where viewers create a distanced framework for looking at the work through their perceptions of the world. Viewers in the third stage are more "critical and analytical." The work, in the third stage, is categorized through facts and meaning. The fourth stage is more "interpretive" and viewers apply meaning to symbols and subjects. The final stage, stage five, combines "personal contemplation" with "universal concerns." A goal of Visual Thinking Strategy lessons is to help viewers move through these stages increasing their aesthetic development.

Several discrepancies exist between Yenawine's theories on attaining visual literacy in the art museum (1988) and in the classroom through Visual Thinking Strategies (2002) due to his interest in Housen's (1980) research on the stages of aesthetic development. First, Visual Thinking Strategies facilitators do not need to have any background in art, but master teaching for visual literacy involves specialists to provide in depth information on artworks (Yenawine, 1992). Yenawine (2002) suggests that Visual Thinking Strategies questions are more suited to narrative, rather than abstract works. Therefore, teachers must be selective in choosing works for students to examine, whereas "Master teaching" methods can be applied to the study of any work. Visual

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[18] Housen (1980) categorized the stages of aesthetic judgment as "types" in an earlier writing. Type I was called the egotistic realist, type II was described as having a more utilitarian frame of reference, type III dealt with categorical placement and formal articulation of the object, type IV responded to the symbolic qualities of the work and type V viewed the art object as significant in its own right (p. 17-18).

[19] Yenawine also used Housen's system of Aesthetic Development Scoring in a visual literacy project between the Museum of Modern Art and the New York Public School system attaching fourteen domains to responses in open-ended interviews of participants (Alper, 1996, p. 65).

Thinking Strategies may help beginning viewers start their visual literacy, but is not as inclusive of the canon of art historical information in the way that Yenawine (1992) suggested in "Master teaching" for visual literacy. As Pierroux (2005) states, Visual Thinking Strategies allows for "personal discovery" that is "unimpeded by contextual information" (p. 2). Thus, there is an evident paradigm shift in teaching between these two areas. "Master teaching" involves negotiating meaning from the currently accepted knowledge base about the object, while Visual Thinking Strategies asks the viewer to make meaning about the object, outside of the knowledge base.

While there has been some success with the VTS program, some problematic issues have been raised. First, because classroom teachers have little knowledge of art history, this system does not provide students a context of art historical knowledge. Hornung (1987) agrees that only an "experienced, flexible guide with a competent store of knowledge" (p.2) will truly be able to structure learning to include both factual information concerning the work and probe individual response to the work in a manner that is of true educational value to beginning students of art. Rice (2002) stated that the museum educator should share their "informed perspective on art" with viewers to help "validate the viewers' response(s) and encourage them to analyze further, which necessitates some object information (such as object manufacture, artist biographical information, or social context) but she agrees that Visual Thinking Strategies "are quite effective in helping people to develop their meaning making skills" (p.290). The Visual Thinking Strategies system may work for some school districts that do not have art teachers to assist teachers in preparation for school field trips to art museums, but it is not suitable for learning that involves building on prior art historical knowledge because the

classroom facilitators have no understanding of the currently accepted knowledge base of art history.

As mentioned, some schools and museums do utilize the VTS program to meet their program goals. Burchenal (1998), the former head of school programs at the Museum of Fine Arts in Boston, implemented the VTS program in 1996 with a pilot group of self-selected fifth grade classroom teachers to enable teachers to lead their classes on tours or in discussions of art. After Visual Thinking Strategies was implemented the teachers learned to act as facilitators of student discussions regarding works of art and felt more comfortable in the museum. Teachers were successful in keeping the class focused and drawing attention to certain properties in the work as well as linking "points of agreement and disagreement" from class discussions (Burchenal, 1998).

Another contemporary audience-centered practice in museum education is free-choice learning. Falk and Dierking (2000) are at the forefront of the free-choice movement in museum education and defined free-choice learning as personally motivated and non-linear. In free-choice learning situations, learners are free to learn what they want, when they want. This has also been called "informal" learning (Falk & Dierking, 2000). According to Falk and Dierking's (2000) definition of free-choice, most museums are already set-up to allow for this type of learning. Visitors are self-motivated to come to the museum and will explore the galleries that most appeal to them. Learners can select the type and difficulty of the learning challenge they want in a free-choice learning environment (Falk and Dierking, 2000, p. 25).[20]

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[20] For example, a visitor may choose to read all the signage in the exhibit or a selection.

Falk and Dierking (2000) propose three contexts in which to consider and understand free-choice learning in the museum for the individual visitor. The first context is the personal, which deals with the visitor's motivation and expectations, prior knowledge, interest and beliefs as well as a feeling of control. The second is the sociocultural which connects the individual with societal mediation. The third is the physical, which is influenced by design, orientation, and experiences outside the museum that reinforce the museum experience (Falk & Dierking, 2000, p. 148). While we cannot know what visitors take away from museum learning, we can understand that these three contexts are part of their learning (Paris, 1998, p. 22).

Paris (1998) explored the role of learner motivation in informal learning environments, such as museums, as it relates to meaningful learning. He wrote, "People are motivated to learn more about topics that have personal relevance and utility"; this motivation is key in the free-choice philosophy because the participant is not limited, but self-motivated in learning (p. 22). Personal motivation may not vary in inherent amount, but in likelihood of expression in situations (Paris, 1998). Therefore, motivation is situated and based on several processes including choice, control, collaboration, and constructed meaning. Learners may not need to have motivation to come to a museum and explore exhibits, but motivation may play a role in the degree of visitor learning (Paris, 1998).

Paris (1998) theorizes that open-ended exhibits that give museum visitors "opportunities to choose what they learn and how they demonstrate their mastery" are best suited to the free-choice learning paradigm (p. 23). Some museum exhibits also allow visitors to choose at what level they wish to learn through layering of information

in exhibits. Paris (1998) also believes that most museum exhibits are arranged as open-ended and visitors are free to approach the exhibits they are interested in, at their own pace. This may be true at science or history museums, however, many art museum curators may disagree; art museum exhibits are carefully planned and works are selected that meet the themes and sub-themes of the overall storyline. Therefore, free-choice touring and learning may not really focus visitors on the intention of the exhibit or the most important themes.

Constructivism, another contemporary learning/teaching practice, has recently been applied to teaching in museums, yet varied constructivist programs have been part of general education and art classrooms for years.[21] This theory allows learners to explore new information in relationship to their own interests and pre-existing knowledge. Piaget is considered the father of constructivism and his research examined prior knowledge as a source for connections with new knowledge to promote learner understanding (Jeffrey-Clay, 1998, p. 3). Piaget theorized that individuals internalize their experiences into a pre-existing framework called prior knowledge (Jeffrey-Clay, 1998). Constructivist teachers do not see the learner as an "empty vessel" but a person with prior knowledge, emotions, and abilities. The more connections made to prior knowledge, the more the learner will retain (Jeffrey-Clay, 1998). In contrast, rote learning does not promote these connections.

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[21] Constructivism has been used in public school classrooms and Head Start programs. For example, constructivism was used by the "Kaleidoscope Early Childhood Program" to allow low-income family children an opportunity to be immersed in learning about the arts in Germantown, Pennsylvania. A multi-arts based curriculum was implemented to allow children choices such as music or studio arts. The program director, Armisteed (1996) wrote, "Teaching and learning involve deepening knowledge propelled by interest," which speaks of the basis of constructivism.

There are differing views of how prior knowledge is held within the individual, even within the realm of constructivism. For example, some constructivist practitioners place value on the individual's knowledge, as "opposed to societal knowledge", others believe that all knowledge "exists in the mind of the learner", "and some believe in one objective reality" by which the individual judges information (Jeffrey-Clay, 1998, p.3). In spite of these differences, most constructivists agree, "we construct our own knowledge representations" based on prior knowledge (Jeffrey-Clay, 1998, p. 3).

Simply viewing art in a museum does not guarantee the construction of new knowledge for student visitors. Museum educators must link the art to the learner's classroom or prior personal knowledge and experience. With these links, learning a new framework is established as a basis for further new knowledge and exploration (Jeffrey-Clay, 1998). Some educators, such as Hein (1998), have proposed ways to establish these links through constructivist practices in the museum.

Hein (1998) describes the constructivist museum as providing "connections to the familiar" to facilitate learning.[22] As Doering and Pekarik (1997) wrote, "Museum visitors are not blank slates on which we write" (p. 20) and that connections should be made to their prior knowledge. Hein theorizes that the visitor's prior knowledge is made from many "truths"; each individual will have a different emic perspective on the same occurrence that creates individual bodies of knowledge. In constructivist learning strategies, there is a problem to be solved that the "student" resolves through their prior knowledge or experiences with facilitation from a "teacher". The constructivist learner is actively engaged in learning new material or completing a project. Similarly, a

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[22] Hein (1998) was greatly influenced by aspects of John Dewey's (1938) philosophy of learning through experiences as a way to approach constructivist learning in the museum.

constructivist museum should allow the learner to actively construct new knowledge

through connections to the familiar (prior knowledge) toward a specific learning

objective.[23]

There are several components to Hein's (1998) ideal constructivist museum.

Hein (1998) describes the constructivist museum as providing comfort (physical and

mental safety) and orientation. The constructivist museum should have exhibits that

appeal to different types of learners (referring to Gardner's theory of multiple

intelligences) with layered text (information provided in a variety of manners/levels).

These museum exhibits should also draw on a visitor's prior knowledge, by asking

questions of the visitor that stimulate recall.

The Empire State Partnership between Lewiston-Porter Central School District

and the Castellani Art Museum is an example of constructivism applied to museum

learning (Olsen, Panetski, & Polka, 2000). The partnership was initiated to support

cooperation between education and cultural institutions in New York State (Olsen,

Panetski, & Polka, 2000). The program leaders hoped to increase student and teacher

access and use of cultural resources as well as "spur the permanent integration" of the

arts in New York classrooms (Olsen, Panetski, & Polka, 2000). Teachers and museum

personnel participated in a summer seminar and meetings throughout the school year to

establish a relationship that included principles of constructivist learning that they felt

were also consistent with contemporary museum educational orientations as described by

Hein (Olsen, Panetski, & Polka, 2000, p. 196). The teachers and museum personnel used

constructivism as a way to "encourage students to use their experiences to actively

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[23] Some educators debate whether this is actually possible, as discussed below. However, some museums have had relationships with public schools in projects that do utilize specific elements of Hein's (1998) constructivist museum.

39

construct understandings that made sense to them rather than understandings delivered to them in an already-organized form" (Olsen, Panetski, & Polka, 2000, p. 196). One of these student projects involved curating a museum exhibition. This partnership was successful in enriching school curriculum; students completed fruitful constructivist learning projects in several disciplines.

Although constructivist theories have been applied successfully in school classrooms, some educational theorists question whether constructivism can work in the museum environment. For example, Osborne (1998) wrote, "experience, of itself, is a necessary but insufficient condition for learning" (p. 8). The visitor must be drawn to features of the museum exhibit and be provided with new information that fits his/her pre-existing framework of knowledge. Osborne (1998) theorizes that an isolated museum experience is not a wholly sufficient condition for learning, even if the museum is set up for constructivist learning. For him, education in a formal setting such as a classroom is better because it offers "a potentially structured experience to a relatively homogenous group with well-defined aims and objectives" (Osborne, 1998, p. 8). Experiences offered by museums are "essentially uncontrolled, presented to a heterogeneous audience and with aims that often lack clarity" (Osborne, 1998, p. 8). Osborne (1998) recommends that communication, rather than constructivism, may be the way to connect with visitors for meaningful learning in the museum since museum visitors arrive with such a vast array of knowledge (Osborne, 1998, p. 9).

Rice (1998) agreed that museums may not foster an environment conducive to constructivism because they are "artificial settings that intentionally impose an ordered framework on the natural disorder of things in the real world" (p. 10). Most museums

project a socially agreed upon meaning for objects that will not fit every visitor's worldview. The narratives presented in exhibits are "consensual" and this may hinder visitors from developing their own objective narrative as part of constructivist learning (Rice, 1998).

Another contemporary art education practice that is connected to the museum called comprehensive art education was developed in the latter part of the 20th century with support from the Getty Center for Education in the Arts. The practices in this orientation are related to four discipline areas; art history, studio art, aesthetics and art criticism. The Getty Center for Education in the Arts has been concerned with the role of comprehensive art education in museums as well as the classroom (Day, 1995). The center's publications include practical information on incorporating the various topics into the classroom and including lessons plans, an extensive resource list, and videos. The Getty produced video "School-museum collaboration" (1995) depicts examples of teaching methods in the museum for both permanent museum collections and temporary contemporary exhibits; the corresponding guide offers lessons plans with resources and a bibliography. This approach to art education is promoted as being adaptable to various teaching styles and subject matter within the visual arts. While there has been some criticism of this practice, comprehensive art education does correlate classroom and museum learning with some audience centered approaches (Delacruz & Dunn, 1995; Hurwitz & Day, 2001).

Williams (1997) found that comprehensive art has had a significant impact on museum educational programming, especially among Getty affiliated museums. Through the spread of comprehensive art education in areas hosting a Getty Regional Institute,

41

Williams (1997) found museum-school partnerships increased, art education became a foundation for learning in art museum education programs, and museum educators were "more involved with the development of sequential educational materials for ongoing programs"(p.87), especially with museum affiliated with the regional institutes.

This research is concerned with not only the various ways that teachers prepare for the museum visit, but also the relationship of teaching practices between the teacher and the museum tour guide when discussing art museum objects. It may be found that some teachers do utilize questions to stimulate student thought about an artwork, similar to those in the Visual Thinking Strategies program, and that museum docents build on this foundation by questioning that information during an inquiry-discussion tour that complements and strengthens the student's relationship to the work. However, some methods may be incompatible. For example, some teachers may be using a constructivist approach to learning about art in their classroom while the docent only offers a transmissive, lecture tour where the learner is passive leading students to completely "tune out" the museum tour.

Hornung (1987) wrote that one of the weakest areas of museum education is preparing the viewer to experience objects. The proposed research seeks to uncover what methods of teaching are being used in the classroom and how they correspond to tours to understand how a "spiral" may be built from the classroom to the museum. Certain methods may work together to prepare students for what they will encounter on a museum field trip and may be promoted as a way to link student experiences in a manner that is conducive to meaningful learning through a "spiral" connected with prior knowledge.

2.2 Research Concerning Learning During the Museum Field Trip

Meaningful learning should involve curiosity and cognitive growth resulting in "interesting consequences for the learner" (Chase, 1975 quoted in Mayer, 1978, p. 18). Museums have been called the "perfect tool for supplementing class work with artifacts, works of art, fossils, historical relics, and collections of almost every kind," and are ideally suited to meaningful learning because they show the "real thing" (Milson, 1990, p. 521). Several studies have been conducted to determine whether or not meaningful learning occurs on art museum field trips (Harrison, 1998; Jeffers, 1999; Schlein, Ray, Soderman-Olson & McMahon, 1987) and the possibility for aesthetic growth through participation in museum programs (Stokrocki, 1984; Weisberg, 1978), or teachers' perceptions of the effectiveness of the field trip (Almas & Meszaros, 1997).

Jeffers (1999) theorized that the typical 20th century museum field trip did not foster a positive attitude toward museums as a place of learning since "neither children nor adults are likely to envision themselves having vital, interactive roles with art museum settings" because most have had a "walk and gawk" tour (p. 45). She speculated that the concept of constructivism, applied to the museum learning environment, would facilitate a "significant connection" between students and the artwork in the museum environment creating an interactive link (Jeffers, 1999).

Jeffers, along with her university students, designed a study to test her theories on constructivist learning in a museum environment to understand if these methods would foster a "significant connection" by using children as tour guides. The research methodology included the involvement of ten different museums and galleries (Jeffers,

1999). The project paired one child with one adult for visits in those venues. [24] Before

each tour, the children walked through each institution and selected works to show the

adults. While on the tour, the children constructed information about each art work for

the adults, and became active participants in discussing works of art.[25] Pre- and in-

service elementary education majors from Jeffer's university class collected the

observations.[26]

The researchers found that the children were excited about leading adults on tours

and became active participants in exploring the art (Jeffers, 1999). The children

constructed meanings for the artworks and often picked out details unnoticed by adults. It

was observed that the children's stories were framed by "personal experience and family

life, religious training and school curricula" (Jeffers, 1999, p. 49). Some children

attached identity to subjects in the works related to school lessons. For example, one

child labeled the female figure in *The Chestnut Harvesters* by Lacombe an "Indian

maiden" after a recent school discussion on the "autumn harvest" and "Pilgrims" (Jeffers,

1999, p. 49).

Harrison (1988) examined fourth grade school visits to the Tel Aviv Museum to

determine "whether increased exposure to the museum enhances" (p. 44) pupil's artistic

perceptions and/or increased preferences for certain art styles (Abstract art, etc.)

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[24] Seventeen pre- and in-service teachers selected nineteen children as tour guides (Jeffers, 1999). The
young tour guides, aged five to seventeen years, were not part of a specific school class but selected
through personal connections. The students were of mixed ethnicity and gender and most all held the socio-
economic level of lower to middle class (Jeffers, 1999).

[25] Most of the children had never been to an art museum, but had other types of museum experiences. The
adults had little museum experience. The children were familiar with museum rules (no touching, etc.) and
defined the concept of "tour guide" previous to the tour.

[26] The university students acted as learners, action-researchers, and participant observers.

(Harrison, 1998). The researcher hypothesized that children who attended the visitation programs would (1) "be more able to describe and analyze modern art," (2) "have more developed cognitive perceptions of modern art," (3) "have more positive affective responses to modern art," and that (4) "responses would be influenced by educational background and gender" (Harrison, 1988, p. 46). The methodology involved a quasi-experimental design. Harrison (1998) planned four museum visits for each pupil.[27] Previous knowledge about art was measured in the school classroom with a post-visit test.[28] The students then spent one hour thirty minutes on a thematically focused tour (color, line, or balance as themes) using the Tel Aviv museum collection of modern art (Harrison, 1988).

Harrison (1988) found that repeated exposure to the museum did not affect student preferences or perceptions, but children of different ethnic backgrounds did "respond differently to museum programs" (p. 44). It was also found that gender also affected response. For example, after four visits to the museum, male students "referred less to the composition and more to the meaning" (Harrison, 1988, p.50). Repeated exposure to the art seemed to confuse the fourth graders as their cognitive perceptions were less clear after the fourth visit (Harrison, 1988). The students also expressed "less liking and interest" after four visits (Harrison, 1988, p.50). Harrison (1988) hypothesized that increased visitation did not increase perceptions/preferences in this age group because of their preference for realistic art over abstract (modern) art and the propensity

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[27] Student participants were selected from random classes. Students from nine classes were in an experimental group and students from four classes were in a control group.

[28] Harrison compared two different level treatment groups to test the first three hypotheses and a repeated measure study of a sub-sample to test the fourth.

of this age group to discuss theme instead of compositional elements in a work of art (Harrison, 1988, p. 51).

A variable that Harrison (1998) did not explore was the effect of pre- and post-visit activities in the classroom. While the students repeatedly visited the museum, their teacher may not have been laying a foundation for observations during each trip, and the trips became isolated incidents. My study examines the connection of pre- and post-visit activities to ascertain if there is a connection between classroom and museum learning. In Harrison's (1998) research, more cooperation between the school teachers and the museum educators in building a foundation of knowledge may have been necessary for significant changes in artistic preferences by these pupils.[29]

Some museum literature and research is concerned with touring methods and the affects on student learning (Johnson, 1979; Perez, 1989; Stone, 1997). These authors assume that the type of tour given at a museum will affect student learning and perceptions of the museum. Stone (1997) compared the effectiveness of inquiry-discussion and lecture art museum tours to determine which is better suited to college student audiences. Stone's (1997) study did not find conclusive evidence that one tour type is better suited to college audiences. The inquiry-discussion method is an alternative touring method, possibly more suitable for varied learning styles, that allows visitors to respond to questions posed by the tour guide while providing some basic facts to meet the tour groups' needs. This approach has been used most often for younger audiences such as school groups to increase active participation on the tour. Grinder and McCoy (1985) theorized that the "participatory nature of this method may promote learning through

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[29] Harrison (1988) wrote that school-museum curriculum cooperation "was clearly lacking in the Tel Aviv Museum program" (p. 51).

questioning in ways that lecture formats cannot" (cited in Stone, 1997, p. 143). Stone (1997) wrote, "Questions (during the inquiry-discussion tour) may function as powerful cues for focusing an individual's attention on critical characteristics" (p. 143).

Some cognitive and aesthetic growth occurs in museum programs after the school year has ended. Stokrocki (1984) conducted a study focused on the aesthetic experiences of pre-schoolers in a summer museum class to promote aesthetic awareness at this grade level. In this study, sensory perception was encouraged by multi-sensory experiences, such as manipulation of materials like paper or play-dough, followed by gallery visitation where students could look for objects similar to the ones they created (Stokrocki, 1984). Stokrocki (1984) theorized that sensory perception may better allow children of this age to engage in art appreciation since their verbal vocabulary for expression is limited (Stokrocki, 1984).

The methodology involved participant observation. Participant observation has two purposes, (1) "to engage in activities appropriate to the situation" and (2) "to observe the activities, people, and physical aspects of the situation" (Spradley, 1980, p.5). Stokrocki's (1984) methods of collecting data included observations, photographs, students' casual comments, and parental interviews. The museum class was designed to "introduce children to the museum's collections and develop their perceptual awareness" (p. 13). Stokrocki (1984) defined perception as "the process of experiencing, identifying, discriminating, and transforming sensory data" (p. 13).

Stokrocki (1984) found that students increased their aesthetic awareness in the galleries by identifying objects, formal analysis, casual questioning, imaginative and personal associations, and imitation of expressive qualities after completing the multi-

sensory program. The children responded to artworks based on their "own interests and experiences" and focused responses on singular features and "occasionally on the theme of an artwork as a whole" (Stokrocki, 1984, p. 16). It was also found that the other stakeholders, including parents, the instructor, and the researcher also expanded their aesthetic base (Stokrocki, 1984). While some study the use of the museum as a resource to enhance learning (Harrison, 1998; Jeffers, 1999; Schlein, Ray, Soderman-Olson & McMahon, 1987), others study the use of museum generated resources.

2.3 Research on Utilizing Museum Resources

The National Center for Art Museum/School Collaborations has conducted research with several focus groups in museums and schools to establish what teachers want from a museum educational resource (Berry, 1998). This study found that school groups wanted museums to be "familiar with school curricula and provide instruction for children that simultaneously facilitates the learning process and validates their art instruction at school" (Berry, 1998, p. 10). The study also found that school teachers want the type of information found in teaching packets such as "visual aids, posters, or preparatory packets" (Berry, 1998, p. 11). I believe these preparatory materials to be critical in setting the stage for museum learning, thus my study will include observations of these materials in use.

Several researchers have studied the use of museum resources in the classroom in recent years (Callahan, 1999; West, 1998; Watts, 1999; Krause, 1998). For example, West (1998) utilized the Orlando Museum of Art's web based educational resource *Imperial Tombs of China* for her research on museum resources in the classroom. West (1998) found that students' interest in visiting the museum increases after viewing the

pieces on the Web. The Web viewing experience also provided a base of knowledge to build upon when actually visiting the museum (West, 1998). Krause (1998) also explored the Web as a museum resource in a dissertation study. He found that the Web "offers possibilities for the teaching of art history and art education… and is beneficial for providing self-paced access to vast amounts of information" (Krause, 1998, 149).

Callahan's (1999) research also explored museum resources in the school classroom. This study was designed to test the effectiveness of object-oriented preparation versus exclusively verbal preparation for history museum field trips. Callahan's (1999) theoretical framework for this research was based on similar studies conducted for science museum visits that "provided a reasonable expectation that the use of an advance organizer (such as object-oriented preparation) will benefit the field trip participant" (Stoneberg, 1981, et. al.). The test results suggested a "non-significant relationship between the two preparatory methods" (Callahan, 1999, p. 59).[30] Callahan's (1999) study was designed only to test students' short-term memory of the event. In contrast, my study reveals the connection between various types of museum visit preparation and the actual museum visit to reveal if the visit builds or questions pre-visit semantic memories thus creating a "spiral" from the classroom to the museum.

2.4 Museum Usage

2.4.1 Relationships Between Educators

The majority of writings on school sponsored field trips to museums is relatively recent and often focuses on how school teachers can best utilize the institution and benefit students by collaborating with museum educators, yet research on the relationship between school teachers and museum educators has shown this relationship to be tense

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[30] Callahan (1999) used an ANCOVA to calculate significance.

49

(Alexander, 1980; Brodie & Wiebe, 1999; Hayes, 1967; Jones, 1977; Stone, 1993).

Some early research found that many problems encountered during museum field trips stemmed from this tension caused by limited communication between museum and school educators as well as exhibits that were not geared toward school audiences, or even the school educators who had limited art backgrounds. (Hayes, 1967; Alexander, 1980). In 1967, a study was conducted at Harvard University to determine how public school groups use museums and to determine how to improve this usage (Hayes, 1967). The researchers conducted interviews with both museum staff and school personnel and found that the museum educators viewed field trips as "an obligation to be endured" (Hayes, 1967, p.1). This research also revealed that few museum exhibits were designed for school audiences and the school teachers did not have the knowledge base to interpret the exhibits for students, which created frustration for the teachers (Hayes, 1967). Today, while there are many exhibits designed with a school audience in mind, a "frustration" still exists for some teachers when they visit the museum.

2.4.2 School Educators' Perspective

The school teacher plays an especially important role during museum field trips and his or her own perceptions of the experience affect the quality of students' visits. Ott (1980) called the teacher a "catalyst between the art work and the perceptions and understandings of the individual" (p.8). However, many school teachers are uncomfortable in the museum and this may hinder the students' experience; studies throughout the last several decades of the 20th century proved that this discomfort still exists (Jones, 1977, Brodie & Wiebe, 1999).

Several decades ago, Jones (1977) conducted a study of school field trip to uncover reasons for teacher discomfort. The methodology for this study included sending questionnaires to museum education directors and conducting interviews with ten education directors, ten teachers and ten docents. Jones (1977) also conducted a content analysis of docent-training manuals and museum generated teacher materials. These sources revealed that although many museums have school visitation programs and these are well attended, not all teachers felt comfortable in the museum and "stated that they felt threatened, and sometimes hostile toward taking their classes to the art museums, because they were made to feel inferior by the guides and because their decision making jobs were taken from them" (Jones, 1977, p. 37). Teachers also felt that "the guides acted superior because the guides had more detailed information on the art being shown than did the teacher" (Jones, 1977, p. 40).

In Jones's (1977) study, education directors also stated several problems associated with school visits to museums. These problems included transportation, a lack of trained museum staff to provide tours, and a lack of interest from teachers.[31] Jones concluded that there was a lack of understanding on all sides of the school trip process between teachers, docents, and education directors.[32] The lack of evaluation procedures for school programs at the museums probably was also part of the problem (Jones, 1977).

Unfortunately, Alexander (1980) also found that teachers did not have a strong desire to work with museums and did not think of museum educators as professionals that

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[31] Museum education directors felt they did not have enough staff to properly accommodate tours at all times (Jones, 1977).

[32] However, a majority of education directors in this study (84.38%) acknowledged the importance of the classroom teacher to the field trip.

share the "same interests and concerns" as they did (p.55). In her study, Alexander (1980) surveyed high school teachers' attitudes towards museums as educational institutions and tried to determine why high school students are the least represented visitor population of school groups.[33] She found that the high school teachers were not aware of the value of a museum visit as a learning experience and suggested that more research that proves the value of museum visits is needed to convince teachers of the educational value of the museum trip.

Since the time of Alexander's (1980) study, many articles have been published that offer methods to promote successful school teacher and museum educator collaborations (du Toit, 1999; English & Lipton-Doidge, 1997; Francis, 1997; Friedmutter, 1982; Harway, 1982; Hicks, 1986; Milson, 1990; et. al.). For example, Francis (1997) suggested several manners of relating the museum experience to school learning such as 1) "ensuring solid connections to the curriculum," 2) "establishing connections to multiple content areas," 3) "including informal educators in planning process," 4) "ensuring student activities are developmentally appropriate," 5) " bringing museum educators to your school," and 6) "requiring a meaningful follow-up activity" (p. 44-46). In 1984, Williams wrote that school/museum partnerships in the past decade have changed, and "museums have assumed a more central role in curriculum planning, developing educational materials, and providing services to schools" (p. 83). Yet, in 1986, Eisner and Dobbs reported "the teacher who works collaboratively with the museum educator to develop programs and to maximize educational payoff for students is the exception rather than the rule" (p. 64). These writings marked the beginning of a

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[33] A questionnaire using a five point Likert-scale for twenty-five questions was mailed to 250 teachers in two Massachusetts counties. Eighty teachers who taught history and social studies responded. The data was analyzed using Chi-square, t-tests and factor analysis.

paradigm shift in the collaborative relationship between school teachers and museum educators.

Almost ten years later, Stone (1993) examined how art specialists at the secondary level utilized the art museum and found a more positive relationship between school teachers and museum educators. The focus of Stone's (1993) study was the extent of museum usage, the benefits and problems encountered, school teacher comfort level, the teachers' level of educational preparation, and the general relationship between museums and the school districts. The research methodology included a national survey with both close and open-ended items (Stone, 1993).[34] Stone (1993) found that secondary art specialists who believed that the art museum was an important resource had requested a service or tour in the last year (p. 49). These teachers felt that the "object" experience was the most important benefit of the museum and believed that viewing objects strengthened classroom discussions and studio projects.[35] However, a very small percentage of teachers collaborated in the preparation of programs or museum generated curricular materials.

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[34] The instrument included both open and closed-ended items questions such as "what comprises your instruction before the art museum visit?" and "have you requested services/tours from an art museum in the last year?" (Stone, 1993, p. 48-49). Five hundred ninety-one questionnaires out of nine hundred fifty were returned to the researcher. Answers to closed-ended questions were computed for frequencies and open-ended questions were analyzed for patterns in responses and coded; then the data was statistically analyzed using Chi-Square (Stone, 1993).

[35] Stone (1993) also found secondary art specialists most frequently use museum resources for art history lessons and studio project motivations on self-guided tours. Post-visit activities most often included studio projects or art criticism activities. The teacher's comfort in discussing artworks varied according to discussion approach (artistic style, historical context, etc.). Only about one half of respondents felt that their college education prepared them to use the museum. Stone (1993) notes that even adequate educational preparation for using the museum may not include the kind of experiences needed for teaching in the museum and integration of museum resources into the classroom (p.53). Most teachers in Stone's (1993) study were not involved in any activities at the art museum (63%) and only 5% said they evaluate museum teacher materials or volunteer at the museum.

Kelman (1995) also examined teachers' use of field trips for student learning in an art gallery and found a strong partnership between teachers and the art gallery educators. Kelman's (1995) methodology involved a case study investigation of ten schools.[36] The scope of the research included examining the effectiveness of the art gallery's marketing to the schools, the collaboration between institutions, the manner that the field trips were organized and the quality of learning taking place (Kelman, 1995). Kelman (1995) found a "high degree of success both in the quality of the learning experience" (p. 211) and a solid relationship between the art gallery and local schools.

2.4.3 Museum Educators' Perspective

Recent research also has been undertaken that explores how museum educators relate to visiting teachers (Brodie & Wiebe, 1999; Liu, 2000). Despite some progress, there is still some tension between museum educators and school teachers during field trips. Brodie and Wiebe's (1999) research titled "Yellow Busloads from Hell" explored the attitudes of stakeholders on museum field trips and found that they still echoed the feelings prominent among some museum educators 30 years previous. Brodie and Wiebe (1999) found that all stakeholders had different attitudes concerning the tour. The museum educators expressed negative opinions regarding the children's behavior and the amount and quality of the preparation the teacher had made for the students' visit. They felt that school teachers viewed the museum only as a day away from school instead of a valuable educational resource.

In a recent survey, Liu (2000) found museum educators in British Columbia wanted to collaborate with teachers, yet few felt the need to involve teachers in their curriculum planning process. The museum educators saw themselves as givers, while the

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[36] Kelman (1995) utilized a "responsive model" as part of his methodology.

54

teachers were passive receivers (p. 75). Liu concluded that "while teacher input was considered valuable, it was not deemed necessary" (p. 77).

Despite communication issues, many students benefit from museum educator and school teacher collaborations. Some contemporary literature deals with generating a successful museum field trip that promotes meaningful learning.

2.4.4 The Museum as a Classroom Resource

There have been many recent publications for teachers that advise on how to generate a successful museum field trip that functions as a learning experience for students (Francis, 1997; Saoud, 2003; Whitmer, Luke & Adams, 2000). These authors emphasize communication with the museum education staff, setting goals for the students, preparing pre-trip and post-trip assignments for the students, and learning about the tour (Francis, 1997; Saoud, 2003; Whitmer, Luke & Adams, 2000).

Recent research has been conducted to explore how teachers use the museum experience (field trip visit) as a resource (Xanthoudaki, 1998; Kelman, 1995). Xanthoudaki (1998) explored the phenomenon of how teachers use museum/gallery visits for the purposes of teaching art, the offerings of specific museum/gallery facilities, and the work generated by students pre-, post- and during visits to glean greater understanding of how teachers use informal education facilities in Great Britain. Xanthoudaki (1998) found two ways in which the informal institutions were utilized; first, the gallery/museum was used as a "classroom resource" that allowed for relationships to be built by the teachers to the classroom curriculum, and second, the gallery/museum exhibits provided information that enabled viewers to learn from the exhibit itself (Xanthoudaki, 1998). In the second usage, the researcher found that

although the gallery/museum personnel may have stated that school services are important to their mission, classroom teaching is not really taken into account with their services. Xanthoudaki's (1998) research did not explore the preparation of students for the visits and how exactly the museum visits connected to the school curriculum. My study will build on this existing research and explore the classroom foundations for the museum visits as it relates to the teachers' official curriculum.

Museum field trips do create vivid memories for students and several studies have been conducted that test visitor recall (Henry, 1995; Falk & Dierking, 1997; McManus, 1993; Wolins, Jensen & Ulzheimer, 1992). Henry (1995) conducted a study with fifty-one middle school students to determine their recall of a "structured" museum program over one year after the experience. Subjects in this study were given ten minutes to tape record any memories from their visit to the High Museum of Art in Atlanta (Henry, 1995). The recordings were transcribed and analyzed both quantitatively and qualitatively, and the researchers found from these recordings that subjects had vivid memories of visual images seen on their trip. Almost half of the students recorded personal perceptions that paralleled aesthetic theories ranging from Plato's philosophy of "art as imitation" to George Dickie's "institutional theory of art" (Henry, 1995, p. 53).

Another study, by Falk and Dierking (1997), concludes "that museum field trips—regardless of type, subject matter, or nature of the lesson presented—result in highly salient and indelible memories" for the students (Falk & Dierking, 1997, p.216). These were not short-term memories but long-term memory questions asked of 9/10 and 13/14 year olds about field trips taken in the earliest years of their education. Their study examined ideas related to learning and "how and what" to assess relative to school field

trip learning (Falk & Dierking, 1997). The researchers specified that learning must involve the use of memories to solve "real-world problems or to connect important ideas" (Falk & Dierking, 1997, p.211). Their data revealed that 96% of students interviewed could recall field trip memories such as where they went and a specific event from the trip (Falk & Dierking, 1997).

These studies prove that students will remember a trip to the museum, and that the museum trip can be used as a learning tool, but is *meaningful* learning taking place? Some research has also been conducted that explores how the museum visit can relate to various areas of classroom learning to facilitate meaningful learning.

2.4.5 The Museum as Part of a Diverse School Curriculum

Recent literature has also been devoted to connections that can be made between the museum and curriculum outside of art such as social studies, math, or science (Barry & Villeneuve, 1998; Hartfield, 1995; Kuper, Bales & Zilber, 2000). For example, Barry and Villeneuve (1998) explored how University of Kansas faculty and students could use the University's Spenser Museum of Art for curricular connections to subject areas such as music and English. This collaboration between the museum and the University faculty was especially helpful for pre-service teacher students who used their experiences with the museum to plan for future classes of various "age levels and learning situations" and found that viewing the museum works helped with memory recall of prior knowledge and comprehension (Barry & Villeneuve, 1998).

Hartfield (1995) wrote an "Instructional resource" for *Art education* from the "Art inside out" program that also attempts curricular connections. The "Art inside out" program was developed at the Art Institute of Chicago to increase visual literacy and

make students active participants in viewing works of art. In the "Instructional resource",
Hartfield (1995) uses examples of Mayan, Renaissance, African and Japanese art as a
basis for discussions about the works in a museum setting, yet also invites students to
probe meanings the works conveyed in their original contexts. Students are also asked to
question "quality and value" within these discussions and then make further parallels to
other disciplines such as history and anthropology (Hartfield, 1995).

Professionals in various fields have had recent collaborations that enable
curricular connections to be made during a museum field trip (Kuper, Bales & Zilber,
2000). Kuper, a creative movement specialist, Bales, an art educator, and Zilber, a
museum anthropologist worked with an undergraduate art education class at the
University of Illinois at Urbana-Champaign to bring elementary students age 6-9 to the
museum to learn about West African art and culture through visual thinking methods
such as Feldman's model of critical analysis and engaging in traditional dance as well as
artistic production activities such as mask making. The young students, who learned
through participation in diverse production activities, were able to verbalize their
understanding of the specific African cultures during later museum visits (Kuper, Bales
& Zilber, 2000). Museums can be used to promote new learning in various curricular
areas, yet the importance of using the museum for developing new learning in the visual
arts should not be overlooked.

2.5 Art Education in Casper, Wyoming

The current dominant art educational practice in the community of Casper, the
city used for this research, is comprehensive art education, a practice inclusive of studio
production, art history, art criticism, and aesthetics developed by educators through the

58

Getty Center for Education in the Arts, as discussed earlier (Delacruz & Dunn, 1995;

Hurwitz & Day, 2001). However, the comprehensive approach is not the only paradigm

circulating in art education today. Some teachers stress a critical theory approach to

creating and learning about visual art (Fehr, Fehr, & Keifer-Boyd, 2000). Practitioners of

the critical theory approach stress social awareness and responsibly programming course

content to reflect and be inclusive of multiple worldviews within art education. Other

teachers are entrenched in traditional studio projects with limited aesthetics or criticism

embedded in the curriculum. Contemporary museum education programming has been

affected by these practices, especially comprehensive art education (Williams, 1997).

While there is not a Getty Regional Institute in this participant community,

teachers interviewed expressed that they are using textbooks based on comprehensive art

education. If some of the museum's educational materials were geared specifically

toward this approach, it seems likely there would be greater potential for new learning

based on consistent teaching practices from the classroom to the museum.

2.6 Implications

Educators in both schools and museums have significant interest in improving

student learning through museum resources, as indicated in the literature on museum

education. Several studies reviewed above relate to this project in discovering how

museum resources, used in pre-visit preparation by the classroom teacher, can increase

student interest in visiting the museum. For example, West (1998) found that using Web

resources in the classroom increases a student's interest in actually visiting the museum.

West also wrote that the experience of viewing objects also provides a base of knowledge

to build upon when actually visiting the museum (West, 1998). My study will also be

59

concerned with classroom experiences that lay a foundation of knowledge for the museum visit. Some studies reviewed how the museum is used as a resource, but do not link that data to teacher preparation for museum visits. None of the studies seemed to uncover any information on teacher use of resources as it relates to docent tours or how museum-generated resources used in schools affect learning at the museum when used in conjunction to school learning. Yet this is an issue for both teachers and museum educators.

Of all the studies reviewed Stone's (1997) relates most closely to this one, because she examined differing docent touring styles and the affects of those styles on visitors. The differences in our research lies in the age of student participants and that my research will not be as concerned with the affect of touring styles, but with the teacher's usage of museum resources in preparation for the docent tour as related to Bruner's (1960) idea of a learning "spiral". In addition, I compared the teachers' methods of delivering information in the classroom to the docent's method at the museum.

This study explored the use of museum resources and other forms of classroom preparation (by the teacher in the classroom) and the museum tour experience (through the tour guide) to determine if the combination creates an atmosphere that could facilitate a learning "spiral" whereby prior classroom knowledge is utilized in the acquisition of new knowledge at the museum. I believe that museum resources, such as teacher packets, may facilitate the transition of explicit memories to semantic knowledge that will set the stage for cognitive growth when used in connection to the museum tour as part of a spiral from discussions of art in the classroom to discussions of art in the museum, especially

60

when the docent asks questions of the student probing those earlier memories and structures a tour that positions the individual to learn more or place the object in another context. The classroom experience provides cognitive growth, while the "object experience" in the museum will stimulate affective growth, possibly by appreciation of the object. And, while docents add to and question explicit memories, touring the museum will add episodic memories. This research could help both teachers and museum educators to understand how best to structure a meaningful learning environment for students in both venues in this community based on whether the school preparation along with the museum tour link in a manner that is conducive to a spiral of learning.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Qualitative Research

3.1.1 The Qualitative Paradigm

The qualitative paradigm has become more common in educational research related to museology in recent years (Brodie & Wiebe, 1999; Linderman, 1993) and is occasionally combined with the more experimental quantitative methodologies (Henry, 1995). The qualitative model of research allows the essence of a museum visit to be visible. The patterns that may become evident through the research methods of holistic observation (not relying strictly on numerical data, but the complete situation that produces the data) and inductive analysis by the researcher lend to its validity (Merriam, 1998). This standard of practice was suitable to this study as it allows for hypothesis generating instead of controlled testing.

3.1.2 Qualitative Methods

This study involved qualitative research using an ethnographic method to understand how teachers prepared for museum visits, utilizing museum resources, to create an atmosphere conducive to a learning spiral.[37] This methodology was appropriate to the area of study as qualitative research has been used in recent years to gain further understanding of how museum education programming is received by its' users (Brodie & Wiebe, 1999; Kelman, 1995; West, 1998; Xanthoudaki, 1998). These methods were also suitable to this study because a limited sample group was used for observation of patterns of museum visit preparation and museum resource usage. The ethnographic approach was especially fitting to this study, as during the course of research, attitudes and beliefs that teachers and docents have about the museum tour were revealed. These

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[37] Ethnographic methods are used to observe attitudes and behavioral patterns (Merriam, 1998).

disclosures shed further understanding on how the museum is used as part of the teachers' curriculum. The study was flexible, another common attribute of qualitative research, in selecting the group of participant museum users, who were not all art teachers.

In addition, this study utilized characteristics of feminist research methodology in how the data was collected, but not in how data was analyzed. Feminist research has been defined in many ways. Some see it as research conducted by women, others look at as the subjectivity of personal experience, and others do not define it but look at what perspectives have been taken by feminist researchers (Reinharz, 1992). Reinharz (1992) suggests that feminist research may include the "researcher's perspective, may aim to create social change, strives to represent human diversity, and uses a multiplicity of research methods" (p. 240).[38] This research involved strategies often used by feminist researchers such as the use of multi-methods, continuing dialogues with participants after scheduled interviews and observations (also part of ethnographic research) that allowed the teachers and docents to provide their own narrative concerning their teaching. These interviews were personal communications with teachers drawing on their own lives, experiences, and perspectives toward their teaching practice. The open-interviews provided a diversity of responses from participants that illuminated a variety of attitudes affecting museum preparation or resource usage. Teachers also had follow-up interviews where information was confirmed or where they were asked further questions about the research. In this manner, the research empowered the participants by allowing open discussions of their beliefs and attitudes as well as provided emic understanding of their lived experience, a major component of feminist qualitative research.

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[38] This research did not include analysis of gender roles.

63

This study also used qualities of goal-free evaluation in the observations because I was not looking for a correct or incorrect manner of preparing for a museum visit or touring through a museum, but was interested in entering the teaching environment to record a broad picture of how museum resources are used in pre-visits, or other methods of preparation, and how this relates to the museum tour. The intent was to observe the most commonly used methods for museum visit preparation as well as the most common type of tour and see how these two processes aligned with the notions of the production of a learning spiral for the students. Stecher (1987) defined goal-free evaluation as "an approach to evaluation in which merit is determined from an examination of program effects without reference to goals or objectives." Other methods of evaluation focus on the correlation between program effects and program goals.

3.2 Researcher's Role

In this study, I was responsible for data collection and analysis. During the fieldwork, I acted as a passive observer, not actively involved in classroom activities, and collected field notes as documentation. The teacher interviews were primarily open, but I was responsible for prompting discussion on certain topics through several structured and semi-structured questions. During the museum visit, I also acted as a passive observer. Finally, I was responsible for obtaining permission to work with participants, protecting their rights during the research, organizing and maintaining records of the fieldwork as well as data analysis and conclusions.

3.3 Data Sources

Teachers from the area of Casper, Wyoming who were typical users of the Nicolaysen Art Museum for school visits, were used for this study. The Nicolaysen, in

Casper, is one of the major art museums in Wyoming and was the most accessible art museum for the research. Also, this museum had an art educator who was developing new resource materials, such as teacher packets, for schoolteachers and had significant interest in this project. Four generalist teachers, three art teachers, and three docents participated in the study. Of these participants, all were interviewed and all but two art teachers' classrooms were observed along with a museum visit. The locations of the schools varied within Casper and included two elementary schools and one junior high school. Independent variables in this study included previous tours the teacher had taken, museum training workshops the teacher may have attended, and teachers who are former/current museum docents.[39]

3.3.1 Data Collection

First, I contacted the Casper school district to obtain the names of school principals in order to get permission to conduct research in their schools. The principals were sent a letter asking for their approval to distribute surveys in their schools. Surveys were then sent to teachers in 21 schools to learn how many teachers use the museum and were planning trips for the upcoming school year. Further contact was made with teachers who volunteered to act as participants, by writing in their name at the bottom of the survey. This contact was made through email and phone contact for scheduling observations and interviews. Finally, four main methods of data collection were used including classroom observation, teacher interviews, document analysis of teacher packet, and museum tour observations.

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[39] One generalist teacher is an active museum volunteer and more familiar with the museum then many others, including art teachers, in the community. And, two of the generalist teachers serve on an informal, volunteer, education committee that assists in arranging activities in the museum "Discovery Center".

After the consent forms (see appendix) were completed, observations were conducted in the teacher's classroom, as they prepared for the museum visit. There were insignificant risks involved for the participants as there was minimal interruption to their classroom routine and interviews were scheduled at their convenience. Their behavior was not being studied for modification, only understanding of their daily life experiences. The internal factors that affected how the teachers prepared during this observation included student response and the presence of the researcher. All observations were recorded using thick description and photographs for explicit awareness of the situation.

Interviews were then conducted with teachers to determine how the teachers viewed their use of museum resources, such as teacher packets, and their beliefs about the museum resources; which shed additional light on resource usage. The interviews were primarily open with one or two structured questions. Examples of questions included "What did you use from the museum-generated packet?", "What activities did you do in relation to this (museum) exhibit in your classroom? and "What else have you used in the past?". The interviews were audio-taped, with additional handwritten notes. The interviews were open, or "phenomenological," which means interviews are less structured to investigate the participants lived experience (Reinharz, 1992). These interviews allowed for an open discussion of attitudes toward the museum-generated teacher resources, which were not as observable during the class session.

I then followed the teachers and their students on a tour at the museum acting as observer to the docent tour. The tours revealed connections between classroom preparations for the visit and the visit itself. Student reactions and comments were also recorded during the tour. These actions demonstrated, in part, proof of understanding and

memory recall of pre-visit information. However, no standardized testing of new learning was conducted after the museum visit. Finally, museum docents were interviewed to gain further understanding of their training, background, and tour methodologies. The interview notes were hand-written and transcribed and eventually shared with the docents, and discussed informally at later personal museum visits.

3.3.2 Data Analysis

A document analysis was conducted on the teacher packets used by participants. The participants did not all use the same packets for museum visits; therefore, each packet was examined for consistency of programming. This analysis was completed with a "document summary form"; these forms "put the document in context, explained its significance and gave a brief summary" (Miles and Huberman, 1994, p. 54).

The data from each set of complete observations (same teacher's class in classroom and tour) were treated as individual case studies and a contact summary form was completed after each case.[40] The teacher's manner of preparation for the museum visit was then compared within the group of teachers through a cross-case analysis. Tour guide methods were also compared using this process. Finally, teacher methods were compared with tour guide methods of discussing the museum collections to determine any trends between them.

The classroom observation field notes were typed, coded, and then analyzed using conceptual matrixes to find trends in the teachers' practice. The museum tour observation field notes were also typed and coded for analysis in the same manner. Some

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[40] There were five complete cases, four generalist and one art teacher, plus interviews with two art teachers whose students did not visit the museum. In addition, I interviewed three docents.

67

categories included "teaching style" with codes relating to general teacher paradigms such as "transmissive", "transformational" or "transactional"; "materials use" for what was used or done in the classroom and museum with codes such as "studio activities," "vocabulary cards," "Web links," "games" and "props/artifacts"; and "object reference" for how a museum collection object was discussed/handled in the classroom and museum with coding for "factual information", "formal analysis", "storytelling", "role playing" or "questioning".[41]

The tape recordings from the interviews were also transcribed. Categories and codes were then applied to the data to pinpoint significant information. A conceptual matrix was created to assist in finding trends in the data. Confidentiality in the documentation was maintained through a number coding system for all participants.

To further glean insight from the data, several matrixes were created. A role-ordered matrix was used to outline teacher/docent teaching styles. A time-ordered matrix reflected on the "spiraling" from classroom to museum and back to the teacher's lesson plans. A concept-ordered display enabled curriculum goals and practice (official and operational curriculum) to be compared. Finally, a case-ordered matrix allowed for teaching patterns in each case to be compared.[42]

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[41] There were three basic teaching styles addressed. The transmissive involves a traditional lecture with minimal audience interaction; the viewer of the museum artifact is an "empty vessel" to be filled with knowledge. The transactional teaching style is a more audience-centered approach involving the viewer in the shared experience of viewing. The transactional style involves a critical approach to learning and could question the very nature of the museum as a purveyor of collections or the viewer's place in society. "Materials use" reflected what the teacher or docent used or did in the classroom such as play games, provide studio activities or utilize props/artifacts. For example, the teacher could have brought in props to help students further understand the work of art. "Object reference" refers to how an object was discussed or handled in the classroom. For example, a slide of an art work could have been shown and the teacher encouraged students to ask questions to learn more about the work.

[42] These matrixes are included in the appendix.

3.4 Verification

Validity was achieved in several manners. First, data collected was shared with the participant teachers to confirm observations. Second, the study built on the existing body of research on museum visitation by school groups. Third, the interviews with teachers were one-on-one, a criteria for "stronger data" (Miles & Huberman, 1994). In addition, contact summary forms were completed after each case as a reflection on the goals and findings of each case. Finally, a triangulation of survey, interview, and observation data was conducted through matrixes.

By examining a population of teachers that plans visits to the museum, the research is already biased toward teachers who are more museum literate than those who do not visit. These teachers most likely know the museum facility, docents, and programming.

3.5 Ethical Considerations

Before research began, approval was granted from the University of North Texas Committee for the Protection of Human Subjects. School principals were contacted, in writing and in person, before any contact was made with the volunteer participant teachers. Consent to participate forms were then administered to teacher participants before the session. As mentioned earlier, confidentiality was maintained for each participant throughout the study and during the writing of the findings. To maintain anonymity each participant was given a number for data analysis and a pseudonym in the narrative portion of the findings.

Each participant was contacted for observation and interview times. Some observations involved multiple class periods to observe teacher preparation for the visit

and any follow-up activities. In my opinion, my presence in the classroom and on the

museum tour caused minimal interruption during observations. The students were

introduced to the researcher to try to alleviate any disruption or discomfort from the

observations. This study posed minimal risk to participants as the observation was not

interactive and the interview was semi-structured and could have been ended at any time.

The interviews lasted between 30 minutes to 1 hour 30 minutes. There was not any

testing for a specific method of teacher preparation; but research to make visible teacher

pre-trip preparation and how it relates to the museum tour in facilitating a learning spiral.

CHAPTER 4: RESEARCH FINDINGS

This chapter is divided into several sections; the first section provides a history of the participant museum and a discussion of the exhibits and the related museum materials that were used in this research. The second section reviews survey findings and teacher participants for the research. The third section discusses classroom observations. The fourth section deals with the museum observations. The fifth section includes information from the participant teacher and docent interviews. The sixth and final section of the chapter discusses implications from the research.

4.1 The Museum

4.1.1 The Nicolaysen Art Museum and Discovery Center

The Nicolaysen Art Museum and Discovery Center has been open to the public since 1990 and is housed in the former Casper Lumber Company Building. The museum has several gallery spaces as well as a hands-on art center, called the "Discovery Center". The museum's mission is to provide a venue for exhibiting contemporary art from "local, regional and national artists" (Nicolaysen History, 2003). A variety of media are displayed in the main galleries; these exhibits include temporary installations as well as works from the museum's permanent collection. The exhibits are primarily object-oriented with signage denoting basic information for each work. For most exhibitions, the curatorial and educational team work together to create laminated family gallery guides with further information about a specific movement or artist. For example, during the recent "Andy Warhol" print exhibition (2004), the family gallery guides had information on the "Pop Art" movement as well as information on printmaking techniques. The

building also houses the Wyoming Science Center with interactive educational exhibits relating to natural science.

4.1.2 "Exploring the great outdoors": The First Exhibit Used in the Research

The first exhibit used for this research was titled "Exploring the great outdoors: Sports and recreation in original illustrations for children's books" (September 20-October 26, 2003). The exhibit featured original works of art, such as illustrations and paintings, from children's books as well as the books themselves. The exhibit will travel to thirty-three venues over the next two years in the continental United States and was organized by the Meridian International Center in Washington, D.C. The exhibition includes approximately 87 works on loan from five institutions, in various media and from a myriad of cultures.

The subject matter of the original works depicted "outdoor pursuits" (Exhibition Catalog, 2003). One of the goals for this exhibit was to address what constitutes a "healthy lifestyle". The exhibition organizers believe contemporary children lead a primarily "sedentary lifestyle", in front of televisions, video games, and computers. The illustrations reveal how fitness can be achieved in a variety of manners, especially outdoor activities. The art works were grouped into themes such as sports, summer activities, fall activities, spring activities, holiday and festival gatherings, or winter activities.

The organizers also provided a "teacher resource guide" arranged according to these themes to "permit educators literally to teach from the walls" (Exhibition catalog, 2003). The Nicolaysen educator made photocopies of this packet and mailed it to the area school principals, who may or may not have distributed the packet to all teachers. This

resource was mailed with a description of the exhibition tours that were available, as well as a letter about the exhibition and an invitation to the opening reception. This letter also specified that teachers who brought the letter to the opening reception would receive free admission to that reception.

The Nicolaysen Art Museum tour and activity offerings in conjunction with "Exploring the great outdoors" were grouped into four categories based on grade level.[43] The first tour called "It's 'all' about art" was programmed for "pre-school through grade 3". This tour offered a docent presentation and a painting activity that emphasized the use of motor skills and coordination as well as a discussion of the formal elements of color and texture. The second tour called "Jack the dripper" was offered for students "kindergarten though 3" and offered a docent tour and an action painting activity. In this planned activity, participants would learn about abstract expressionism and action painting. The third tour called "Haiku Straw Painting" was planned for grades 4-8 and included a docent presentation, haiku poem writing, and ink painting activities. The description states that students "will learn about the elements of 17th century poems and discuss elements of Japanese culture and refer to nature for poem and painting content". The fourth offering titled "Leapin' Lizards!" was prepared for grades 4 through 8 and included a docent tour and the creation of a lizard sculpture using paper folding and cutting techniques. In the planned activity, students would also discuss onomatopoeia and how words can help us form mental images.

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[43] The museum educator at the Nicolaysen Museum is responsible for all educational programs and related activities. This educator has been with the museum for about two years (personal communication, 2004). This is the first school year (2003-2004) that she created teacher resources for the temporary exhibitions in the galleries. During the summer before the school year began, the museum educator was contacted by phone and email concerning the study.

4.1.3 The Teacher Resource Packet from "Exploring the great outdoors", Description and Analysis

The teacher resource packet for "Exploring the great outdoors" was prepared by the Director of Exhibitions for Meridian International Center. The packet was not programmed for a specific grade, but seemed intended for elementary school students because the activities were best suited to younger students, such as leaf rubbing, and there were not any transformational type learning activities conducive to an older student group.[44] The resource contains a list of artists in the exhibit as well as the titles of the artwork, a teacher planning form, a guide to types of questions that encourage active looking, a list and description of Book Awards associated with books from this exhibit, activities relating to each book, art terminology, seasonal activities, a listing of additional books by each author, limited artist biographies and credits for those involved in the exhibit resource.

The teacher resource packet's introduction states that the resource "draws from earlier versions used successfully in past illustration exhibitions and adds new sections related to this exhibition" (Sandberg, 2003). The Meridian International Center sent this guide to participating museums and placed it on the Web (Sandberg, 2003). This guide does not seem intended to increase visual literacy, but offers activities that bring children outdoors. While the "art of looking at art" and "a way to talk about art" (brief 2-page sections with adjectives for descriptions and questions to stimulate visual thinking) are included, this guide focuses more on production, discussion, and writing activities. For example, the related activity for the book "Snowball" is to create a collage from

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[44] Transformational type activities might include critiquing works through a feminist lens or considering the art works as political commentaries on our contemporary American society.

magazines and newspapers, because the author "creates photographic collages for her books". Other sample activities include potato prints, watercolor, and haiku.

The resource does include a special section titled "art and language arts connections." In these activities, students are asked to stare at works for thirty seconds and then answer questions related to the works including "how many people are included in the work of art?", "how would you describe them?" and "what are they doing". Questions of this nature are the extent of the activity. This particular activity seems to stress short-term memorization of the work, instead of placing the subject matter in a larger context or relating it to the student's own experiences. While students may gain experience articulating what they see in a work, there is no further discussion of stylistic qualities or design elements that build visual literacy. Some of the other gallery activities include asking students to select a favorite work and writing a letter to the artist telling them about the museum visit.

Overall, this resource is overwhelmingly long, 68 pages, yet does not seem to offer any activities that are very specific to engaging the learner in increasing visual literacy or understanding of book production; instead, the resource focuses on writing or seasonal production activities to be completed outdoors, such as kite making, a wet sponge relay and leaf rubbings. In addition, a large portion of the resource is dedicated to short paragraph biographies of the artists.

4.1.4 "Kevin Red Star": The Second Exhibit Used for Research

The second exhibit utilized for this research was titled "Four Directions: The historical and contemporary subjects of Kevin Red Star" (November 8, 2003-March 14, 2004), This exhibit featured over 40 mixed media paintings by the Native American

contemporary artist Kevin Red Star. These paintings are mostly figurative including portraits of family members or ceremonial dancers from his tribe, other works include representations of horses or traditional Crow tepees. According to the artist statement, Red Star "hope(s) to accomplish something for the American Indian and, at the same time, achieve personal satisfaction in a creative statement through (his) art" (Red Star, 2003).

Tour offerings for the Kevin Red Star exhibit were designed and coordinated by the museum educator. However, the "tour" itself was not defined, in terms of specific works to be addressed or a specific theme that connected with the workshop offerings. The four tour offerings included "Busy beads," a docent tour and a bead working activity, for students in Kindergarten through 3rd grade. The offering sheet states that "students will also discuss the art elements of color and shape, as they relate to pattern". The second choice was "Sticks and stones", programmed for students in Kindergarten through grade 3, involving a docent tour and a "scratch activity" related to petroglyphic art. The third was called "the weft we weave" and was for students in 4th through 8th grade. This offering included a docent presentation and an introduction to "American Indian bead working techniques". The last offering was titled "Every picture tells a story", also for grades 4th through 8th; this involved a docent presentation and a "winter counts" (Native American drawing) activity. The tour offerings and the teacher resource packet were created by the museum educator and sent to area school principals, who may or may not have photocopied it and passed it to their teachers.

4.1.5 The Teacher Resource Packet from "Kevin Red Star", Description and Analysis

The teacher resource packet for this exhibit was a compilation of a "teacher's guide" to the exhibit, a list of content standards and tours, related interdisciplinary activities, several color images, and an invitation to the artist talk and reception at the museum. A Web site with additional images of Red Star's work was listed within the packet introduction letter. At the end of the packet, a teacher evaluation form was included.

At the beginning of the packet, "possible content standards that this exhibit may address in part or whole" were listed (Ruppert, 2003). These standards included the content areas for art, health, language arts, math, physical education, social studies and science. Specifically, the arts standards included "creative expression through production, exhibit or perform artistic work, aesthetic valuing, historical and cultural context, and applications to life". Content standards are determined by the state of Wyoming, in each curricular area. The standards define what "students are expected to know or be able to do by the time they graduate", but do not "dictate what methodology of instructional materials should be used" or "how the material should be delivered" (http://www.k12.wy.us/eqa/nca/pubs/standards.asp, Retrieved November 3, 2004).

The teacher resource packet was then divided into ten sections; each relating to Native American history, hands-on activities or a content area and, finally, referenced Web sites. A biography of the artist was provided within the first section of the packet, along with his artist statement and a statement from the curator. The second section began with an overview of Plains Indian history, and then progressed to a historical survey of the Battle of the Little Big Horn with a map. A Native American History timeline completed this section. Section III included a discussion page on "compelling

issues concerning contemporary Indian art", "some tips for looking at art" (based on Feldman), a seek and find for use with the exhibit, a description of color symbols in Native American art and a template of a blank face wearing a feathered headdress for users to draw in their own face. Another exhibit related activity in this section involved placing award ribbons on a student's favorite work. Section IV included items that would assist a non-art teacher in coordinating art production activities such as excerpts from Hoovers' (1961) *Art activities for the very young*, ideas for art activities with some templates (a tipi template, bead patterns, moccasin template and quilt patterns were included) and illustrations of various 19th century tribal dress. Sections V-IX dealt with interdisciplinary activities for the classroom such as writing a play involving Native American life or cooking traditional dishes (this activity was under the section for math, as it involved calculating portions and mixing various amounts of ingredients). The final section provides a list of the exhibited works, Web sites related to Red Star's work and a teacher response survey for submission to the museum educator. The teacher guide stated on the cover "Just in time for Indian American studies"; this may have prompted teachers to review it for classroom activities related to history lessons even though they may not be planning a museum tour. However, while this exhibit was viewed by participant teachers and this resource was offered by the museum, no participant teachers extensively used the resource.

4.2 Surveys

4.2.1 Survey Instrument

A survey was distributed to 21 Natrona County Schools in Casper and adjacent towns (see appendix). It was intended for both art and regular classroom teachers and

contained four questions about museum usage during the school year. Short meetings were arranged with as many principals as possible to discuss the project and request permission to distribute the surveys.[45] When meetings could not be arranged due to scheduling conflicts, surveys were mailed, along with a letter of explanation, to school principals. Elementary schools were targeted, but surveys were also sent to other institutions including 2 junior high and 2 high schools. The surveys were then either returned by mail or personally retrieved. Of the 21 schools contacted, only 9 schools returned surveys; from these 9 schools, 54 surveys out of 425 were returned.

The survey questions were; (1) "Do you plan to use the Nicolaysen this year?" (2) "How often do you visit the museum with your class?" (3) "Do you use any preparatory materials for the visit? Please describe" and (4), "Would you be interested in talking about your experiences at the museum or how you feel the museum relates to your curriculum?" If a teacher responded yes to the fourth question a space was provided for them to write their phone number or email address so they could be contacted later.

4.2.2 Survey Results

The first question was posed to glean an idea of the number of teachers who planned to use the museum in Casper. In response to "do you plan to use the Nicolaysen this year?", 40% of respondents indicated they would use the museum during the school year, 51% would not and 9% were undecided. While actual visitation for all these teachers was not confirmed during the course of the year, by the response of those who returned surveys, the museum could expect approximately 27 visiting teachers of those surveyed. While some respondents answered that they would be taking a field trip to the

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[45] These meetings took place to ensure that the principal would understand the nature of the project and possibly encourage faculty participation.

Nicolaysen, further in the survey these respondents discussed preparation for the Wyoming Science Center, housed within the same building as the Nicolaysen Art Museum, so some teachers may have been confusing the two different informal learning institutions in the same building.[46] The Wyoming Science Center is physically located above the main art museum galleries within the complex. Therefore, it was difficult to garner how many of the teachers who completed the survey will actually attend the exhibitions in the art galleries and not the Science Center housed in the same building during the school year.

Only 22 junior high or high school teachers returned the surveys and only 2 teachers said they would use the museum, along with 1 that indicated "maybe"; of the 2 teachers that said they would use the museum, only one indicated they were actually going to visit the art galleries (the other mentioned the Science Center). This lack of usage by high school teachers may be because the museum field trips seems to target only elementary schools thereby indicating a lack of programming available for teen and adult audiences. In addition, one teacher wrote on the survey that they do not have time for visits "at the high school level". Some surveys may not have been passed on to the high school art teachers, who would arrange art museum visits, instead of classroom teachers, and this may explain the low usage.

Traditionally, high schools do not visit the art museum as often as elementary schools. Alexander (1980) conducted a study to determine why high school students are the least represented visitor population of school groups. She found that the high school

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[46] This is problematic for the Nicolaysen because the Nicolaysen Art Museum receives corporate funding to provide a free admission to the public, while the Science Center charges a fee. Therefore, some believe it is expensive to go to the Nicolaysen because they have visited the Science Center housed in the same building and have paid a fee (personal communications).

teachers were not aware of the value of a museum visit as a learning experience and suggested that more research is needed to convince teachers of the educational value of the museum trip. While Casper teachers may be aware of the value of the trip, there is hardly any programming in place for this audience.

The second question, "how often do you visit the museum with your class?", was asked to determine, statistically, the frequency of visitation. Of those that indicated they would go to the museum, 44% planned on going once, 18% planned on going twice, 9% planned on going three times, and 22% planned on visiting 4 or more times. The returned surveys showed that a significant number of teachers who visit the Nicolaysen with their class may do so more then once a year. For example, during later interviews with teachers who completed surveys, 2 participant teachers said they would go to the museum for every exhibit offered during the school year. These teachers may go to the museum more often then some due to the proximity of the school to the museum, which is in walking distance to the school. In contrast, some teachers later explained they go to other informal learning institutions during the school year and time only allows one visit to the Nicolaysen (personal communications). Teachers also implied that more visits would be planned if the exhibit "goes with the themes we are studying" or could "reinforce curriculum taught in the classroom" (survey communication, October 4, 2003).

The third question was created to garner a broad picture of preparation for the museum visit; this would also indicate if the visit was an event typically isolated from the planned school curriculum or a possible component of a learning spiral. As preparation for those visits, several indicated that they would prepare in some manner; either by discussing the exhibits, reading books related to the exhibit (from local libraries or their

own collection at school), classroom activities, or experiments or by using "some type of preparatory material they received from the museum" with programming related to the exhibit, such as a teacher packet from the exhibit. However, the surveys also revealed that most teachers are unfamiliar with the teacher resource packets provided for visits. For example, "I would use preparation, if I knew of any" (survey communication, October 4, 2003). The current practice of sending the teacher packet to the principal does not seem to get the material to the teachers in many schools.[47] At Park School, where two of the participant teachers are located, the principal passes out the museum information at weekly faculty meetings. However, this is not the norm.[48] This lack of teacher packet usage signifies that teachers, when they prepare for museum visits, do not rely on written information from the museum. These teachers use their own props and program their own activities, as seen during the observations. Several teachers wrote that they "discuss the exhibits as they relate to the curriculum" indicating that the museum visit is used to supplement classroom learning (survey communication, October 4, 2003).

The last question was posed to gain possible participants for the classroom and museum observations. Of those who returned surveys, 10% indicated a willingness to discuss their museum experiences.

4.2.3 Participants for Observations and Interviews from Surveys

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[47] Most schools receive materials such as teacher resource guides, but the museum education director addresses these guides to principals who often do not copy and forward the material to all teachers. At the Nicolaysen Education Committee meeting I learned that future liaisons were being arranged for distribution of teacher resource packets in each school, but these schools were limited to grade K-6 (December 4, 2003).

[48] Through my interactions here in Casper during the past few months I found that Park School is exceptional in the community for their use of the museum, their teaching of art, and even art history. When my neighbor's 7 year old found out I teach art, she said "I learned about some artists in Kindergarten at Park. My favorites are Mary Cassatt and Sofonisba Anguissola" (personal communication, December 17, 2003).

From the surveys, preliminary contact was made with 7 participants. Of the 7 participants, three elementary general classroom teachers and one elementary enrichment teacher were observed in the classroom and in the museum and interviewed.[49] Three art teachers from three elementary schools were also contacted for interviews; only one of these teachers was observed because the others did not bring students to the museum. Other participants for observations and interviews included three museum docents (for the 5/6 grade students). All these participants are denoted through pseudonyms.

The first teacher, Ann, recently began teaching at Park Elementary School. She teaches 1st grade and shares a classroom with the 2nd grade teacher. While each teacher is responsible for their particular grade, the two levels often complete projects or go on field trips together. The second teacher, Betty, teaches 2nd grade at Park Elementary School. She had been at the school for a number of years and is active in the arts community of Casper. Her husband serves on the Nicolaysen Art Museum board and she volunteers at the museum, serving on the Education Committee. Both Ann and Betty attempt to visit every Nicolaysen exhibit with their class during the school year, and incorporate art activities into their curriculum. Their students also attend art classes with the school art teacher.

The third teacher, Clara, is an elementary enrichment teacher at Verda James Elementary School. She assists with special projects for all grade levels in most disciplines, from science to Classical mythology, and is responsible for arranging special events and field trips for the teachers in most cases. She coordinates the Nicolaysen

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[49] An enrichment teacher provides extra instruction and activities on curricular topics to grade levels K-5. These topics might include Greco-Roman mythology or rainforest fauna and flora. At one of the participating elementary schools, the enrichment teacher is responsible for organizing field trips to the art museum.

Museum visits and is an active volunteer at the museum, assisting with fund raisers and serving on the Education Committee. The fourth teacher, Danielle, is a Kindergarten teacher at Verda James School. Her hobbies include marathon running, an area of interest she was able to connect to the "Exploring the great outdoors" exhibit. Both Clara and Danielle teach at a school with an art teacher, but they, too, complete art activities with their students.

The fifth teacher, Ellen, is the art teacher at Park Elementary School. She is new to the school, but had taught art at another Casper elementary school. She has art certification for K-12 from the University of Wyoming. Her curriculum is influenced by comprehensive art education. Her curriculum carries over for each grade level from year to year and includes all components of comprehensive art education. Funding from the district comes to $2.50 per student, per year and she finds this adequate for her program, as she does additional fund raising for special items; a recent fund raiser provided enough money for a new television for her classroom. She has her own classroom, decorated with projects and posters representing four areas of art history (Ancient, Medieval, Renaissance and Modern) and has grades 1-6 for 45 minutes every week, and Kindergarten is 30 minutes a week. She does not visit the museum with her students.

The sixth teacher, Francis, is the art teacher at Verda James Elementary School, the largest school in the district. She has been at the school for many years and has her own classroom, to be replaced next year with a brand new room in a building addition. Francis teaches grades 1-6 for 60 minutes per class, every week and Kindergarten for 30 minutes per class, per week. She, too, is influenced by comprehensive art education and has a comprehensive art education textbook, but stated that there are days she doesn't

really use it (personal communication, January 23, 2004). Handmade posters with the state standards for art are posted in her classroom. She stated that she likes to encourage visual literacy through art production and most of what they do is "hands-on" (personal communication, January 23, 2004). Her curricular goal is to cover a variety of media throughout the school year. Francis receives $2.50 from the school board and $2.50 from the school per student for a total of $5.00 per student, per year. She does not visit the museum with her students.

The seventh teacher, Gwen, is the art teacher at CY Junior High School and has been teaching there for several years. At the junior high level students elect to take art classes. She does visit the museum with her students and receives $2000 funding for all students for the year. She does three types of fundraisers to supplement this amount, including organizing a store to sell candy for special items for the classroom. While Ann, Betty, Clara and Danielle visited the "Exploring the great outdoors" exhibit, Gwen visited the "Kevin Red Star" exhibit (Ellen and Francis did not visit the museum, so were not observed, only interviewed).

4.3 Classroom Observations

4.3.1 Teacher Usage of Museum Generated Teacher Resource Packets within the Classroom: "Exploring the great outdoors"

The participant teachers revealed limited usage of the teacher resource packet for the "Exploring the great outdoors" exhibit in the classroom.[50] At Verda James School, Clara did use the "Exploring the great outdoors" packet on a limited basis. For example, she utilized craft activities that she felt were appropriate for Kindergarteners such as the "fall" outdoor resource activity, "leaf rubbing". While Danielle felt the resource was too

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[50] These resources were available exclusively in paper format.

large to "have time to go through", she found the actual exhibit guide useful; the exhibit guide contained a list of works included in the exhibition and she collected books containing illustrations included in the exhibition for her classroom. In contrast, the classroom teachers at Park School did not utilize the teacher resource packet even through it was passed around at a faculty meeting (personal communication, September 30, 2003). And, none of the art teachers used the resource at all.

While there was limited use of the programming in the "Exploring the great outdoors" teacher resource packet, there were projects related to the exhibition in all the classroom teachers' curriculum during the time the exhibition was installed at the Nicolaysen Art Museum. As Ann remarked, "The idea of focusing on illustrations in children's literature came from the museum, but the classroom activities (pre- or post-visit) are adjunct to the show" (personal communication, September 30, 2003). After learning of the upcoming exhibit during the summer before school began through museum-generated publicity materials, both teachers at Park and Verda James Schools based the classroom activity on one of the books or authors represented in the exhibit.[51] For Ann and Betty at Park School, these activities were made part of the planned curriculum in areas such as reading and writing within language arts and math. But, planned projects based on the books snowballed into larger, different projects due to student interest in the material. For example, Ann and Betty read the book "Julius, Baby of the World" by Henkes (1995), an artist featured in the exhibition. The teachers found this became a class favorite so teachers carried the theme into studio projects such as

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[51] During the observations for Ann, Betty, Clara, and Danielle, I found the classroom activities related to the museum exhibit were studio project-based; no slides or videos were shown as preparation for the show. Gwen did use a video, but it was not specific to the exhibition.

having the students create their own "baby" books, with self-portrait illustrations. The teachers asked students to bring baby pictures and baby comfort items to school, which were the basis for their baby book illustrations. The students also tracked the pregnancy of mothers of classmates as part of a class project and asked other class mothers to visit and share stories of the students' birth.

Some classroom projects were related to actual bookmaking and illustration, which was also a connection to the "Exploring the great outdoors" exhibit. For example, Danielle's Kindergarteners created their own written and illustration alphabet books that were similar to alphabet book illustrations in the exhibit such as Azarian's (1980) "J is for jump" from "A farmer's alphabet".

While classroom teachers did make some curricular connections to the museum exhibit through classroom projects, the art teachers in Casper did not incorporate projects related to the exhibit into their curriculum. Because class time constraints do not allow most of the art teachers to take field trips this may have limited their interest in connecting curriculum to the exhibits.

4.3.2 Classroom Observations of Activities Pre-museum Visit

Before the museum visit, Ann's students had time for "free reading"; each child picked a book from the classroom collection and sat reading or looking at their books and occasionally writing in a notebook. Then, Betty read "Julius, baby of the world" to both her students and Ann's students immediately before departure to the museum for the "Exploring the great outdoors" exhibit. During this reading session, students gathered on the floor in front of Betty. They ate their snack and listened to the story; occasionally Betty would point out specific illustrations and ask "Who is in this one?", "how does she

look?" or "how do they feel here"? After the story, the students were grouped with partners for travel to the museum and a discussion of museum etiquette ensued. The students then walked to the museum and looked at book illustrations on the gallery walls.

At Verda James School students also participated in pre-visit activities related to the "Exploring the great outdoors" exhibit, but not from the teacher resource packet. For example, Clara's 5th graders read, the "Great kapok tree" by Cherry (1989), a featured work from the museum exhibition and then completed an activity she found on the Web. This activity was completed in the art classroom at Verda James Elementary School, but related to the unit the 5th graders were completing on the rainforest and the ecosystem. The "Great kapok tree" describes a man cutting the trees in the rainforest and how it affects the ecosystem. [52] During the classroom visit I witnessed the "Great kapok Tree" activity. The students formed a circle around the room; each held a card with an animal name and illustration. Clara asked the child with the tree frog card to sit on the desk with the fabric tree on it, in the center of the room. He sat cross-legged and held a pole with big fronds and strings hanging from it. Another child was asked to be the narrator of the story and was handed a notebook with the story. This boy put on his reading glasses and started to read "The boa constrictor slides down the tree…". Three students with "boa" cards walked over to the "tree" pole and grabbed a string each. The narrator paused while the "boas" got into place. Then he read, "Bees buzzed around the tree…" and the bee students came over and held their strings. This continued until all the students held strings out in a circle around the tree. Then a "wood cutter", acted out by the science teacher, came to cut down the rainforest Kapok tree. As the tree pole dropped the little

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[52] The Casper Public Library had already prepared a list of the featured exhibition books in their collection for local teachers that might attend the museum exhibition.

boy on the table laid flat. The other children began to kneel to the ground as their strings lowered. Then, Clara began to ask questions of the group. She began with a question to all the students posing as animals, "Now that the tree has been cut down, what will happen to you?". The children answered "I will have to find a new place to live", "Other animals will see me without the tree there and I will be eaten", and "I fell down". Clara then asked "what is the consequence of this; what will happen to the rainforest?". One student answered "it will be a desert". Clara replied "It will change what it looks like and may eventually be a desert". Clara told them that as the rainforest animals they are all in a community, just like Casper is a community, and "if you break the community it means you break up the ecosystem." Clara then told the students that there will be future lessons on these themes and that these activities will tie into their upcoming museum trip.

Danielle, also at Verda James School, organized a mini-marathon for her Kindergarteners based on the marathon in "Wilma unlimited: How Wilma Rudolph became the world's fastest woman" by Diaz (1995) as a pre-visit activity for "Exploring the great outdoors". On the day of the museum visit, Danielle spent time with the students, in their classroom, talking about the museum, reminiscing about the buffalo exhibit, defining the term "docent" and going over museum manners.

4.3.3 Teacher Usage of Museum Generated Teacher Resource Packets within the Classroom: "Kevin Red Star" and Classroom Observations

At CY Junior High, Gwen, the art teacher, did not incorporate any projects from the teacher resource packet for the "Kevin Red Star" exhibit into her pre- or post-trip classes. She showed the video (not included in the packet) "How to visit an art museum" (1997) before the museum visit and asked students to complete a worksheet after the

visit. This worksheet contained four review questions; (1) "What kind of art did you see at the NIC? What did you think of the show? Explain." (2) "What is a docent?" (3) "Why are art galleries important for a community?" and (4) "Is the Nicolaysen someplace you would like to visit again and take your family? Explain why." These preparation activities were not specific to this exhibit and took place for any group that went to the museum. Only one question related specifically to the exhibit and it is unrelated to any projects that take place in her art classroom.

4.3.4 Summary of Teacher Packet Usage and Teaching Style

In this community, teachers who visit the museum will most often create their own programming as appropriate to their class for pre- or post-visit preparation instead of using projects from a museum-generated teacher resource packet. This programming is often applied to a variety of curricular areas that may not be related to the visual arts.

A cross-case analysis revealed that while teaching tools varied, the overall teaching style for all classroom teachers was similar; this style was an audience-based approach. This approach allowed students to make responses during the lessons rather than a transmissive classroom where students were told one "right" answer or solution. For example, in Danielle's classroom students made up their own illustration in their alphabet books.

4.4 Museum observations

4.4.1 The Docent-led Tours

Three docents were observed at the Nicolaysen. The museum docents receive limited information for each exhibit. A teacher resource packet was passed around at one of the meetings prior to the "Exploring the great outdoors" and the "Kevin Red Star"

90

exhibits. Most of the exhibition information prepared for docents during the docent meetings is provided by the curator.

A previous museum educator discussed various museum education methodologies, such as Visual Thinking Strategies, along with information on each new exhibit in the gallery spaces. The three participant docents in this study trained with the previous educator. While the participant docents had seen the packet and possibly reviewed the contents, there was no indication they were using any of the information provided in the teacher resource packet during these tours. The docents did not participate in the art production activities in the museum after their gallery tours.

Hannah was the first docent. She is retired, having formerly worked at Casper College. She docents for elementary grades, and for Clara's group of 5th graders focused on what is "real" versus what is "fantasy" in the subject matter of the "Exploring the great outdoors" works. After the group was led by Hannah into the galleries, she asked them if they had been to the Nicolaysen before, if they had been in art galleries before, and then discussed the "no touching" rule. She then asked "Do you know what realism is? Can anyone tell me an example of what is real?" One student told of a biography she had read and another student mentioned "The Diary of Anne Frank". Hannah then said, "Here we have illustrations, do you know what illustrations are?" She then talked about illustrations from the books; stating "some are big, some are small, but they are all real"[53]. The group was then led to several works that were discussed individually. Toward the end of this tour, she seemed agitated that the teacher wanted to complete an activity in the galleries, thus cutting her talk short. Overall, Hannah's tour can be

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[53] Reality, in this case, meaning original works of art.

categorized as inquiry-discussion because of the nature of the interaction between the docent and students.

The second docent, Inga, moved from Washington, D.C., where she was a school teacher, six years ago. She docents at both the Nicolaysen and the Historic Trails Interpretive Center in Casper.[54] She stated that she likes to work with children, but doesn't have the stamina to do it daily (personal communication, October, 14, 2003). Inga docented for Danielle's Kindergarteners during the "Exploring the great outdoors" exhibit and prepared for the tour by asking Danielle what books the students would be familiar with from the classroom. Inga then organized her tour around those works focusing on "storytelling" through book illustrations. She started the gallery tour with the "The great kapok tree" (1989), a book that Danielle will address later with the students. The museum exhibition included an original illustration from the book as well as photographs the artist took of the rainforest and a preliminary drawing based on those photos. Inga encouraged the students to consider the variations in each media and discussed how an artist works from sketches to the finished art work. As the group moved over the "Wilma unlimited" (1995) a boy in the group held up his plastic marathon medal from the school activity and told Inga, "I won this at school". When Inga asked the group about the illustration from "Wilma unlimited" (1995) ("What is this?"), they responded, "mini-marathon", which was the name of their school marathon, not the title of the book. Inga asked, "Do you know this book?" and they responded "yes". After discussion of the actions within the illustrations, the group was led in a line around the gallery to further examine the book art and Danielle prompted them to look specifically at alphabet books,

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[54] The Historic Trails Interpretive Center offered information and artifacts from the many 19th century trails that ran through the center of Casper such as the Oregon Trail and Mormon Trail.

since they are making them at school. Danielle also noted specific books the students viewed at school. The group then departed for the museum activity. Inga's tour can also be categorized as providing an "inquiry-discussion" (Grinder & McCoy, 1985) tour whereby questions were asked of students to stimulate their interest in works discussed by the docent.

The third docent, Jackie, has been a docent for almost 10 years at the Nicolaysen. She will only docent for junior high and high school students. Jackie was trained by a previous museum educator who promoted Visual Thinking Strategies, which she likes to use because it is a "nice way to reach people" and is "non-threatening to visitors" (personal communication, February, 12, 2004). She also utilizes materials she has generated during the tour such as laminated index cards with elements of art on them or "token response" cards with terms such as "best", "worst" or "cost the most" on them.

Jackie docented Gwen's junior high students during my observation, for the Kevin Red Star exhibit, and utilized the elements of art cards. She defined the term "docent" at the beginning of the tour and then led the students into the gallery. She told them to look around before giving their impressions of the show. Students commented on general themes evident in the subject matter of the paintings. Then Jackie brought the group in front of one painting and asked them to stare at it for 60 seconds and then turn themselves away from it because she was going to ask questions about it to test their observation skills. She tested their observations of the piece by asking questions such as "How many people are holding something?" I believe this activity served the tour by preparing students to look closely at each work of art, noting details and subject matter. After discussion of "feelings" and "purpose" in several works, Jackie passed out index

card with elements of art and asked the students to find a painting that embodied that element. This part of the tour can be labeled "guided discovery" (Grinder & McCoy, 1985) because students were allowed to find a work that interested them and then examine the work through formal analysis. This tour contained the most audience-centered learning because the students became active participants in studying the works through the element cards. At the end of the tour of the Red Star paintings, Jackie provided biographical information about the artist.

4.4.2 The Teacher-led Tours

The non-docent, teacher tours varied in scope; both were during the "Exploring the great outdoors" exhibit. While Ann stressed visual similarities and differences between the originals and book copies with related discussion of media and style, Betty stressed artistic media and individual active looking. Ann also played the game of seek and find with the laminated cards that was suggested by the museum educator. After gathering the students together, Ann also asked students if they recognized any illustrations in the gallery that "look like pictures from books that we have read" (museum observation, October 3, 2003). Ann's style for the majority of the visit seemed to parallel free-choice touring practices in art museums, where students are not part of a formal tour, but can study works that most appeal to them. Betty not only indicated specific works that she knew the students would recognize from the classroom library, and let students move at their own pace. Betty's tour in the galleries can be considered primarily guided discovery because she asked students to consider certain themes as they individually toured the exhibition.

4.4.3 The Museum Art Activity

The list of offerings sent to teachers related to the "Exploring the great outdoors" exhibition outlined a tour and activity for grouped grade levels, as discussed earlier. Each of the studio activities was supposed to have a specific theme that would draw on certain skills (motor skills, coordination) or provide new knowledge (haiku poetry, onomatopoeia). All the observed groups participated in the art activity when they visited the museum, except for Gwen's junior high students.

Teachers Ann (1st grade) and Betty (2nd grade) led their students through the gallery themselves and then met with the museum educator for the art activity. It must be assumed that teachers requested the tour "Its 'all' about art", which included a painting activity which utilizes "the use of motor skills, and coordination and discussion of the art elements of color and texture" (Tours available list, 2003). The other tour possibility for this grade level involves action painting and a discussion of Jackson Pollock. During the art activity, texture was stressed, yet a discussion of color was not included. The students did use various colors in their paintings, which were made by dipping a tennis ball in a plate of paint then dropping the ball on the support surface. The educator did ask the students what types of activities they saw in the gallery images, such as swimming or snowball fights, referencing the exhibit. During a later communication, Betty stated that the educator should not have talked to the students about a book from the exhibit while they stood in front of the art materials, since the students could not seem to keep from playing with the materials and did not concentrate on the educator's talk (personal communication, January 1, 2004). Overall, the tour and workshop were not synthesized with a consistent theme.

Clara must have requested, or may have simply been placed into, the "Haiku Straw Painting" activity due to the 5th grade level students. The students created a group haiku poem using descriptive words from nature, but did not discuss elements of Japanese culture, as stated in the activity offerings from the museum. When the museum educator, who led the activity, suggested the group create cherry blossom on their ink trees, the group was unfamiliar with the tree. The museum exhibition was not clearly referenced in any manner during the activity.

Danielle's Kindergarteners engaged in the drip painting activity with the tennis balls. Before the students started dipping their tennis balls in paint, the museum educator led a discussion about actions. However, there was no mention of action painters such as Pollock.

4.4.4 Art Content Standards and the Museum Experience

The supplemental information provided with the "Exploring the great outdoors" packet included a sheet with a list of art content standards that would be addressed during participation in the museum tour and art activity. It was also noted on this sheet that this exhibit was "primarily geared for students in grades K-3", so these standards particularly apply to these grades. The art content standards are listed as "creative expression through production, exhibit or perform artistic works, aesthetic values, historical and cultural context and applications to life"(Nicolaysen Museum, 2003). Of these standards, during the observed tours/ museum art activity, only the "creative expression through production" and, possibly, "aesthetic values" were explored through the museum experience. The museum educator promoted the language art and art content standards

most frequently in this exhibition through artistic production and haiku poetry, yet the teachers also incorporated the other skills in various manners.

4.5 Interviews

4.5.1 Teacher Interviews Concerning the Teacher Resource Packet

During the interviews, the classroom teachers expressed that they have used other teacher packets in the past and may use a different teacher packet in the future; the art teachers stated that they do not use the museum-generated teacher packets. While Ann and Betty relied heavily on materials in the previous exhibit resource packet (Buffalos on parade), they felt the "Exploring the great outdoors" resource was too large to explore fully and did not use it. Ann stated that within the resource, "there were not any special activities that stand out as particularly appropriate for this age group" (personal communication, September 30, 2003). Betty stated that the packet was "too bulky and it was hard to review all of it" (personal communication, October 9, 2003). These participant teachers' ideas for projects emerged from the children's interests and educational seminars including post-degree coursework and in-service workshops. Clara does use teacher packets occasionally and used the packet from the "Exploring the great outdoors" during an enrichment session for Kindergarteners. However, the grade I observed with Clara did not do an activity from the packet. Clara stated that she found her related classroom activity on the Web and utilized a book from the exhibit; and while the book was part of the exhibit, the activity did not come from the teacher packet (Personal communication, October 10, 2003). Danielle feels that her usage of teacher resource packets "varies" and "resources can come from many areas, such as the Internet" (personal communication, October 24, 2003). She also stated "there are

97

resources everywhere", so this packet was not an essential tool for museum visit planning or learning. In her opinion, this teacher packet was "too large" and not really "geared toward Kindergarteners" (personal communication, October 24, 2003).

4.5.2 Teacher Interviews Concerning the Museum Visit

Several teachers were interviewed after the museum visit to glean their insights on how the museum tour connected to their curriculum. Clara felt that the docent did well; she said the docents usually "adapt pretty well" to each age group and are good at picking up cues from teachers (personal communication, October 24, 2003). However, she did state she would have done the gallery tour a bit differently and have students walk in a single file around the room to see all the works before the docent talk, because they kept glancing around to other works during the talk. She liked the premise of the art activity with the museum educator, but doesn't know if the students made a connection from creating an ink tree to book illustrations (personal communication, October 24, 2003). Danielle felt the museum tour was appropriate and said she would incorporate the book the "Great kapok tree" (1989) into her curriculum later in the year, when they do "rainforests" because the students saw it at the museum. Danielle also said that she felt the students did make a connection with the "Wilma unlimited" (1995) piece. She wished the museum exhibit was later in the school year so she would have had time to go through more books with the students before the tour to facilitate connections. She rated the museum activity as "okay" and would have liked to have seen the students play with the tennis ball as an example of an action activity before engaging in art making (personal communication, October 24, 2003).

4.5.3 Post-visit Classroom Activities

After the museum visit, classroom teachers Ann, Betty and Danielle continued with projects related to the exhibit. Ann and Betty continued with class projects that were related to the Henkes (1995) book "Julius, baby of the world". Although the book was not featured in the "Exploring the great outdoors" exhibition, Henkes was a featured illustrator. These post-visit projects included creation of a baby book that was illustrated by the students, creation of a quilt square with a student-generated picture of themselves as babies, and the gathering of parent essays on their child's birth to be placed in their books. These projects did not stem from ideas in the teacher resource packet for the museum exhibit. Danielle also continued with book making projects post-museum visit. Students made alphabet books containing a page per letter with illustrations.

During my post-visit observation, Danielle also made references to the museum exhibit books. She asked students to stand and stretch like Wilma in "Wilma unlimited" (1995). After breaking the students into groups, Danielle's teaching assistant asked her group "Remember at the Nicolaysen we saw Wilma unlimited and there was blue in the picture?" She then said "we used a blue background for our alphabet page last week". She then held up "Wimberley worried" by Henkes (1999) and noted that they had seen this book at the museum as well. This teacher then picked out a specific illustration for the group to examine in detail. Then she held up "Wilma unlimited" (1995) and the group surveyed differences between the two books illustrations. This classroom discussion led to the book making activity; on that day they worked with the letter "z". Gwen's students did not complete a hands-on activity after the museum visit, but did complete a worksheet with questions pertaining to the visit, as discussed earlier.

4.6 Implications

4.6.1 Teacher Resource Usage

I proposed that the use of museum resources by teachers in their classrooms, such as the teacher resource packet, would facilitate a learning spiral by laying a foundation of information about the museum exhibit. A cross-case analysis revealed that the teacher resource packets were not utilized by the classroom or art teachers to a great extent for either the "Great outdoors" or "Kevin Red Star" exhibitions. The most common usage of the packet was for reference information about the exhibit, such as a listing of works included in the exhibit. While Clara used the packet activities for the Kindergarteners, she did not use it for the class that she brought to the museum that I observed as a case study. And, while Danielle felt the packet was not geared toward her grade and did not use it herself, she did complete a mini-marathon, which was in keeping with the one of the goals of the exhibition to explore what constitutes a "healthy lifestyle".[55]

The "Exploring the great outdoors" packets may not have been extensively utilized for several reasons. First, several teachers stated that the packet was too large to go through and find activities appropriate to their grade. Second, a document analysis revealed that the packet did not include extensive art criticism activities that would have been a fitting supplement to the museum visit. And, the teachers coordinated the exhibit to their classroom in a variety of curricular areas, in a variety of activities that were already planned into the operational curriculum for the school year rather then picking extra activities out of the packet.

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[55] Because Clara is the enrichment teacher for Verda James school, she completes activities with all grades during the school year. Clara completed the leaf rubbing activity with Danielle's Kindergarteners during "enrichment" class time, but Danielle did not use the resource. During this study, however, I only observed Clara working with 5th graders, so I did not categorize her as using the teacher resource guide because she did not use it with the participant group I observed as the case study.

In addition, the "Kevin Red Star" exhibition teacher resource packet may not have been appropriate for the art classroom and thus, was not utilized by Gwen, the only participant art teacher. While this guide may have connected to the planned curriculum in some area classrooms, this guide does not promote visual literacy through the works in the museum exhibit, or relate to this particular artist as a contemporary Native American. This information seems to have been programmed for the general classroom teacher, especially the history section, without additional information or activities specific to the art classroom.

In contrast to the teacher resource packet created for the "Great outdoors" exhibition, the one for "Buffalos on parade", the previous exhibition, was more extensively used at Park School even though there was not much didactic information included in the packet about the show (personal communication, September 30, 2003). This teacher resource packet was created by the museum educator and included information on Native American tribes, a map of the town with buffalo locations, postcards of individual buffalos and a buffalo template that could be enlarged and used for art making activities. During our initial interview, Ann expressed the usefulness of these packet elements and spoke of how she used the template to create buffalo-shaped name tags for the first day of school. She also utilized the map as part of an activity measuring distance in the town. Both Ann and Betty expanded on the offered packet activities and created more activities related to the buffalo exhibit including buffalo stories during their literature unit and a counting activity involving horns as well as measuring actual buffalo skulls for their math unit. Also, their rules for the classroom paralleled "living in a herd". Then, at the museum students saw the buffalo sculptures for

101

the "roundup" exhibit and had their pictures taken next to their favorite buffalo, which were later posted in the classroom in a chart of class favorites. Therefore, while the participant teachers did not consistently utilize the teacher resource packets for either "Exploring the great outdoors" or "Kevin Red Star", they are not opposed to using a resource if it fits their curriculum and is easier to navigate.

4.6.2 The Alignment of Teacher and Docent Teaching Paradigms Toward a Learning Spiral

A case-ordered matrix of teaching patterns revealed that while several types of teaching paradigms were represented in this study with the classroom teacher and docent participants, all can be categorized as promoting elements of audience-centered learning to some degree.[56] First, the teachers who led their own museum tours, Ann and Betty, planned studio projects for their students that would reflect individual stories, such as the creation of baby books. Then, during the museum visit, Ann used elements of free-choice touring, by allowing the students to discover works in the gallery at their own pace. This is comparable to guided discovery during a docent tour because students are active participants in choosing works to examine. Ann also brought the group together for a more involved discussion regarding books they were familiar with from school readings to draw upon their shared prior knowledge. Betty opted for guided discovery with each work in the gallery space; students were asked to walk through the gallery observing the media of each piece after a brief discussion of the exhibit as a whole. This practice repeats some of the classroom teaching I observed. For example, during the pre-visit

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[56] Each audience-centered practice can be considered on a sliding scale of learner involvement. On one end of the scale, there are certain teaching techniques, such as some constructivist practices where learning new information through experiments or projects is the learner's responsibility. On the other end of the scale are practices such as inquiry-discussion which makes the teacher more responsible for delivering information to the learner.

reading time, Betty asked students "Who is in this one?" or "how does she look?" This practice of asking students to actively look at the works was then repeated at the museum.

The teachers that had docent led tours also promoted audience-centered learning in their classrooms. For example, Clara allowed learning by role-playing in the classroom. Danielle's students compared illustrations in the featured exhibit books during a session that can be labeled inquiry-discussion and created illustrations for their individual alphabet books in the classroom. Gwen used the visit as a foundation for a worksheet with questions pertaining to the value of museums in the community. During the museum tours for these teachers' students, each docent took a different approach to the exhibits on the tour, but the most consistently observed form of interaction between the docents and students was inquiry-discussion, which is not inherently audience-centered, but does ask questions of the learner. Hannah utilized inquiry-discussion techniques and focused on subject matter and meaning during her talk; but consistently asked questions of the group that probed their knowledge of certain vocabulary or themes. Inga also utilized inquiry-discussion touring methods and incorporated a discussion of artistic process and discussion of media and artist intent as part of her tour; and arranged the tour around pieces specific to the group's pre-visit activities. She asked the students, "Do you recognize this work?" when they gathered in front of an illustration from a book they read in the classroom (museum observation, October 14, 2003). Jackie incorporated inquiry-discussion as well as guided discovery during the formal analysis segment of the tour when she asked students, in groups, to find a work that contained a certain formal element. Then she initiated individual discussions with each student group, keeping the tour structured but open to individual choice within the assignment.

I believe that the methods of teaching contributed to the possibility of a learning spiral from the classroom to the museum, as all had elements of some audience-centered teaching, and some were identical in both institutions. For example, Danielle's students were asked to participate in active looking during both the post-visit classroom session and during the museum tour, and when the same art work was shown in both venues the students probed their prior knowledge of the work. Inquiry-discussion was used as the procedure for the tour and classroom activity.

The possibility of further connections between classroom and museum learning exists although these conditions were not observed. For example, Francis promotes awareness of the elements and principles of design with every grade level, especially through studio projects. If Jackie docented for Francis's students, the semantic knowledge gained in the classroom about formal elements through studio projects would be probed at the museum, especially through the use of the activity used for Gwen's students where students sought out a select formal element from any work in the exhibition and discussed it within their group.

4.6.3 Curricular Relationships from the Museum Exhibit to the Classroom

The teachers related the museum exhibit to a variety of curricular areas through classroom projects. For example, Ann and Betty were focused on reading and writing within language arts and collected books by an exhibit author. Clara linked the museum visit to the science curriculum and utilized a book from the exhibit dealing with natural science. Danielle related both language arts and physical education to the museum visit, which links directly to the mission of the exhibit, through bookmaking and the mini-marathon, relating to the book "Wilma unlimited" (1995), where Wilma runs a marathon.

Gwen used the museum visit as a supplement to her existing art curriculum and asked students to consider the role of museums in their life.

These teachers may have incorporated these activities as part of their completion of content standards for the year in these curricular areas. For example, the health content standards for this age group include "health promotion and disease prevention, self-management and influence of culture, media and technology" and the physical education standards include "movement, fitness and personal and social behavior". Danielle may have been completing these standards through the student mini-marathon.

4.6.4 The Learning Spiral

I hypothesized that certain conditions could facilitate a learning spiral from the classroom to informal education institutions, such as art museums, through the information presented and how that information is presented, especially through the use of museum resources. In this study, the pre-visit activity, museum visit and post-visit activities were regarded as a case for each teacher that could potentially build the spiral. Of the five participant teachers who were observed at the museum, three (Ann, Betty and Danielle) created conditions that could facilitate a learning spiral. However, only one teacher's (Danielle) students were exposed to an activity in the teacher resource packet.

In my opinion, the conditions necessary to create a meaningful spiral were most evident with Danielle's group, but this was probably not due to teacher resource packet usage, as the activity of leaf-rubbing from the "Exploring the great outdoors" packet did not relate to either Danielle's overarching curriculum for the school year or to the museum exhibit. However, the group's other activities did create solid connections between the classroom and the museum. I observed the students reveal explicit memories

from the classroom while on the museum visit tour. At school, the group engaged in a mini-marathon, similar to the marathon in the book "Wilma unlimited" (1995) from the "Exploring the great outdoors" exhibit, and, the students made alphabet pages, similar to pages from alphabet books in the exhibit. At the museum, the student had a docent tour where actions and activities in each book were described by the students through inquiry prompts from the docent. Immediately prior to the tour, the docent asked Danielle what book she had worked with in the classroom and focused on it during the tour. While the docent did not completely utilize Yenawine's (1992) prescribed practice of visual literacy, as discussed below, the semantic knowledge of the classroom was fused with museum learning in this case, facilitating stronger memories and deeper understanding of works discussed on the tour. Post-visit, the students were asked to further examine illustrations they saw at the museum, noting differences, and relating elements of the illustrations to their own alphabet books.

While Ann did not use the teacher packets to create a learning spiral, the conditions necessary for a learning spiral were still created through other classroom projects and activities. The participant teachers, while aware of the museum resource, most often created their own activities linked to the museum visit as well as the overarching operational curriculum for their class for the school year. For example, Ann created many activities for her class associated with the museum visits such as arranging for students to have free reading time the morning of the visit, focused on books including Henkes books, whose original illustrations would then be seen at the museum. Immediately before the tour, students in Ann's group heard Betty read a Henkes book (1995) aloud and discussed museum manners. When the students entered the museum

gallery, Ann asked them to sit as a group in front of one of the works and asked "Do you recognize any pictures that look like pictures from book that we have read?" (museum observation, October 3, 2003). Ann's group did not have a docent tour, but did visit the exhibit with Ann, who asked them to consider original illustrations to the book illustrations. This comparison activity was promoted by Saoud (2003) as a manner of connecting the museum experience to classroom viewing of art works, and Ann asked students to consider which illustrations they had seen before, in the classroom. During the museum workshop, students focused on adjectives, which also relates to an earlier classroom discussion. After the museum visit, the students completed further activities related to a Kevin Henkes book. While the related classroom activities were not composed to foster further learning about the underlying mission of the museum exhibit or foster visual literacy involving the museum works; the museum visit supported the teachers' curricular goals in reading and writing. As Ann stated during the interview, "We are really tying the museum visit into our literature curriculum" (September 30, 2003).

Because Betty coordinated activities with Ann; the students had a similar experience, facilitating a spiral from the classroom to the galleries. These students also practiced "free reading" until the time for the museum field trip and listened to a story by one of the featured authors. In the galleries there was questioning and discussion of artistic media. The teacher alerted students to books they would recognize from the classroom, thus drawing on their prior classroom knowledge. I heard students exclaim "Look, 'Frog and toad'" or "There's 'George and Martha'" indicating they were making

a connection to their prior experience with these book illustrations in the museum (museum observation, October 3, 2003).

While Ann, Betty and Danielle's students were offered information in both the classroom and museum that would facilitate a spiral, Clara's students did not have curricular connections that would facilitate a spiral, even though teaching paradigms aligned. The pre-visit activity for Clara's students involved interactive science curriculum, which could have spiraled when viewing the pre-visit feature book. Yet at the museum the activity in the gallery was not related to science or even a discussion of the feature book. Clara's students did not engage in learning any new material related to the food chain or rainforest at the museum and did not actively seek out their pre-visit focus book. When I asked a student if she saw the "Great kapok tree" illustrations, she replied "I think so". While the classroom activity was well-planned and stimulated learning, the museum visit became an isolated experience. The docent did not refer to the book that the class had discussed. Mid-tour, the teacher asked the students to play a game, and this was disconcerting to the docent, who had not communicated with the teacher before the tour regarding what activities she might desire. Additionally, these students did not have any post-visit activity.

Gwen's group had the least probability of a spiral because they did not participate in any pre-visit activities related to the Kevin Red Star exhibit or explore any themes in the exhibit in their classroom. The museum visit did concentrate on visual literacy and art criticism, but these themes would not be explored in any way that would relate to the show after the visit.

I proposed that Yenawine's (1992) approach to visual literacy allowing the docent to "present background data in a way that allows a subject to be seen in relationship to its past and present contexts as well as to the learner's own experience, developing systems for recalling and using new data," and "create an environment that arouses curiosity and increases openness and willingness to probe for subtleties" would assist in fostering a learning spiral in the museum during a structured tour (p. 295).[57] Along with Bruner's (1960) idea of a spiral, these conditions foster learning for understanding through student experience, physical and mental comfort, reflection time, and flexibility and allow for meaningful learning with understanding. The docents provided structured tours where they often defined vocabulary and directed the viewers to several elements in each work such as subject matter and media, yet there was marginal background data presented about each artist or the context of creation for each piece, except for the biographical information on Red Star provided by Jackie. Jackie also encouraged students to consider what they would remember from the exhibit, and came the closest to adhering to all the strategies to establish visual literacy as prescribed by Yenawine (1992). Inga did discuss the creation of several of the works, but focused more heavily on active looking of content in each work and artist intent, rather then providing an extensive amount of background data. Inga also concentrated on presenting works that would relate to the learner's own experiences in the classroom, but this was not the case with Hannah's tour. Hannah focused on meaning within the works, but did not define the work in a variety of contexts. Therefore, while the docents did occasionally draw on prior knowledge and

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[57] Yenawine (1992) methods also include providing an introduction to each object, discussion of its significance in terms of the art or culture, defining essential vocabulary, directing the viewer's attention to certain areas of the work (subject matter, formal properties, etc.), analyzing relationships to other works, providing background data, providing suggestions that encourage thought and demonstrating the possible variety of meanings and summarizing the presentation.

created an environment that would stimulate curiosity, they did not consistently reveal

strict observance of both Yenawine's (1992) and Bruner's (1960) theories of meaningful

learning in the galleries. The museum visit also included a workshop for several of the

groups. However, the content and theme of the workshop did not connect to the tours or

classroom activities. Some workshops offered opportunity for experimentation with

artistic media, but not in a manner that related back to the tour. Therefore, the conditions

toward a learning spiral was not evident in the manner envisioned, but did exist in some

cases, when the teachers' referenced the museum exhibit in their classroom through

activities and discussion and the docent probed semantic memories from the classroom.

CHAPTER 5: CONCLUSIONS, DISCUSSION AND SUGGESTIONS FOR FUTURE

RESEARCH

5.1 Summary

I proposed that both Bruner's (1960) idea of the spiral curriculum and Yenawine's (1992) theories of instruction to gain visual literacy in the museum set the stage for significant learning for students when used together. When school teachers lay a foundation of knowledge about a museum object, especially through the use of museum resources, then the student has the opportunity to apply this 'prior knowledge' (explicit memories from the classroom) while on the museum tour. The museum instruction is especially effective when docents utilize Yenawine's (1992) methods toward the goal of visual literacy; the semantic knowledge of the classroom is then fused with museum learning through application of the students' prior knowledge, placing that information in new contexts, as well as having "object experience", which builds stronger memories and facilitates deeper understanding. This research explored the correlation of these two theories in a practical manner based on research of actual museum visit preparation in the classroom and how it related to the museum tour.

5.2 Conclusions

This research was guided by four questions that probed how teachers prepared for museum visits, how the museum tour built upon or utilized pre-visit preparation and how these elements worked together to facilitate conditions for the creation of a learning spiral.

5.2.1 How do Teachers Prepare for the Museum Visit and does this Preparation Link to Their Curriculum"?

Participant teachers involved their students in a variety of pre-visit activities including artistic production, role playing, and reading that allowed for audience-centered, personal interpretation of themes from their curriculum, and then often completed studio activities after the visit. The teacher packet was not the foundational core of the spiral of learning from the teacher's curriculum as I had envisioned; the teachers incorporated activities that promoted meaningful learning related to the official curriculum, such Clara's "Great kapok tree" activity, which was related to the museum exhibition (original illustrations were included in the museum exhibit) and natural science (the food chain and food pyramid). Discussion of the art was limited in all classrooms; for example, Clara did not engage in discussions of artistic practices, aesthetics, or art criticism as related to the illustrations on exhibit. However, all the participant teachers discussed the museum trip with their students and provided information on visiting a museum, museum manners and/or the exhibit content that assisted students in gaining an awareness of the museum environment.

In her research on how galleries/museums are used by teachers in Great Britian, Xanthoudaki (1998) found one way that the gallery/museum was used was as a "classroom resource" that allowed for relationships to be built by the teachers to the classroom curriculum. In this study, since none of the educators was striving for visual literacy in particular, the Nicolaysen became a "classroom resource" or supplement to the classroom curriculum. Therefore, as Barry and Villeneuve (1998) also found in their

study, the museum can serve as a supplement to diverse curricular areas, and not utilized

exclusively for aesthetic development

5.2.2 In what Context and Manner do Teachers use Teacher Packets or other Museum

Resources in Their Classroom to Prepare for the Museum Visit"?

The context of the classroom activities was linked to the actual exhibition for

participant teachers who visited the "Exploring the great outdoors" exhibition. For

example, the Kindergarteners created their own written and illustration alphabet books

that posed similarity to several exhibition pieces. Another example was the creation of

baby books in the 1st and 2nd grade; these were stimulated by a book written by one of the

featured museum exhibition authors.

The research revealed that the teacher participants from the Casper public schools

seldom used the teacher packet programming for the "Exploring the great outdoors" or

the "Kevin Red Star" exhibitions at the Nicolaysen Museum, but did use reference

materials included in the packet. While all the teachers may not have utilized the studio

art activities in the teacher packet to a great extent, several did incorporate studio

activities relating to their pre-existing curriculum for the school year.

5.2.3 In the Museum, do Docents Present Inforamtion that Builds On, Questions, or

Places Prior Knowledge in a New Context?

The Nicolaysen Museum docents used inquiry-discussion strategies during

structured museum tours to encouraged reflection on several of the works in the

exhibition. The inquiry-discussion method fosters some audience interaction primarily

through questioning (Grinder & McCoy, 1985). While all the docents did not

consistently, actively question pre-visit knowledge established in the classroom, docents

such as Inga asked the teacher which works had been seen and discussed in the classroom and spent more time with these works, instead of trying to discuss the entire exhibition. The docent was not familiar with the classroom activities, but her probes spurred the students' semantic memories of the works as well as their pre-visit activities. The museum experience allowed the students to build on that prior knowledge base by having an "object experience" (Pekarik, Doering, & Karns, 1999) and allowing for discussion of the formal qualities of the actual piece. The work was placed in a new context for these students because they had previously seen it as a book illustration as part of a story and then saw it as a "work of art" in the museum. Thus, the students added to their prior knowledge of the work when the focus of viewing changed from subject matter (discussed in the classroom) to compositional elements (discussed in the museum). However, there was not any evaluation of the students' application of prior knowledge at the museum, so Bruner's (1960) theory of the process of learning (inclusive of the acquisition, transformation and evaluation of knowledge) was not completed by the docents.

Of all the docents, Jackie's methods of touring were the most closely aligned to Yenawine's theory of docenting to encourage visual literacy; however, the students did not have any pre-visit activities related to this exhibit. To begin the tour, she asked students to stare at one of the works for a minute then turn away from it. After the students turned around, she questioned their observations of the work. This activity "focused their attention", as Yenawine (1992) suggested, on viewing works and encouraged the students to note details, which set the stage for further active looking. After viewing several other works, Jackie "directed the viewer's attention to certain of

the physical and illusionistic properties in the work" (p. 297) when she asked students, in small groups, to find a work that expressed certain visual elements for group discussions (Yenawine, 1992). This project also encouraged students to articulate their observations and critically analyze what they were seeing. Jackie also defined vocabulary, provided background data on the artist and provoked students to consider what they would "take away" from the exhibit.

5.2.4 How Does Classroom Preparation and the Museum Tour Facilitate a Learning Spiral?

The research revealed that conditions do exist within the community that would facilitate Bruner's (1960) idea of a learning spiral, yet not in the manner envisioned. The observed conditions toward a spiral was accomplished through the participant teachers relating the museum exhibit to their operational curriculum in a variety of curricular areas, such as language arts and science, when docents related the tour to classroom learning, and not consistently through museum resources or Yenawine's (1992) methods toward increasing visual literacy, as was previously considered.

Danielle, the Kindergarten teacher, obtained the most meaningful "spiraling"of classroom and museum learning. This was accomplished through both studio and art criticism activities, such as creating a book and discussing illustrations, and running a mini-marathon. At the museum, her students were able to verbally relate their school experience to the museum experience. For example, students mentioned the "mini-marathon" during the docent tour because the docent spent time talking about "Wilma unlimited" (1995), a book Danielle read to them at school. Students were able to build on their prior knowledge of this work and apply it as the docent questioned the students

about the subject matter (discussed at school) and formal qualities of the work (new discussion at the museum placing the work in a new context of study). Students saw alphabet book pages similar to their own at the museum and acknowledged the similarities. And, the students saw the original art from other books they read at school. After the museum visit, the students recalled the exhibition works in a classroom discussion and through continuation of their bookmaking activity. For example, during the post-visit classroom observation, the teacher's assistant said, "Remember at the Nicolaysen we saw 'Wilma unlimited'?" held up a copy of the book and asked the students to examine illustrations and express what they saw, which stimulated their episodic and semantic memories. The teacher then asked them to analyze the illustrations further probing the information they received at the museum. For example, she asked, "What do you notice about the colors?" while holding up two illustrations they saw at the museum. When she asked them to look at the color in one of the illustrations, she also asked, "Remember how we used blue for our alphabet page last week?" creating further connections between their school projects and the museum tour (observation, October 24, 2003).

Bruner's (1960) theory of learning can be seen in practice here because students received information in the classroom then applied it at the museum when they saw and discussed the actual work and, later, were questioned about this information. When the teacher read these books to students and asked them to create their own books with illustrations, she was aiding in the "acquisition of new knowledge" (Bruner, 1960, p. 48). She then took the students to the museum where they engaged in aspects of art criticism of book illustrations, so the students were "analyzing information to order it in a way that

116

permits extrapolation or interpolation" (Bruner, 1960, p. 48). Then the students engaged in further discussion of the illustrations after the museum visit, which aided in the teacher evaluating the new knowledge through student comments. Danielle stated that she may further build upon this knowledge in several manners, such as the incorporation of other books from the exhibit into the classroom curriculum (personal communication, October 24, 2003). This is the best observed example of the spiral of learning that can be created utilizing the museum, yet the teacher did not use museum resource suggestions for classroom activities.

The museum was an active part of the learning spiral for these students. While some students may only visit the museum once a year, the participant teachers encouraged links between the art at the museum and established curriculum. The participant teachers did not treat the museum visit as an isolated "recess" from regular classroom activities, but asked students to reflect on what they saw in the museum. Many students recognized works in the museum from their classroom experiences. And, some students even spoke of their previous museum visit. Previous research has proven that museum field trips provide long-lasting memories and this was evident with these students as well (Falk & Dierking, 1997). In this study, even the youngest students (Kindergarten) were able to remember the illustrations they saw in the classroom, later, at the museum. These memories assist students in creating a foundation for later learning and then applying that information, which is the basis of the spiral.

5.3 Discussion

5.3.1 Teaching practice: An Ideal Model for a Learning Spiral

Both Bruner's (1960) idea of the spiral curriculum and Yenawine's (1992) theories of teaching for visual literacy in the museum set the stage for meaningful learning for students when used together. The students of participant teachers often received the same type of semantic data (words, symbols) and discussed the information in both the classroom and in the museum providing some of the conditions necessary for a spiral. But the educational programs at the museum were not focused on lessons for visual literacy as prescribed by Yenawine (1992). Any spiral building from the classroom to the museum was primarily the responsibility of the teachers, as only one docent built her tour around prior classroom knowledge. In classrooms, after the tour, many teachers continued to discuss books or authors seen during the museum tour because the information related to other curricular areas such as language arts. The conditions were set for student recall of the exhibit works as the students' semantic memories would be stimulated by association with a location, the museum itself (Jensen, 1998).

A model situation for a spiral of learning would entail active communication and planning between teachers and docents. Based on the results of this study, I believe that teachers must assume a large responsibility toward the ideal classroom and museum spiral. The teachers must provide the foundation for any museum learning and continue the dialogue from any museum discussions. As McNamee (1987) wrote art museum education should "be related to child development, begin long before the museum is entered and be sequential" (p. 181). Teachers should plan activities structured to the developmental level for both before and after the visit that facilitate new learning, the transformation, application and evaluation of that learning, as well as extension activities

118

that can be accomplished in the museum. As Fowler (2002) wrote, "preliminary classroom work in discovering ways to look at art and find meaning in artistic expression" will augment the visit (p. 34). The generalist teacher can begin a students' relationship with art through the Visual Thinking Strategies, as discussed earlier (Yenawine & Housen, 2002). Visual Thinking Strategies stresses active looking to "cultivate a thinking disposition" to build cognitive skills that can be utilized in other disciplines that are part of the teachers' official curriculum (Perkins, 1994, p. 4). The teacher should also relate the arts to other curricular areas so the arts are not removed from other aspects of the students' education. As Wilson (1996) stated in the "Quiet Evolution", the "most important teaching takes place when several school subjects are taught simultaneously within the context of large themes" (p.14). Thus, the arts inform other curricular areas in the general classroom, as was observed in this study and others (Barry & Villeneuve, 1998; Neu, 1985).[58] This is beneficial to all teachers' official curriculum and relative to the students' entire education.

The museum docent must also take an active role in this process toward a spiral. First, communication with the teacher is essential to gather information about the particular needs of the tour group and any activities the teacher has planned. Then the docent can structure the tour to their ability, needs, and build on classroom learning. This practice has been promoted by many educators (Francis, 1997; Housen & Yenawine, 2002; Saoud, 2003; Whitmer, Luke & Adams, 2000). However, this ideal situation may not occur in many art museums today due to the limited time docents spend at the museum. Therefore some museums such as the Amon Carter (Fort Worth, TX) have

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[58] The Delaware Art Museum "education staff believes that art is not a 'frill' but an important component to all parts of the school curriculum" (, Neu, 1985, p. 19).

begun compensating docents as part of meeting their extensive educational goals. If classroom teachers are paid, museum teachers might also need to be paid for additional duties beyond the tour, such as time spent communicating with teachers before a visit or developing a tour that connects to other disciplinary areas. As Neu (1985) stated, "Museum educators need to reexamine their collections and exhibitions, see how classes about other disciplines than art can utilize their collections, and strive to bring art into every area of the school curriculum" (p. 21). Thus, docents must extend the scope of their tours to meet the needs of individual visiting groups. If docents utilize Yenawine's (1992) practices, information would be presented in a manner that "define its (the work) relationship to a variety of contexts, past and present". These various contexts would include connections to other curricular areas such as history.

Furthermore, the museum galleries in a model situation would be arranged with some constructivist components such as exhibits that appeal to different types of learners (referring to Gardner's theory of multiple intelligences) with layered text (information provided in a variety of manners/levels) to draw on a visitor's prior knowledge, by asking questions of the visitor that stimulate recall (Hein, 1998). Bourne and Dritsas (1997) suggested exhibit components that reflect accessibility and are multi-sided (a group can cluster around an exhibit), multi-user (interactive components for several users), and multi-modal (appeals to different learning styles and levels of knowledge) to enable the visitor, individually or with a group, to learn in the exhibit space. The exhibit should also have interactive areas for visitors to solve problems based on their prior knowledge facilitated through the teacher or docent. An example would be a station for a visitor to construct a cubist composition or textile pattern. These stations are already in existence at

the Nicolaysen Museum in the "Discovery Center" rooms instead of the art galleries. This interactive and approachable learning environment would meet the needs of various touring groups toward cognitive growth as students learn more about the works (cognitive), interact with them through docent activities or interactive stations (psychomotor), and possibly further appreciate the works (affective) through this environment.

And, the ideal museum education department should develop some activities to assist teachers in continuing the dialogue about exhibits and applying that knowledge after the tour. This could be accomplished through their Web site or by providing a CD to classroom teachers.[59] I observed that all teachers had access to computers so the CD would be appropriate for their classrooms. These activities should be interactive, as discussed below, and therefore in keeping with the audience-centered practices encouraged during museum tours.

While I am proposing a model that fosters connections to the general curriculum, I believe that developing visual literacy should not be overlooked and can be accomplished through Yenawine's practices (1992/2002). When the teachers in both institutions coordinate efforts toward cognitive growth using art, the practices should facilitate movement through Housen's (1980) stages of aesthetic development. For example, a 1st grade student can view a book illustration and make meaning of the subject matter as part of a narrative. The teacher could ask the student to create illustrations for their own books, as seen in this study. Later, when the child is in 3rd grade, they may receive more art historical information at the museum about a work and be better able to

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[59] However, the Web site may not be utilized if teachers are not reminded that it exists or given some tangible reminder of how to access it.

place the work in the context of history as well as place other similar works into a particular genre. The student may further understand artist intent and relate it to their own artistic practice as part of the 'transfer' process. This building of knowledge throughout the students' academic career is integral to the spiral process. As Bruner (1960) stated educators should "translate material into his (students) logical forms", which means that students of any age can learn about a subject in some manner (p.52). Each year the student builds on that knowledge and deepens understanding of the subject. This can be accomplished by beginning with Visual Thinking Strategies, as suggested above, but also later through Yenawine's (1992) practices that call on the viewer to understand the work in a variety of contexts while they negotiate personal meaning and learn art historical information.

5.3.2 The Future of Museum Resources

Are museum resources a waste of time? As Danielle stated, "There are resources everywhere" and "we can come up with activities related more to the curriculum" (personal communication, October 24, 2003). During the "Great outdoors" exhibit, only one of the participants used the teacher packet. The survey instrument revealed that many other teachers in the community were not even familiar with the resource. Ann and Betty did not use the packet either; this may be because Park School teachers such as Ann felt that there were no special activities that stood out as appropriate for this age group (personal communication, September 30, 2003).

The use of teacher resource packets varies across the United States and while my participant population may not be representative of teaching paradigms in other schools in the United States, their infrequent use of the teacher packet is consistent with my pre-

122

research findings in another community as well as other research findings (Stone, 1993).[60] Stone (1993) also found a very small percentage of teachers collaborated in the preparation of programs or museum generated curricular materials. Teachers, in general, may not care to have teacher packets. While it may seem that teacher resource packets with many project ideas is appropriate, a "less is more" theory should apply; teachers who visited the Nicolaysen Museum prefer to create their own activities related to the exhibit. However, teachers did use provided factual information about the exhibit and so that information should be offered to teachers in some manner. For example, the "Buffalos on Parade" packet contained very few activities but was utilized by several participant teachers for the additional information on the buffalos. The "Buffalos on parade" packet was not as lengthy and time consuming to read as either the "Exploring the great outdoors" or "Kevin Red Star" packets, thus increasing the probability of usage.

One possible reason that the resource packets were not used may be because the resource was mailed to school principals. This practice of relying on the school principal as the disseminator of teacher resource packets has obvious faults. First, principals do not coordinate museum tours or activities. Second, principals are inundated with paper work and this huge packet will not be singled out as "high priority". And finally, the teacher resource packet is not addressed to teachers in a specific grade level or area within the elementary schools.

Museum educators have voiced concern about the actual use of the packets in the classroom and the cost of packet preparation, and as a result have placed the packets on-

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[60] Stone (1993) also found secondary art specialists most frequently use museum resources for art history lessons and studio project motivations on self-guided tours. Post-visit activities most often included studio projects or art criticism activities.

line (Dallas Museum, 2003). This practice may need to be adopted in Casper, as many

teachers have Web access and are selective about the teacher packet programming they

utilize.[61] All the participant teachers have computer access in their classrooms, so

interactive activities from the museum could be used and the museum already has a Web

site (http://www.thenic.org/). The "Exploring the great outdoors" packet was actually

also available on-line attached to the Meridian site, as referenced in the supplemental

papers to the packet.[62] The participant teachers may have preferred selecting information

about the "Kevin Red Star" exhibit on the Web to the large paper version of the packet.

In the future, as more museum educators become familiar with software programs,

additions could be made to the basic packet format placed on museum Web sites.

The future of museum resources for teachers should include interactive programs

designed for a variety of developmental levels and connections to a variety of curricular

areas. These on-line activities would engage the student in learning about museum

exhibitions, rather then the traditional packet which offers didactic information for works

and studio art activities. The interactive nature of what I propose is more aligned with

contemporary audience-centered methods of museum touring, but on the Web. An

example, already in existence in Wyoming, is the National Wildlife Museum of Art

which allows the user to animate art principles, submit work for critique, and a

composition studio among other offerings all on the Web site

(Http://www.wildlifeart.org, Retrieved October 29, 2005). Interactive programs created

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[61] In 2004, the Nicolaysen Education team did start offering the teacher resource packets on-line through the museum Web site.

[62] The participant teachers did not use this site.

by the museum to be utilized by students on the Web would also enhance any activities initiated by the classroom teacher.

The Web viewing experience also provides a base of knowledge to build upon when actually visiting the museum (West, 1998). Krause (1998) agreed that the Web "offers possibilities for the teaching of art history and art education… and is beneficial for providing self-paced access to vast amounts of information" (Krause, 1998, 149). West (1998) found that student's interest in visiting the museum increases after viewing the pieces on the Web. Student interest in visiting the museum would also feed a learning spiral.

5.4 Suggestions for Future Research

If I were to conduct this research again, I would make a few minor alterations. First, I would have more aggressively sought out the high school art teachers to ascertain how they prepare for any museum visits, and if they use teacher packets.[63] The area high school art teachers have their students in class for more time each week than any art teachers in grades K-8. Therefore, the high school art teachers may have the time to visit the museum with their students and create solid connections between the museum exhibition and their classroom, especially through museum resources. Second, I would compare how high school teachers prepare for visits with how the participant teachers prepared during this research. While the elementary school teachers do not seem to consistently rely on the packets, the high school teachers might, as Stone (1993) found in her study. In this community the high school teachers do not visit the museum as often as the elementary school teachers. Further qualitative research seems necessary to assess if

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[63] While the survey instrument was given to two area high schools, it may not have been given to the art teachers of the schools.

there are underlying biases or curriculum issues that prohibit visitation. For example, the teachers may not include art history, criticism, or aesthetics in their operational curriculum and the museum visit would not connect to any classroom practices.

While there is evidence of a curricular connection that facilitates a learning spiral, in some cases, between classroom learning and the museum visit, additional qualitative and quantitative research could supplement these findings on what students actually glean from their visit. This research could be replicated with an exhibition at the National Wildlife Museum (Jackson, WY) and include testing of student knowledge and learning to ascertain if more learning is taking place during museum visits for students whose teacher prepare for the visit utilizing the interactive programming available on the museum Web site, as opposed to teachers who do not. Understanding how students learn in both the classroom and the museum is an important issue to both classroom and museum educators and one that will continue to be explored as both types of educators strive for learning with understanding.

APPENDIX

List of schools used for the research

Elementary Schools:
Bar Nunn Elementary School
Crest Hill Elementary School
Evansville Elementary School
Fairdale Elementary School
Grant Elementary School
Manor Heights Elementary School
McKinley Elementary School
Oregon Trail Elementary School
Paradise Valley Elementary School
Park Elementary School
Pineview Elementary School
Red Creek Elementary School
Sagewood Elementary School
St. Anthony's Tri-Parish School
University Park Elementary School
Verda James Elementary School
Woods Learning Center

Secondary Schools:
Dean Morgan Junior High School
Casper Classical Academy
Natrona County High School
Kelly Walsh High School

Survey Instrument

Dear Teacher,

I am researching how Casper area teachers use the Nicolaysen Museum and prepare for visits to the museum. I anticipate that your input will contribute to more meaningful school and museum collaborations.

1) **Do you plan to use the Nicolaysen this year**?
Yes_____
No_____
If yes, when and how will the museum be used (field trip, workshop, etc.)?

2) **How often do you visit the museum with your class**?
1 x per year_____

2 x _____

3 x_____

4 or more_____

3) **Do you use any preparatory materials for the visit? Please describe**.

4) **Would you be interested in talking about your experiences at the museum or how you feel the museum relates to your curriculum**?
Yes_____
No_____
If yes, please write your phone number or email address here:

Please submit to the front office or return to (by 10/29/03):
Valerie Eggemeyer
Art Dept.- Casper College
125 College Drive
Casper, WY 82601
veggemeyer@caspercollege.edu

UNIVERSITY OF NORTH TEXAS
COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS
RESEARCH CONSENT FORM

Subject Name: Date:

Title of Study: <u>Art Museum Resources and Teacher Use</u>

Principal Investigator: Valerie Eggemeyer

Co-Investigators: None

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the proposed procedures. It describes the procedures, benefits, risks, and discomforts of the study. It also describes the alternative treatments that are available to you and your right to withdraw from the study at any time. It is important for you to understand that no guarantees or assurances can be made as to the results of the study.

PURPOSE OF THE STUDY AND HOW LONG IT WILL LAST:

This study is important to building knowledge on how teachers use museum resources as a foundation for meaningful learning on a museum tour as well as how the tour connects to this foundation. The findings will be shared with both teachers and museum educators to permit mutual understanding of how museum-generated "teacher packets" are being used. Museum educators may also find insight on how the packets can be more useful and establish more connections to the school curriculum. The goal for this project would be to make visible teacher use of the "teacher packet" and how it relates to the museum docent tour to create a "spiral of learning."

Each participant will be contacted for observation times and an interview time, which will vary with each participant. I would like to observe the teachers usage of the packet, which may involve one or several class periods. The interview may last as long as the teacher is comfortable talking about their experience and may be in person or telephone call. The projected time for an interview ranges between 10-30 minutes. This interview may take place on school grounds or elsewhere at the teacher's convenience. Each teacher will be contacted for individual arrangements.

DESCRIPTION OF THE STUDY INCLUDING THE PROCEDURES TO BE USED:

This research will be conducted though classroom and museum observations, with no interruption to the classroom/museum procedures, and scheduled interviews. Consent to participate forms will be administered before the session.

This is a qualitative study that focuses on teacher experiences. As such, the environment will not be altered in any manner. Data will reveal daily life experiences of the teachers with the museum resource packets.

UNIVERSITY OF NORTH TEXAS
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Subject Name: Date:

Title of Study: <u>Art Museum Resources and Teacher Use</u>

Principal Investigator: Valerie Eggemeyer

Co-Investigators: None

<u>DESCRIPTION OF PROCEDURES/ELEMENTS THAT MAY RESULT IN DISCOMFORT OR INCONVENIENCE:</u>

The research will only be conducted at the participant's convenience. The participant must indicate a desire to be part of the research before contact is made. Consent to participate forms will be given to teachers before observation in their classroom or the interview begins.

This study poses minimal risk to participants as the observation is not interactive and the interview is only semi-structured and can be ended at any time. There will be minimal classroom interruption and no manipulation of behavior. The students in the classroom are not being monitored. There is minimal risk as no harm or discomfort ordinarily encountered in the classroom will come to the participants.

<u>DESCRIPTION OF THE PROCEDURES/ELEMENTS THAT ARE ASSOCIATED WITH FORESEEABLE RISKS:</u>

There are no risks involved for the participants as the researcher minimally interrupt their classroom routine and interviews may be scheduled at their convenience. Their behavior is not being studied for modification only understanding of their daily life experiences.

<u>BENEFITS TO THE SUBJECTS OR OTHERS:</u>

This study will be of mutual benefit to teachers and museum educators in creating a more meaningful learning experience for the students through the use of teacher packets as pre-trip preparation materials that set a foundation for learning in the museum.

<u>CONFIDENTIALITY OF RESEARCH RECORDS:</u>

The participants' names will be protected. Each participant will be given a number for data analysis and a pseudonym in the narrative portion of the findings.

Concept ordered matrix: Curricular goals				
		Curricular Area	Evidence of Area in the Classroom	Connection to Museum Visit
General classroom teachers	Ann	Reading/Writing	Collected/Read books by authors in exhibit, wrote baby books	Yes
	Betty	Reading/Writing	Collected/Read books by authors in exhibit, wrote baby books	Yes
	Danielle	Reading/Writing, Physical Education	Collected/Read books by authors in exhibit, wrote alphabet books, mini-marathon	Yes
Enrichment	Clara	Natural Science: Rainforest	Read the Kapok Tree, Food Pyramid Creation	No, except for book used
Art	Gwen	Visual Art	Studio projects	Yes, but not to current exhibit
	Ellen	Visual Art	N/A	N/A
	Francis	Visual Art	N/A	N/A

		Museum Usage	Curricular Topic	Materials Use	Object Reference	Teaching Style
Role ordered matrix: Teaching style related to museum visit						
General classroom teachers	Ann	Yes	Reading/Writing	Studio activity, props/artifacts	Storytelling	Free-Choice Touring, Transactional
	Betty	Yes	Reading/Writing	Studio activity, props/artifacts	Storytelling	Guided Discovery Touring, Transactional
	Danielle	Yes	Reading/Writing, Physical Education	Studio activity, props/artifacts, games	Storytelling	Transactional
Enrichment	Clara	Yes	Natural Science	Studio activity, props/artifacts	Role playing/ Storytelling	Transactional
Art	Gwen	Yes	Visual Arts	Movie (not related to exhibit content)	N/A	Inquiry-Discussion
	Ellen	No	Visual Arts	N/A	N/A	N/A
	Francis	No	Visual Arts	N/A	N/A	N/A
Docents	Hannah	Yes	Museum Exhibition	Artifacts	Factual information, Questioning	Inquiry-Discussion
	Inga	Yes	Museum Exhibition	Artifacts	Factual information, Storytelling, Questioning	Inquiry-Discussion
	Jackie	Yes	Museum Exhibition	Artifacts, vocabulary card, games	Factual information, Questioning, Formal Analysis	Guided Discovery, Inquiry-Discussion

Time ordered matrix: Conditions toward a spiral					
	Pre-visit	Museum	Post-visit	Sufficient evidence toward a spiral	Visual literacy (Yenawine)
Ann	Book featured in exhibit, book making project	Students saw pre-visit books	Book featured in exhibit, book making project	Yes	Partially: Considered media and compared works
Betty	Book featured in exhibit, book making project	Students saw pre-visit books	Book featured in exhibit, book making project	Yes	Partially: Considered media and compared works
Clara/Hannah	Kapok book	Various other books	Not applicable	No	Partially: structured tour Considered meaning
Danielle/Inga	Book featured in exhibit, book making project	Students saw pre-visit books	Book featured in exhibit, book making project	Yes	Partially: structured tour Considered artist intent, comparison of media
Gwen/Jackie	No works from museum exhibit	Red Star paintings	No works from museum exhibit	No	Partially: structured tour Certain properties of work emphasized Provided background data Summary

Case ordered matrix: Teaching patterns			
	Pre-visit	Museum Tour in the Galleries	Post-visit
Case 1 Ann	studio activity, reading, inquiry-discussion	free-choice touring, active looking and discussion, studio art, discussion of original versus print	studio project, reading, discussion
Case 2 Betty	studio activity, reading, inquiry-discussion	active looking and discussion, studio art, discussion of artistic media	studio project, reading, discussion
Case 3 Clara/Hannah	Role playing, inquiry-discussion	inquiry-discussion, discussion of subject matter and meaning	nothing related to exhibit
Case 4 Danielle/Inga	inquiry-discussion, active looking, studio activity, games	inquiry-discussion, active looking, studio art, discussion of artistic processes and artist intent and subject matter for selected works	inquiry-discussion, active looking, studio project
Case 5 Gwen/Jackie	movie (unrelated to exhibit content)	guided discovery/ inquiry-discussion, formal analysis, subject matter, biographical information	inquiry-discussion

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140

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