AN EXPLORATION OF THE LIVED EXPERIENCES OF

CHILDREN WITH VISUAL IMPAIRMENTS VISITING AN ART MUSEUM

by

PAMELA BONNABEL KELSEY

(Under the Direction of Carole Henry)

ABSTRACT

Art museums have the capacity to play a vital role in society, enriching the lives of the members of a community and providing visitors of all ages and abilities with social and intellectual experiences. The purpose of this qualitative case study was to examine what it is like for children with visual impairments to experience artwork in an art museum setting involving multisensory modalities. Through an interpretivist methodology, the case study investigated how four children with visual impairments constructed meaning through their interactions with works of art and shared that understanding through their own voices. In an interactive environment of learning, each child participated in a private docent-led tour that comprised three stops in a museum's permanent collection. The child interacted with various tactile aids such as interpretive replicas of the artwork, written descriptions provided in braille and large print, and touch key/ legend boards with tactile items used in the creation of the replicas. In addition to the tactile aids, the docent guided the child through a discussion of the historical and artistic elements of the artist's work.

Data evidence was collected through direct observation of participants via field notes, docent-child conversational audio recordings, photographs, small segments of videotapes, and open-ended interviews of all participants in the study. To analyze the data, the constant comparison inquiry approach was used as a means to compare and contrast units and categories of field texts to produce conceptual understandings of the children's experiences. The findings suggest that how children with visual impairments engage with a range of tactile assistance and dialogue with a docent in a museum setting is an important part of their mode of interpretation if appropriate approaches and methods are implemented. The results of this study may benefit art museum educators as they develop tours for children with visual impairments. By focusing on the needs of the child with visual impairment and listening to his voice, museum educators may find value and plan creative ways in which to incorporate the his/her unique perspectives.

INDEX WORDS: museum inclusivity, visual impairment, art education, tactile aids, learning experience

AN EXPLORATION OF THE LIVED EXPERIENCES OF CHILDREN WITH VISUAL IMPAIRMENTS VISITING AN ART MUSEUM

by

PAMELA BONNABEL KELSEY

BFA, University of Georgia, 1969

MAEd, University of Georgia, 1972

TS-6, University of Georgia, 1979

A Dissertation Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

DOCTOR OF PHILOSOPHY

ATHENS, GEORGIA

2017

© 2017

Pamela Bonnabel Kelsey

All Rights Reserved

AN EXPLORATION OF THE LIVED EXPERIENCES OF

CHILDREN WITH VISUAL IMPAIRMENTS VISITING AN ART MUSEUM

by

PAMELA BONNABEL KELSEY

Major Professor:	Carole Henry
Committee:	Carissa DiCindio
	Melissa Freeman
	Cynthia Vail

Electronic Version Approved:

Suzanne Barbour
Dean of the Graduate School
The University of Georgia
August 2017

DEDICATION

This work is lovingly dedicated to my parents, Guion and Naomi Bonnabel. Both lifelong learners and educators, they inspired me to teach children by promoting the development of critical thinking skills and encouraging their authentic expression of ideas. At an early age, my parents introduced me to children with disabilities. Those early experiences led to an intense desire to enter the field of special education in order to serve those children and young adults who require curriculum modifications to support their learning. I continue to depend on my parents' inspiration and spiritual guidance.

ACKNOWLEDGEMENTS

I was honored to be in the presence of the four young participants in this study. These children were a blessing to me in ways they could never know or understand. They were thrilling to observe as they worked so hard to experience the works of art in the museum. They humbled us all by their perseverance and mental acuity. I thank the docents for their flexibility, creativity, and genuine interest in the children they guided.

I owe a debt of gratitude to the professors who served on my committee. To my major professor, Dr. Carole Henry, for her continuous support, encouragement, and expertise within the field of museum education; I am ever thankful. To Dr. Melissa Freeman who suggested several key research books and guided my methodology and qualitative research analysis; I appreciate your gentle patience. My kindred spirit, Dr. Cindy Vail, was excited and enthusiastic about the research involving children with special needs; we share a passion for all children and especially those in most need of a rich environment to explore and learn. Dr. Carissa DiCindio's intelligent and respectful approach to shaping programs for all visitors to an art museum was such an inspiration. Her tour modeling experiences and curator's leadership knowledge provided unique strategies for the docents to give engaging tours for the four student participants. My committee members provided just the right guidance by means of written texts, journal articles, or book suggestions to steer me through the different research stages.

I am thankful for the enduring friendships from fellow graduate students and colleagues who have been with me since the beginning of my research. Rebecca

reminded me to enjoy the process, enjoy the journey. Gratitude and special thanks go to Carole and Nancy for their kind encouragement throughout the writing process. I learned so much from their talents and joyful spirits.

My entire family continuously provided support while I was designing and creating the large-scale replicas of each original work of art. Whether by Corky's contribution of hundreds of bottle caps, Katie's problem-solving ability of how to construct and secure bottle caps on the *Horse's* frame and constant creative suggestions, Corinne's beautiful artistic thoughts and uplifting emotional support, or Blythe's generosity of time giving guidance and invaluable feedback as each chapter was written, they all unselfishly gave their input throughout each phase of the work. Receiving such unwavering support, on-going love, and faith in the work's purpose sustained me.

TABLE OF CONTENTS

Page

ACKNOWLEDGEMENTS v

LIST OF TABLES xi

LIST OF FIGURES xii

CHAPTER

1 INTRODUCTION 1

Inclusion and Needs of Underserved Community Members 3

Background and Rationale 4

Statement of Purpose 5

Significance of the Problem 6

Key Terms and Constructs 7

Research Questions 11

2 LITERATURE REVIEW 12

Experience- Centered Interpretivist Approach 12

Multisensory and Interactive Museum Education 15

Historical Overview of Museum Accessibility 16

Current Museum Accessibility Studies 17

Research Focus- Experience Literature 27

Interpretation of Objects by Children with Visual Impairments 32

Museum Access and Accessibility- A Difference 34

Learning in the Constructivist Art Museum 35

New Technology and the Museum Experience 36

3 METHODOLOGY 37

Research Design.....37

Physical Context and Selection of Setting 38

Development for Intervention.....42

Pre-Production by the Researcher.....47

Preparation of the Replicas of the Original Artwork 47

Selection of Participants 49

Recruitment Process.....50

Criteria Rationale- Visual Impairments 51

Participants.....53

Roles of the Participants 60

Summary of Collecting Case Study Evidence 65

Data Analysis Methods 72

Synthesis of Data Analysis 76

Standards for Quality of Data 77

Validity 77

Trustworthiness.....78

Generalizability.....79

IRB- Vulnerable Children as Participants.....80

Limitations 81

Subjectivity Statement 82

4 DOCENT-LED TOURS WITH CHILDREN WITH VISUAL IMPAIRMENTS 85

Welcoming Environment 85

Greg's Tour Experience 87

David's Tour Experience 96

Charlie's Tour Experience 105

Edward's Tour Experience 117

Evidence of Learning During the Tours 127

Reflection of the Tour Stops Using Various Tactile Aids 130

Reflection of the Participants 132

Interpretive Dialogue 134

Inquiry and Knowledge Construction: An *Experience* 135

Providing Tours and Considerations for Other Docents 137

5 CONCLUSIONS, RECOMMENDATIONS, AND FINAL REFLECTIONS 144

Recommendations for Improvement 145

Child-Docent Connections 145

Gallery Accessibility Issues 147

Assistive Technology 148

Authentic Museum Experience 149

Universal Design in the Art Museum 149

High Museum Response to the Inclusive Tour 150

Pedagogical Benefits of the Study 153

Reflection on the Experiences of the Student Participants 154

Reflection on Accessibility for Children with Visual Impairments.....161

Open to New Experiences.....163

REFERENCES 166

APPENDICES

A WORKS OF ART INCLUDED ON THE DOCENT-LED TOURS.....182

A.1 YACOUBE BONDE, *NWANTANTAY MASKS*.....182

A.2 HOWARD FINSTER, *HOWARD'S TOOLS*.....183

A.3 GREGORY WARMACK (MR. IMAGINATION), *HORSE* 184

B PARENT/GUARDIAN PERMISSION LETTER.....185

C PARENTAL CONSENT FOR CHILD TO PARTICIPATE IN THE RESEARCH.....190

D STUDENT ASSENT FORM FOR PARTICIPATION IN RESEARCH.....194

E DOCENT RECRUITMENT FORM 195

F DOCENT INFORMED CONSENT FORM FOR PARTICIPATION IN RESEARCH 196

G MUSEUM EDUCATOR CONSENT FORM 199

H IRB APPROVAL OF PROTOCOL LETTER.....202

I TOUR FIELD NOTES FORM.....203

J MUSIC SELECTIONS USED ON THE TOURS.....204

K FLOOR MAPS OF THE HIGH MUSEUM OF ART 205

L INTERVIEW QUESTIONS 207

M THREE ITERATION LEVELS OF DATA ANALYSIS 213

LIST OF TABLES

Page

Table 1: Summary of the Characteristics of Student Participants 55

LIST OF FIGURES

Page

Figure 1: El Greco, *The Nobleman with his Hand on his Chest*.....31

Figure 2: Yacoube Bonde, *Nwantantay Masks* 43

Figure 3: Howard Finster, *Howard's Tools*.....44

Figure 4: Gregory Warmack's, *Horse* 46

Figure 5: Replica of the *Bwa* mask.....47

Figure 6: Key/Legend Board of *Bwa* mask 47

Figure 7: Key/Legend Board, Finster.....48

Figure 8: Replica of Finster's sidewalk.....48

Figure 9: Key/Legend Board, *Horse* 49

Figure 10: Replica of *Horse* 49

Figure 11: Spencer and Greg at the three original *Bwa* masks.....88

Figure 12: Spencer and Greg investigated the *Bwa* mask replica on the floor.....89

Figure 13: Greg interacted with the wooden version of the *Bwa* mask.....90

Figure 14: Amelia and David listened to the video of the *Bwa* mask celebration 97

Figure 15: David engaged with tactile items on the Key/Legend Board, *Bwa* mask.....99

Figure 16: Amelia and David in front of the original *Bwa* mask 100

Figure 17: Spencer and David examined Finster's artwork, *Howard's Tools* 101

Figure 18: David touched the base on the replica of the *Horse* 102

Figure 19: Amelia and David explored the raffia material worn by *Bwa* dancers 103

Figure 20: Charlie read the verbal description of the *Bwa* mask in braille 106

Figure 21: Charlie read the verbal description aloud and shared ideas with Lorena 108

Figure 22: Charlie interacted with the Key/Legend Board of *Howard's Tools* 111

Figure 23: Charlie (and parent) with Lorena in the Taylor Lobby (high ceilings)...…...113

Figure 24: Charlie explored the geometric aspects of the *Bwa* mask replica.....114

Figure 25: Charlie investigated the zigzag lines on the *Bwa* mask replica 116

Figure 26: Edward looked at a large print copy of the verbal description of the *Horse* .118

Figure 27: Edward investigated the wooden replica of the *Bwa* mask.....120

Figure 28: Edward investigated the *Howard's Tools'* replica and Key/Legend Board...121

Figure 29: Lorena and inspected the original artwork, Howard's Tools.....123

Figure 30: Edward interacted with the bottle caps on a wire 124

Figure 31: Edward silently studies the different materials on the replica, *Horse* 125

Figure 32: Edward intently looked at the face and beard of the *Horse* replica 126

CHAPTER 1

INTRODUCTION

Art museums have the capacity to play a vital role in society, enriching the lives of the members of a community and providing visitors of all ages with social and intellectual experiences. Today, museums across the nation and around the world are engaging children in their galleries; some have a lengthy history in this effort, and others are new to this challenge (Shaffer, 2015). Throughout the early 20th century, the American art museum engaged primarily in gathering, preserving, and studying the record of human and natural history (Weil, 2002). During the past 60 years, the American art museum has transitioned from its original focus on the growth, care, and study of collections to a more outward-oriented focus concentrating on providing educational services to a more diverse public.

During this transition, some American art museum curators and staff did not see the need to change their organizational designs. They were concerned that their collections might no longer serve as the museum's main reason for being or, even worse, be considered as simply a resource. However, many museum workers argued that the reshaping of the art museum would probably continue for a long time in the future (Weil, 2002). According to Hudson (1998), "The most fundamental change that has affected museums during the [past] half century ….is the now almost universal conviction that they exist in order to serve the public" (p. 43).

One of the main reasons why Hudson (1998) felt that museums had to be more sympathetic to the needs of the visitors is that the sources of support for museums from government resources decreased over the past decades and now an increased need for private funding is essential. The more the museum has to rely on corporate funding, especially for its program activities, the more important is the museum's ability to assure sponsors that its programs will attract a wide audience such as families, diverse ethnic groups, persons with disabilities, and other underserved populations. In the American Association of Museums' (now the Alliance of American Museums, AAM) 1992 publication, the emphasis on serving the public was primary. Suggested areas of inquiry included whether the "museum effectively involves its audiences in developing public programs and exhibitions," whether it "effectively identifies the characteristics of its existing and potential audiences," and whether it "effectively evaluates its programs and exhibitions in terms of their audience impact" (Weil, 2002, p. 33).

If art museums and other cultural institutions are to have an impact on children's lives, they must "change" or "impact" the children in some way. According to Hein (1998c), these changes involve learning in the context of museums. He examined the essential attributes or characteristics of learning and their implications for research related to the impact of museums on people's lives. Rennie, Feher, Dierking, and Falk (2003) earlier addressed these ideas by stating that "learning is a personal process which focuses attention on the learner as an individual who has a unique visit experience" (p. 63). They argued that learning requires mental, physical, or social engagement by the learner. More importantly, since researchers cannot observe directly what learners are thinking, gains in knowledge or understanding are observable only in what the learners

say or do. This has direct implications for research in the museum context. It is important to find a way to see the visit and its impact through the eyes of the visitors to consider multiple outcomes of their understandings or interpretations.

Involving the museum visitor in the research process is key. Merely observing the visitor from a distance is ineffective because there is a gap between observing and interpreting what is observed. Collecting data from a visitor's point of view requires self-reporting by recording what the visitor says and does. Besides the traditional interviews and questionnaires, innovative variations that capture more effectively the diversity of visitors' ideas are being used.

Inclusion And The Needs Of Underserved Community Members

Museums are expected to be personally relevant, current, and open/responsive to visitor input (Falk, 2006; Falk and Sheppard, 2006; Weil, 1999, 2002, 2005). However, if the museum's focus is to concentrate on providing educational services to their diverse visitors, it is evident that some cultural institutions have not matched their offerings with the needs of underserved community members.

Shaffer (2015) explained, "This ideological shift toward greater inclusion and an emphasis on visitors' ideas, needs, and experiences was a product of time and consideration" (p. 23). This paradigm shift acknowledged visitors' prior knowledge and experiences as a way of interpretation. Czajkowski and Hill (2008) defined the museum as a model that is slowly "moving away from that of authoritative lecturer before a passive audience to that of a partner in dialogue with interested, engaged community members" (p. 255).

The practice of program and tour feedback from visitors' perspectives has become a part of responsible museum management. Interest has heightened concerning the museum's responsibility to its visitors and the value of research into underserved visitors' experiences. Personal meaning making is a significant factor in visitors' responses to museums (Falk & Dierking, 2013, p. 291).

Background and Rationale

In 2005, I became a volunteer docent on the staff of a large, southeastern, metropolitan city museum. This position enabled me to participate in student tours designed specifically for children, teens, and family groups. I experienced working with visitors with a wide range of abilities and knowledge of art concepts as well as pre-conceived notions of the objects they would examine during the hour-long tour. Lately, I have encountered more visitors with developmental and physical disabilities on the school tours.

In 2007, a special tour (*Sight Through Sense*) was designed to serve adult visitors with visual impairments or low vision. Volunteer docents participated in several training sessions, which included input from the state's Center for the Visually Impaired. However, the museum docents were not properly cautioned that the adult visitors would need orientation and mobility aid as they walked through the museum (T. Budlong, veteran docent, personal communication, August 31, 2015). This docent-led tour was discontinued after only one tour, despite the fact that there were engaging activities and several well-designed stops featuring a variety of artworks.

I wondered what components of the tour did not meet the needs of the visitors with visual impairments. Searching for answers, I thoroughly investigated the *Sight*

Through Sense tour's curriculum to discover why it was considered unsuccessful. I determined there were far too many stops on the planned tour resulting in a rushed experience for the visitor. The kinesthetic posing, art process technique, and lighting mood activities of the tour were ineffective in meeting the needs of the visitors with visual impairments. A recurring thought was that a new sensory/tactile tour needed to be developed. I wondered how to provide a meaningful tour for *children* with visual impairments. Utilizing best practices discovered during my research and visits to a local museum that provided tours for the blind, this new tour needed to relate to the life experiences of the young visitor with visual impairments.

I was inspired to examine specifically designed art museum tours for children with visual impairments. Through this research, my goal was to discover and learn the best methods used in American and international museums that offered inclusive design exhibitions featuring tactile experiences. How do museum educators go about making critical programming decisions to serve this unique type of visitor? Was there a way for children with visual impairments to experience the joys of art in an art museum setting?

Statement of Purpose

The purpose of this qualitative case study was to examine what it is like for children with visual impairments to experience artwork in an art museum setting involving multi-sensory modalities. Through an interpretivist methodology, the case study extended my understanding of how the participants constructed meaning through their interactions with three works of art and shared that understanding through their own voices. Interpretivism is a discipline that aims to "focus on people's perceptions of the world in which they live and what it means to them" (Langdridge, 2007, p. 4). Focus on

the subjective experiences of individuals made this approach appropriate for the current study. This study was designed to reveal how the participants' unique experiences would contribute to the creation of museum tactile models that replicate original works of art in order to facilitate meaningful museum experiences for children with visual impairments.

Significance of the Problem

Important cultural institutions' websites providing access for visitors with disabilities were investigated. The Museum of Science (MOS) in Boston has been actively working for about 20 years to design exhibitions that are physically, cognitively, and socially inclusive of persons with disabilities. As a passionate advocate for individuals with disabilities, one key staff member, Betty Davidson, a wheelchair user who initially was a volunteer at the museum, had the challenging job of creating interactive and hands-on components for the museum's large animal dioramas. The modifications provided access to the experience for persons with disabilities and improved the exhibit for visitors without disabilities (Davidson, Heald, & Hein, 1991). However, it took years of advocacy for these changes to take place (Griffin, 2004).

Researchers Levent and Reich (2013), in coordination with Art Beyond Sight (ABS), Art Education for the Blind, and the MOS, Boston, facilitated focus groups in several museums to learn from adults with vision loss who have traditionally been underrepresented in museums. The focus group participants gave candid descriptions of what it is like to be a museum visitor with vision loss. According to the researchers, an important point shared was that learning directly from visitors who are blind or have low vision is essential. "They know better than anyone else what their needs are, what assets they bring with them to the museum and what they are looking for from a museum

experience" (Levent & Reich, 2013, p. 219). Activities such as gallery tours in art museums designed especially for children who are blind or have low vision are sparse.

In recent years, museums have become increasingly aware that the effort to make their institutions accessible will benefit all visitors and assist learning. Scholars such as Candlin (2003, 2004), DiCindio (2012), and Piscitelli and Anderson (2001) have discussed how crucial the impact of the design of an educational museum experience is on visitors' learning and meaning making. Evaluations of educational programs are key to educational improvements. Art museum educators use front-end, formative, and summative evaluations to assess visitors' responses to exhibitions in order to make future plans. The feedback received can enable museums to create more accessible exhibits for all visitors.

The current study's examination of the experiences of children with visual impairments can inform museum educators' approaches when discussing artworks with other children with disabilities. When students are encouraged to remain open to a work of art or to enter into a dialogue with a docent, and through their personal encounter with the multisensory objects, they can learn how to interpret meaning in a work of art.

Key Terms and Constructs

There is considerable diversity within the population of museum visitors who are blind or have low vision. This population includes people with varying types of sight, as well as varying experiences with vision loss. In addition, they have diverse backgrounds, interests, knowledge of art, and learning styles.

For clarity purposes, it is helpful to review certain terminology used throughout this study. "Important terms and concepts should be defined" (Mertens, 2010, p. 453). I

adapted the following definitions for this study in relation to museum visitors with visual impairments.

Haptic experience. Sensory interaction with objects in the art museum has traditionally been visual (Hetherington, 2002). However, art museums are increasingly pressured to provide tactile access to visitors. This approach comes from directives to meet the needs of visitors who are blind or visually impaired. Candlin (2004) argued that haptic experience is an important aspect of understanding objects for everyone.

People can rapidly and accurately identify three-dimensional objects by touch. They do so through the use of exploratory procedures, such as moving the fingers over the outer surface of the object or holding the entire object in the hand. Thus, gathered object or subject properties are size, weight, contour, surface and material characteristics, consistency, and temperature.

Haptic pictures. Haptic pictures are raised-line drawings of common objects such as an apple, a book, a tool, or a mask. These pictures can be made with a raised-line kit, a board with a face coated with rubber on which a textured plastic sheet is placed. Raised lines are produced when an ordinary ballpoint pen is pressed/written on the sheet. The surface puckers and forms a raised line that can be felt from the side from which the pressure is applied. According to Cassim (1997), tactile images are highly simplified representations of an original artwork used with detailed verbal descriptions.

Multisensory approach. Whether or not art itself is a multisensory work, it can stimulate all the senses, and all the senses can be used to learn about it. Sound, smell, taste, touch, and body movement can be incorporated into a guided tour for children with visual impairments. Hooper-Greenhill (1994a) stated, “If exhibitions incorporate

opportunities for the use of a range of senses, then not only are special needs met, but provision is made for those people to access the objects using their preferred learning style, either visually, reading, through touch or through sound" (p. 112).

Museum docents. The term *docents* is a title given in the United States to persons who serve as guides, facilitators, and educators for the institutions they serve, usually on a voluntary basis. They provide verbal descriptions of the artwork and encourage interactive opportunities to highlight the exhibition's collections for all visitors. According to Levent and Reich (2013), training sessions for docents should prepare them to provide touch tours and tactile experiences with artifacts, models, and replicas, and provide other multisensory learning opportunities.

Replicas. Replicas of three-dimensional works of art, coupled with verbal description, can convey the main idea of a sculpture. Less emphasis is placed on details that can be included in the verbal description (Pye, 2007). "Objects, particularly interactives, stimulate conversation involving observations, recollections, associations, and connections to prior learning among members of the visiting group" (Beane & Pope, 2002, p. 355).

Tactile graphics. These are black-on-white tactile translations of one- or two-dimensional works of art that use a series of tactile patterns, lines, and icons to describe form, composition, style, and other fundamental aspects of the artwork (Pye, 2007).

Tactile exploration skills and development of texture sensitivity. *Tactile exploration* is a term that describes touching different objects of art and exploring different materials used by artists to create their works (Pye, 2007). Observing blind visitors to a *Sense & Sensuality* exhibit, Cork (2003) commented, "I saw everyone

feeling, probing, stroking, prodding, and playing with the exhibits in a spirit of eagerness which contrasted well with the alienated way we normally survey sculpture" (p. 189).

Universal design. This term is defined by the ways in which each visitor can access exhibitions and programming through a flexible range of activities that incorporate multiple perspectives. Inclusive design refers to broad-spectrum ideas meant to produce buildings, products, and environments that are inherently accessible and beneficial to older people and people with/without disabilities (Center for Universal Design, 2008). Guided by the principles of universal design (ergonomics, accessibility, and inclusivity), exhibits provide opportunities for learning and enjoyment for all visitors, regardless of age, gender, ability, and educational background (Hein, 1998c). Specifically for museum educators, universal design for learning is an educational framework that guides the developer of flexible learning environments to accommodate individual learning differences.

Visual abilities. A person who is classified as legally blind may still have usable vision. Legal blindness is described as best corrected vision of 20/200 or less (Seidman, 2003). Aside from people who have no light recognition, people can have unique visual impairments; this range of symptoms can be classified as blurred vision, tunnel vision, peripheral vision only, optic atrophy, cataract, retinitis pigmentosa, microphalmia, aniridia, glaucoma, spots in vision, achromatism, or a combination of any of these symptoms. Hayhoe (2003) summarized these symptoms in two definitions: (a) Congenital or early total blindness is when a person will have no visual memory or highly restricted light perception, and (b) Congenital or early partial blindness is when a person will often have visual memories and can understand visual reference.

Verbal description. Uses vivid, objective language to describe objects and the environment to people who are blind or visually impaired (Seidman, 2003). By means of detailed verbal descriptions, *Verbal Imaging Tours* enable visitors with visual impairments to experience art that cannot be touched. Verbal imaging tours are most effective on a one-to-one basis. Discussions take place that enable the museum docent to understand the visitor's interests and previous knowledge.

Research Questions

To better understand how children with visual impairments experience art museums, I addressed the following research questions:

1. What are the lived experiences of children with visual impairments as they engage with tactile interpretive replicas, tactile aids, music, verbal descriptions, and braille resources in an art museum setting?
2. What are the docent's experiences facilitating a tour for children with visual impairments using tactile interpretive replicas, tactile aids, music, verbal descriptions, and braille resources?
3. How might an understanding of these experiences contribute to the creation of museum models that facilitate meaningful experiences for children with visual impairments?

By asking children with low vision about their experiences, researchers can better understand how to develop tour programs that meet their needs in an effort to provide opportunities for accessibility and inclusivity in an art museum. In an effort to gain further knowledge of the experiences of docents, parent and museum educators, the research questions will be addressed.

CHAPTER 2

LITERATURE REVIEW

Museums provide teachers with places to expand beyond the classroom by engaging their students in the arts, sciences, and natural history. However, students with disabilities may not be able to access museums in the same way as those without disabilities. Throughout my graduate courses, I have been actively examining the issue of museum accessibility for visitors with visual impairments. In this chapter, I will first describe the field broadly and then clearly focus on museum education that supports the development of accessibility in terms of diverse audiences. An exploration of the cultural and societal changes throughout the 20th and early 21st centuries informed my research on past and current ideologies in museum education. The importance of the art museum environment as a research site will be addressed.

The subsequent review of museum education literature includes national and international museums to learn how their environmental designs and educational programs support the development of museum accessibility in terms of the needs of audiences with disabilities.

Experience- Centered Interpretivist Approach

A study's theoretical framework is the foundation on which the research design is built. In this study, the framework is based on an interpretist view of museum learning. The study focuses on the subjective experience and interpretations of the participants with visual impairments and their docents. The framework is built on the assumption that

interpretation is a dynamic, interactive activity that encourages meaning making.

The theories of Hans-Georg Gadamer and John Dewey provide a methodological framework for this kind of meaning-making process, or learning. Gadamer's ideas on the nature of understanding in art are presented in *Truth and Method* (1975/1989/2004/2011) (abbreviated to TM in citations), his most prominent writing on philosophical hermeneutics. "From the Greek to interpret or make clear, hermeneutics is the study of the theory and practice of understanding and interpretation" (Freeman, 2008, p. 385). For Gadamer, "hermeneutics" describes the way in which human beings come to terms with themselves, each other, and the world in practice.

According to Gadamer (1975), a dialogue with a work of art can deepen our self-understanding and, consequently, identify a kind of truth, and, therefore, knowledge inherent in art. He recognized that "art is knowledge and experiencing an artwork means sharing that knowledge" (TM, p. 84). Personal transformative experiences are a type of experience that radically changes your point of view and fundamentally changes your sense of self. "Everything that is experienced is experienced by oneself, and part of its meaning is that it belongs to the unity of this person and its memory has a relation to the whole of a person's life" (p. 58). He is concerned with the possibilities for understanding that stem from an interpreter's own consciousness and position in society. His focus is on how the act of interpretation takes place.

In this study, children with visual impairments had opportunities to experience art by interacting with replicas of original artwork and other tactile multisensory aids during a docent-led tour and had opportunities to encounter a world of different cultures. New experiences for playing with the tactile objects were provided. Through their sense of

touch, they discovered how the individual parts of a work of art (such as texture, shape, and form) help construct a "whole image" in an authentic work of art.

Interpretivism is focused on the subjective experience of the individual. This school believes interpretations are all we have, and description itself is an interpretive process (Kafle, 2011). It is built on the assumption that interpretation is a dynamic, interactive activity. Interpretivism involves researchers to interpret elements of the study, thus involving human interest within a study. Van Manen (2014) wrote that the notion of lived experiences announces "the intention to explore directly the ordinary or pre-reflective dimensions of human existence: life as we live it" (p. 39).

Dewey (1934/1989) expressed, "In every experience we touch the world through some particular tentacle…it operates through a particular medium, that of an eye, as it interacts with eye, ear, and touch" (p. 203). Cole (1985) pointed out that constructivism has its roots in Dewey's work because he recognized prior knowledge and experience as the basis for meaning making. This theory of knowledge argues that humans generate knowledge and meaning from an interaction between their experiences and their ideas. For Dewey (1934/1989), the museum experience is a constructed event between the work of art and the viewer. Interpretive emotion makes the museum experience memorable and cultivates growth. Dewey stated that "to learn from experience is to make a backward and forward play connection between what we do to things and what we enjoy or suffer from things in consequence" (p. 140). Doing becomes trying: an experiment with the world to find out *what it is like;* the undergoing becomes instruction, and discovery of the connection of things.

To Dewey (1916-1994), *experience* was primarily an active affair. As museum educators started to understand Dewey's beliefs regarding "learning by doing" and his claims that all the senses are needed in the learning process, the use of interactive teaching techniques in art museums began to emerge (Sternberg, 1989). The concept of "learning by doing" can be traced back to the 20th century (Hooper-Greenhill, 1991), where finding out about the world through the exploration of real things in real places is seen as one of the best ways of facilitating growth and development. Hooper-Greenhill (1994a) argued, "This approach to education is also to be found at the heart of theories of life-long learning, where people, places, activities and practical experience are all seen as opportunities for self-development throughout the lifetime of an individual" (p. 80).

In addition, the concept of a "constructionist" view of learning will be explored to investigate what specific conditions must be met to apply the ideas in a museum context. Specific conditions must be met to apply the ideas in museums, which provide an excellent setting where these conditions apply in a specific way. "The Constructivist Museum makes a conscious effort to allow visitors to make connections between the known and the new" (Hein, 1998b, p. 157).

Multisensory and Interactive Approach

The multisensory and interactive approach to museum education improves engagement and makes an educational program accessible to children of various developmental levels and learning styles. Hein (1998b) explained, "Museum staffs that begin to look at what visitors do and consider what visitors learn, often report this as an enormously enriching activity" (p. 178). Interpretive studies and their methods often have a transformative effect on the researcher. It is a form of deep learning and

heightened perceptiveness (van Manen, 1990). Such an approach also considers how the museum tours can result in transformative experiences for both the child with visual impairment and the museum docent.

The next section is an overview of the issue of accessibility for visitors with visual impairments within an historical context. Following that information, current issues with accessibility are discussed as they pertain to visitors with visual impairments.

Historical Overview of Museum Accessibility

Accessibility has been an issue throughout the history of museum education. The complicated task of preserving art, educating the public, and providing a sense of inclusion for visitors with disabilities is a lofty mission for many museums. Recent studies make similar observations about exclusion from education and the arts and suggest that disabled people are often deliberately excluded from society by a predominantly able-bodied culture (Darke, 2003). Literature on policy implementation has also maintained that the design of institutions has excluded people with disabilities through a notion of "*normal*" ability (Allen, 2004; Gleeson, 1999). Candlin (2003) contended that tokenistic drop-in provision or occasional educational events do not qualify as making museums accessible. It is necessary to recognize the ways in which multisensory experience can be supported and incorporated into daily practice. "Only by making non-visual learning routine will blind people cease to be defined primarily in terms of their visual impairments and be able to participate in ways that are satisfying to them as diverse individuals" (p. 109).

Since the 1970s, numerous museums across the country have initiated efforts to improve the accessibility of their buildings and programs for visitors with disabilities.

Some of the innovations were to remove barriers from their facilities, design more accessible exhibitions, and provide effective communication for their programs that could potentially attract more than 54 million Americans identified as having disabilities. Design accessibility is crucial.

Accessibility enables all visitors to participate in enriched museum experiences. Investing in access and maintaining that investment bring museums the valued rewards of inclusive programming and a new, diverse audience. Various communication barriers, physical mobility issues, and environmental learning designs significantly influence the visitor's experience. How is the museum designed to be accessible ─ intellectually, physically, and socially ─ to the visitor with disabilities? What resources are already in place, then, and most relevant to this study, what do people who are blind or have significant visual disabilities think about them?

The next section examines current museum studies that focus on the challenges and barriers faced by visitors with visual impairments. The studies present different approaches researchers have used to provide accessible and intelligent programming for this museum visitor. In addition, the studies provide insight into the power of the visitor's voice to enact inclusivity.

Current Museum Accessibility Studies

Recently, a multi-museum study was conducted that examined the experiences of visitors with visual impairments. The MOS, Boston and ABS, New York set out to pilot a museum professional development approach that was informed by learning from an audience that has traditionally been underrepresented in museums, visitors who are blind and have low vision (Levent & Reich, 2013). This training model approach combined

audience research focus groups and staff training that included interaction with visitors with low vision. Museum staff conducted two training sessions, one with verbal description techniques and the other with use of multisensory tools.

Levent and Reich's (2013) focus group participants pointed out challenges and articulated barriers during their museum visits. The group offered potential solutions, many of which were based on positive experiences at museums that offer accessible programming. Three recommendations based on the findings of the study are as follows: (a) Train museum docents and educators in verbal description and descriptive language when presenting an exhibition object or museum space; (b) Include instruction on providing tours and tactile experiences with original artifacts, models, and replicas, as well as other multisensory learning opportunities such as movement, music, art making, and hands-on learning; and (c) Incorporate technology such as audio guides, including navigation around the exhibit and universally designed museum and exhibit spaces.

In his article on disability and museum practice, O'Neil (2008) reported, "Learning directly from visitors who have low vision is essential, as only they are truly aware of what their needs are, what assets they bring with them to the museum, and what they are looking for from a museum experience" (p. 29). Few studies have explored what children with visual impairments think about their experiences interacting with art objects. Active participation on the part of museum visitors provides opportunities for museum staff to hear first-person accounts of their experiences.

In order to incorporate these recommendations into the docent-led tours that were included in the current study's research methodology, it was necessary to investigate what museums provide for visitors who are blind or have low vision. A loss of vision is

not connected with a loss of interest in art and museums (Levent & Reich, 2013). In their Multi-Site Museum Accessibility study, Levent and Reich noted that the focus group participants who were blind or had low vision reported that "they often feel unwelcome, and even worse, unsafe when visiting art museums" (p. 222). The absence of accessible experiences made them feel that museums were not worth the effort to visit. Certain participants described experiencing a loss of "dignity" in the museums and feeling like "criminals" when reprimanded by museum staff. There were also some encouraging lessons learned from the museum study. The focus group participants enjoyed meaningful gallery experiences with docents. Levent and Reich commented, "Some enjoyed interpretive and contextual information, others opportunities for dialogue" (p. 223).

In their research, Levent and Reich (2013) noted that most museums did not allow visitors to handle and touch art objects from a museum's permanent collection. However, some museums were committed to serving all members of their communities and providing extensive programs for visitors who are blind or who have low vision. Wisker (1993), then Coordinator of Audiences with Special Needs at the Philadelphia Museum of Art, noted, "Special audiences have found their trips to the museum to be a place where personal discovery, healing, spiritual renewal, and learning can happen" (p. 6). The programs include "touch tours," studio workshops, and internships. Touching objects opens up entirely new ways to experience art: through texture, weight, volume, and temperature.

Research suggests multisensory experiences could benefit a significant percentage of the population who are not visual learners and who prefer other sensory modalities to

make meaning in the world (Dodek, 2012). Studies dating back to the 1930s describe when art educator Viktor Lowenfeld (1945) conducted a series of experiments and concluded that people fit into one of two categories: visual learners or "haptical" learners, those who need stimulus from touch or kinesthetic activities to effectively function in the world. While general research exists, it has not focused specifically on the outcomes of sensory experiences within art museums (Dodek, 2012). This further affirms the need to provide opportunities for visitors of all ages with visual impairments to experience art museums.

Another study in 1998 of 116 art, science, and natural history museums investigated successful learning programs. A full 70% of respondents rated "active, hands-on activities" as very important to their learning enjoyment. The authors concluded that "sights, smells, and sounds combine to create memorable experiences that may have a lasting and possibly transformative effect on the participants" (Sachatello-Sawyer, Fellenz, Burton, Gittings-Carlson, Lewis-Mahony, & Woolbaugh, 2002, p. 117). Dodek (2012) argued that these examples suggest that "visitors drawn into an experience through their senses make deeper connections, leading to the possibility that greater learning could ensue" (p. 116).

Andrew Alvarez (2005), J. Paul Getty Museum's Access Consultant, described the findings from evaluation of two exhibits (with touchable access) that he curated for Wolverhampton Arts and the Bilston Craft Gallery. He stated, "My experience has taught me that exploring art works through touch can have beneficial outcomes for all of us, and can even help us to understand, and sometimes challenge, the visual judgments and verbal interpretations we rely on so heavily in the art museum" (p. 1). Alvarez

recognized that "touching certain kinds of objects answers to the need of the curious child to find out what something does, or what it is for—perhaps as a basic need to make meaning out of experience" (p. 2).

Since 2004, ABS has co-sponsored a bi-annual, international conference in New York City's Metropolitan Museum of Art, "Multimodal Approaches to Learning," bringing together professionals from diverse disciplines such as neurologists, cognitive psychologists, museum and technology designers, librarians, and museum/school educators (Henrich, Cleveland, & Wolverton, 2014). In 2008, ABS began a multi-year series of Museum Accessibility Research and Development Projects (Lindgren-Streicher & Mesiti, 2012). These projects included audience research, development of accessibility materials for the field, development of evaluation tools, and documentation of organizational change for inclusion. By 2011, there were 16 art museums of various sizes asked to conduct focus groups and pilot a program for visitors who are blind or have low vision.

The Museum Accessibility Research and Development Project focused on the experiences of three museums: the Buffalo Bill Center of the West (Cody, Wyoming), The Mattress Factory (Pittsburgh, Pennsylvania), and the Mini Time Machine Museum of Miniatures (Tucson, Arizona). They all shared one common goal: their commitment to better understanding and more effectively attracting and serving the special needs and considerations of patrons who are blind or have low vision (Henrich et al., 2014).

Reading through each museum's case study of data collection methods and tactile approaches for their exhibit tours helped inform my research methodology decisions. I

was interested in the focus group participants' previous tour experiences, especially since the museums took those specific comments to evaluate the effectiveness of their offerings for their visitors with blindness or low vision. One of the most valuable results of the focus group process was the access and sharing of resources with community groups that provide important services for those who are blind. These connections can provide a continual source of evaluation of and feedback on all the efforts to meet the needs of visitors with blindness or low vision. With valuable community resources, museums can reach out and communicate that individuals who are visually impaired are welcome to visit and give suggestions for ways to improve accessibility issues.

In 2013, nearly 170,000 people visited the Buffalo Bill Center of the West. Due to the large quantity of content and numerous buildings, the Center sometimes presents challenges for visitors, especially for those with special needs. The Center needed to develop a better interpretive plan to include the following: (a) Design creative, compelling, and innovative interpretations related to the Center's collections, research ideas, and mission to attract a more diverse museum audience; and (b) Define a variety of visitor experience opportunities and provide services for visitors with low vision.

To evaluate the current services and determine how to improve its services for visitors with low vision, the Buffalo Bill Center of the West conducted a focus group meeting with 12 participants with low vision. The group participants expressed a desire to have more control over their visits rather than just what their family, friends, or a tour guide might offer. They were very supportive of a guided tour, but they "wanted more independence and more options while visiting the Center" (Henrich et al., 2014, p. 127). The participants mentioned other needed facility improvements such as better lighting,

larger signage, orientation needs, access to lectures and social events, and highly descriptive narration of the artworks included in the guided tour. Because of the focus group's suggestions, the future plans of the Buffalo Bill Center involve more hands-on objects in exhibit areas, recognizing that all visitors enjoy tactile experiences, not only those who are blind or have low vision. As the Center's museum complexes are remodeled, staff will strive to include more interactive, audio, and audiovisual elements. The staff will have more training to keep in mind that visitors learn in different ways and have different needs. For example, "open captioning will be added to audio and audio-visual programs" (p. 129).

The second case study was performed at The Mattress Factory in Pittsburgh, Pennsylvania, which is constantly looking for ways to engage its community and invite visitor feedback from visitors with low vision. The contemporary art museum has developed educational programs that use installation art as a point of departure for exploring a variety of disciplines and resources. The museum is a national leader in developing programs for students with a "multi-disciplinary focus, creative problem solving, observational skills, and critical thinking, all of which are the basis of a contemporary art practice" (Henrich et al., 2014, p. 130). Since many of the installations are temporary and multi-sensory, this museum appeals to visitors who are blind or have low vision. The museum's installations have elements of sound, touch, smell, temperature, and light. However, because the installations are often fragile, they cannot be explored through touch and interactive experience.

In 2013, the Mattress Factory staff wanted to learn more about the opinions and needs of the community of visitors who are blind or have low vision. Museum visitors

spent several hours talking to them and staff learned about their experiences (both positive and negative) in all different kinds of museums. According to Henrich et al. (2014), "The focus group talked about the importance of just describing the piece of art without a philosophical or conceptual critique" (p. 131). Ideas for improvement shared by The Mattress Factory focus group are: (a) developing effective verbal descriptions, (b) having enough sighted guides for tours, and (c) having a designated staff member available when requests for sighted guides are made. In addition, the focus group needed clear descriptive directions for transportation and other accessibility issues. After many practice accessibility training sessions, the museum docent staff gave tours to individuals who were blind or had low vision. The staff received feedback about which installations were the most interactive and interesting. "The individuals responded to pieces with sound and a touch element, but also to installations with a strong narrative or story behind the work" (p. 132).

The final case study presented by the Museum Accessibility Research and Development Project highlighted The Mini Time Machine of Miniatures, located in Tucson, Arizona (Henrich et al., 2014). This state-of-the-art museum displays an entertaining and interactive array of antique and contemporary miniatures and small-scale artifacts. The visitors go on a self-guided tour through 275 miniature houses from different lands and times, both real and imagined. The director realized that whereas most museums have the incredible task of creating tactile materials for large-scale or two-dimensional objects or images with abstract concepts, miniatures are perfect for touch exploration. The museum has already been providing accessibility tools to visitors with low vision such as flashlights for dim galleries and large-print exhibition guides.

The staff created an *Art Cart* program, which is a hands-on gallery encounter showcasing different themes or time periods represented in the collection. In 2012, the development of an inclusive tactile tour program "designed specifically for those with visual impairments became a strategic goal" (p. 136).

One great success was the creation of the Mini Time Machine of Miniatures museum's Touch Tour House, a tactile and interactive model intended for children of all ages. The model contains a two-dimensional raised-line floor plan as well as the touch model featuring a variety of textures and sample building materials. Visitors can place different miniature home furnishings within the house, inviting engaging discussions of history and utility in the home. Because the original miniatures are fragile, the museum does not allow touching of the actual pieces from its collection but has had great success gathering pieces that are very similar to those on display. "The Touch Tour House helps visitors who are blind or visually impaired create a mental image of the transition from two-dimensions to three" (Henrich et al., 2014, p. 138).

The Mini Time Machine of Miniatures museum's focus group was composed of adults who were blind or had low vision. Focus groups can shed important light on the needs and concerns of people who are blind and their families. One idea of this particular focus group was to increase outreach by creating an efficient museum website that could be navigated with relative ease. They also suggested that many social groups and afterschool programs that serve children with low vision could plan outings for their students. All of the focus group participants noted their desire for independence when visiting a museum. They acknowledged that docent-led tours are enjoyable but focus on a one-on-one experience with a total stranger, which can cause stress. Thus, the focus

group wanted to add the option of an audio guide so visitors could move at their own pace. In addition, several focus group members had not been to a museum since becoming visually impaired; "they had overwhelming fears that they might knock over an artwork" (Henrich et al., 2014, p. 140). Ensuring the front desk and security staff had sensitivity training was vital to changing the perception that the museum appeared inhospitable.

The Mini Time Museum of Miniatures staff discovered some of the reasons why visitors with visual impairments want to come and explore the museum. Often it is just the experience of going out. Teachers are interested in bringing their students with the greater goal of teaching independence in a new setting. The researchers found that for visitors the act of "practicing their mobility and orientation was just as important as hearing about the collection" (Henrich et al., 2014, p. 142). Even the adults want the tour to include a place to eat lunch and the opportunity to socialize in a different setting.

In 2011, staff members from the Research and Development Departments of the MOS, Boston, and ABS served as outside evaluators for the multi-museum case studies. The two staffs identified strong common themes among the focus group scenarios:

1. Front line staff and educator training was one of the important steps in making museums' programs accessible for the visually impaired.
2. All three museums benefitted from holding focus group meetings and listening to the advice of those participants on how best to reach them and other people who are blind or visually impaired.

3. Forming partnerships with community groups helped provide direct feedback on programs and docents' verbal descriptions, and assisted with staff training and outreach.

In summary, these multi-museum studies examined the experiences of visitors with visual impairments. In each case, the museum staff created tours designed to meet the needs of all their visitors in their communities. The next four museum examples describe efforts to include visitors with visual impairments in the cultural life of the international art world. The four studies highlight efforts from Catalonia, Spain; Celje Regional Museum, Slovenia; Touch Gallery, Art Institute of Chicago; and The Prado Museum, Madrid, Spain.

Research Focus- Experience Literature

Everyone has the right to freely participate in the cultural life of the community (United Nations, 2012). In Europe and around the globe, many efforts have been made to include people with visual impairments in that cultural life (Axel & Levent, 2003; Braille Authority, 2012; Kennedy, 2003). Other countries are interested in new ways to provide meaningful museum experiences for the visually impaired. For example, a study in Catalonia, Spain described and analyzed the effectiveness of resources offered by museums and heritage sites, and ended by proposing an action plan from a practical perspective based on an empirical study of the opinions of adult visitors (Xicola-Tugas, 2012).

The overall objective of Xicola-Tugas's (2012) research was to evaluate the accessibility of museums for people with visual impairments in Catalonia. To begin their study, Catalonian researchers reviewed several United Kingdom (UK) projects and

examined empirical data provided by questionnaires, user interviews, and their own observations. First, they reviewed the featured literature on the subject. Second, they explained the background and historical evolution, as well as the legislative framework and number of adults with visual impairments in Catalonia. Third, they collected and classified information on the settings. Fourth, they collected and classified the opinions and ideas of the visually impaired users through interviews and questionnaires. Lastly, they empirically analyzed the above data to deliver results and accomplish a major objective of the research: developing a protocol of action to target museums and heritage sites in the task of making available the contents of the collection of objects they put on exhibition. The objective was to involve people with visual impairments in extensive consultation and research focused specifically on the use of audio description in museum galleries and heritage sites.

Xicola-Tugas's (2012) research used various tools such as a telephone survey of 270 blind and partially sighted people to investigate their attitudes and experiences during museum visits. Xicola-Tugas also conducted an audit of 63 audio guides for people with blindness or visual impairments in the UK. The project employed 55 self-evaluation questionnaires, and included three case studies of audio guides of three main museums and heritage sites in the UK. There was no indication that any of the participants of this study were children with visual impairments.

The purpose of using interviews, questionnaires, and observations as the main qualitative tools of the Xicola-Tugas (2012) study was to help the researchers reach the goal "of seeking the opinions of adult visitors with visual impairments in a wide and free way so as to give us meaningful information, to make recommendations to the museums

in order to ascertain practical ideas to offer a quality experience for this group of users" (Xicola-Tugas, 2012, p. 62). The questionnaire, the second tool used to gather data, was based on three sources: design, content, and light diffusion qualities. Observation was the last approach considered as an additional source of first-hand information to compare certain data results.

In the Catalonian study, one of the main results revealed was that "tactile exploration of art originals was rated as the most useful (93.75%), while being less common. Three resources rated very useful but rare were one-to-one guided tours, touchable models, and tactile graphics with a verbal explanation" (Xicola-Tugas, 2012, p. 65). Tactile graphics with a mainstream audio guide were highly rated but seldom found.

"The general conclusions of the Catalonian study that are rated by the respondents are that tactile exploration of the originals and models appear as the two most highly valued resources, but they are also provided the least" (Xicola-Tugas, 2012, p. 67). The experience of the study allowed the main researcher, Xicola-Tugas, to state that simply by listening to users, these museum and heritage site programs could significantly improve access at a very low cost.

A similar study held in the Celje Regional Museum in Slovenia described the invaluable assistance of adult participants who were visually impaired. They were interviewed to assist the technicians who were creating a tactile image adaptation for the museum. The image replicated the painting *Portrait of Empress Elizabeth of Hapsburg* painted by the Austrian artist, Georg Martin Ignaz Raab, in 1873. There were three stages in the creative endeavor to design an image using a special printer with ultraviolet (UV) light to create a one-of-a-kind permanent raised image including all historically

important content. As each stage of the raised drawing was completed, the participants with visual impairments added their opinions/suggestions and "agreed that tactile adaptation is useful and a likeable medium that helps improve their understanding of the visual world" (Majnaric, Germadnik, Golob, Krivec, & Muck, 2014, p. 68).

Another institution that values the voice of the visitor with visual impairment is the Touch Gallery located in the Art Institute of Chicago. Specifically designed for visually impaired visitors to the museum but available to all, the Touch Gallery exhibits four sculptures from different time periods and places of origin accompanied by text panels and labels presented in both large type and braille. Labels were written with the assistance of a consultant, who is blind, from the Catholic Guild for the Blind who explored the works of art while staff recorded his observations. Labels provide historical information and focus on a detailed description of the work of art to guide the visitor in touching.

Made of bronze and marble and representing different periods, the sculptures in the Touch Gallery all represent the human face. Through touch, visitors can discover the facial expression, accessories, and style of dress as well as discern an artwork's form, scale, temperature, and texture in ways that sight cannot provide. The sculptures in this gallery have been carefully treated with a protective wax so that visitors may touch them. Normally, visitors are not permitted to touch paintings and sculptures in museums. But in this specific area of the Art Institute of Chicago, the Touch Gallery, visitors with visual impairments can touch the sculptures.

In addition, an exciting new technology enables visitors to *touch* images of actual masterpieces. The Prado Museum in Madrid, Spain is firmly committed to guaranteeing

universal access to its spaces and collections. Minder (2015) reported, "The Prado has launched its first initiative focused on visually impaired visitors and based on innovation and technology. Six works representative of different pictorial genres to be found in the museum's collections can now be touched." Evidently, this allows for the reality of a painting to be perceived in order to mentally recreate it as a whole and thus provide an emotional perception of the work. In addition to the three-dimensional images, the displays include tactile material such as texts in braille, audio guides, and opaque glasses aimed at facilitating the experience for fully sighted visitors. An example of this innovative technology, which enables visitors to actually touch a realistic copy of the work of art, is displayed in *Figure 1*.



Figure 1.

El Greco, (1541-1614)

The Nobleman with his Hand on his Chest, ca. 1580

Oil on canvas, 88.8 x 66.1cm

Madrid, Museo Nacional Prado

Interpretation of Objects by Children with Visual Impairments

Research by Heller (2003) on touch, representation of objects, and blindness is relevant for my current study of experiences of children with visual impairments as they engage with tactile interpretive replicas of original artworks and graphics. According to Heller, sighted people and people with visual impairments vary in their tactile, spatial, cognitive, and intellectual skills. Many of these individual differences are often more relevant than such factors as the child's visual impairment or age. Based on his research, Heller argued that he had repeatedly seen congenitally blind people perform perception tasks perfectly. Heller explained that this is "particularly significant when we consider that most blindfolded sighted people make many mistakes in such tasks" (p. 139). Therefore, Heller concluded that the visual experience is not necessary either to understand physical concepts or to interpret pictures.

Most congenitally blind people have had little or no experience with drawing, so they may have some initial difficulty translating three-dimensional, solid objects on a two-dimensional surface (Heller, 2003). Thus, if you draw what you can feel, it often should turn out to be recognizable both to blind and sighted people (Jansson, 1999; Lopes, 1996). If this is the case, a child born blind may have an unusual ability to retain experiences in his everyday life, particularly ones that engage the other perceptual (auditory and tactile information) systems.

The psychologist Gibson (1962) gave a comprehensive description of the contents of touch. Touch represents objects as unified, stable, and ridged. When we manually explore an object, we perceive its shape. We should not forget ambulatory touch; one can learn the layout of a house by walking through it. Heller (2003) contended that

tactile pictures "have a great deal of value for blind individuals and can be a useful educational source" (p. 144). Tactile pictures are also very useful for visually impaired visitors in an art museum. They are similar to braille in that they transform touch into a medium for the communication of thought. According to Lopes (2003), "Tactile pictures are a means by which sighted and blind people may communicate with each other in a new way" (p. 184). This information guided the decision to create some form of tactile images or other touchable representatives for children with low vision to better understand the objects the may encounter on a docent-led art museum tour.

Sensory interaction with objects in the museum has traditionally been visual (Hetherington, 2002). According to Prytherch and Jefsioutine (2007), "The prevailing policy in museums is *hands-off,* for which there are many good reasons, such as the fragility of the exhibits and their subsequent degradation as a result of inexpert handling" (p. 224). "The meaning of an object relies on a complex network of mediation" (Hooper-Greenhill, 1999, p. 225), although very little is known about how people interact with artifacts (vom Lehn, Heath, & Knoblauch, 2001).

Sonneveld (2004) observed that tactile information can convey attributes of an object, such as its personality and quality, and that the tactile experience is the only sense to bring an experience of reality of an object, evidenced by the perception of resistance and impact. Through the kinesthetic accompaniment of voluntary motion, the whole perception is raised to a higher order. Touch qualities become arranged in a spatial scheme; they fall into the pattern of surface, and become elements of form (Jonas, 1982). Davidson, Heald, and Hein (1999) found that designing exhibits for sensory impaired visitors by increasing opportunities for multisensory interaction, particularly touch,

improved enjoyment of learning for all visitors. While some art museums have provided exhibits and tours that meet the intellectual needs of visitors with visual impairments, many others are only beginning to consider such issues.

Museum Access and Accessibility- A Difference

Accessibility enables all visitors to participate in an enriched museum experience. Investing in access and maintaining that investment bring museums the valued rewards of inclusive programming and a new, diverse audience. There is a crucial difference between the two terms: *access* and *accessibility*. Throughout my current research, I have been able to come closer to understanding these two terms. Just because visitors have *access* to museums in terms of entry, this does not guarantee that visitors with visual impairments will have robust opportunities for understanding the artworks' content.

I assumed that the accessibility problem of why participants with visual impairments did not come to museum exhibits stemmed from issues with the building's design, orientation, or welcoming atmosphere. All of those reasons could have been factors. However, my inadequate knowledge of the actual term *accessibility* has driven me to redefine that concept. Such a narrow and insufficient definition makes me realize my biases. What was lacking for visitors with visual impairments was a profound emphasis on the rich cognitive understanding of the artworks. If a person is blind, appreciating art incorporates all kinds of intellectual and sensory perceptions (Pearson, 2003). For many blind people, the need to enjoy drawings and paintings, as well as the need to create their own visual art, can be very strong. Touching artworks can be used to enhance a visually impaired visitor's understanding of the world of art around him, especially when accompanied by verbal description and contextual background.

Intensive and long-term training is necessary for museum docents who are enthusiastic to lead meaningful tours for blind visitors. Besides rich, verbal descriptions of the artworks and opportunities for the blind visitor to actually touch the objects, whether through gloved hands on original works or facsimiles/tactile props, there needs to be a vested interest in engaging the visitor emotionally and intellectually to help expand the visitor's access to the content of the museum's objects.

Learning in the Constructivist Art Museum

"There are three basic ideas required in order to hold a constructivist view for museum education" (Hein, 1998b, p. 156). In order to create exhibits for all visitors, especially those with low vision, museum educators and curators need to address these basic questions: a) What is done to acknowledge that knowledge is constructed in the mind of the learner? (b) How is learning itself made active? What is done to engage the visitor? And, (c) How is the exhibit designed to make it accessible – physically, socially, and intellectually – to the visitor? Only when museums combine freedom of movement with comfort and opportunities to feel competent can visitors become fully alive to move in the space of galleries, to have their needs met and know where they are. Visitors should have an environmentally comfortable setting for sensory stimulation. They also need to feel competent and not be overwhelmed by so much that is new that the experience exceeds their adaptive capabilities. A genuine feeling of safety to move about in an environment designed to overcome these insecurities will bring comfort to those children with visual impairments. "Visitors do make meaning in the museum, they learn by constructing their own understandings" (p. 179).

New Technology and the Museum Experience

New technology is becoming increasingly commonplace in public institutions such as museums. The use of additional sensory experiences, including touch communicated through simulations, is developing rapidly. Techniques such as virtual reality (VR) are becoming inexpensive enough to be incorporated into museum exhibitions (Prytherch & Jefsioutine, 2007). What remains unexplored is whether these techniques can add value to visitor experiences. Such a consideration is based on the purposes of the museum and the nature of the visitor experience. According to Candlin (2004), "Increasingly, museums are under pressure to provide tactile access to visitors" (p. 223). While this pressure comes largely from directives to meet the needs of visitors with visual impairments, there is evidence that haptic experience is an important, if neglected, aspect of understanding objects for everyone. Davidson et al. (1999) found that designing exhibits (for visitors with sensory impairments) by increasing opportunities for multisensory interaction, particularly touch, improved enjoyment of learning for all visitors. On the other hand, many curators sometimes have a tendency to see new technology displays as peripheral and "dumbing down" (Prytherch & Jefsioutine, 2007). Technology such as smartphones, tablets, and digital music players in galleries is sometimes distracting on docent-led tours in crowded museums. If touch is regarded as valuable, museums also have the opportunity to use authentic objects in order to help all viewers make deeper connections to the works on display.

CHAPTER 3

METHODOLOGY

A research study's methodology should enable the researcher to answer the research questions in the most direct way (Mertens, 2010). Research questions help the researcher examine specific areas of theory that can be used to develop an understanding of what's going on and can suggest ways to conduct the study (Maxwell, 2013). Having research questions that are open-ended allows for a flexible methodology that enables the researcher to respond to themes as they emerge through data collection (Robson, 2011). This chapter contains a description of the purposes of the study, the research questions, research design, and the plan for data analysis.

Research Design

This qualitative case study employed an interpretive study approach (Stake, 1995) through which I sought to examine what it is like for children with visual impairments to experience artwork in an art museum setting involving multi-sensory modalities. Through an interpretivist methodology, the case study has extended my understanding of how the participants construct meaning through their interactions with three works of art and share that understanding through their own voices. The focus on the subjective experiences of individuals made this approach appropriate for the current study (Kafle, 2011). This study was designed to reveal how the participants' unique experiences might contribute to the creation of museum tactile models that replicate original works of art in

order to help facilitate meaningful museum experiences for other children with visual impairments.

Merriam (2009) noted, "Qualitative case studies share with other forms of qualitative research the search for meaning and understanding, the researcher as the primary instrument of data collection and analysis, and an inductive investigative strategy" (p. 39). Case study research (Creswell, 2007) is a qualitative approach in which the investigator "explores a bounded system (a *case*) or multiple bounded systems (*cases*) over time, through detailed, in-depth data collection involving multiple sources of information (e.g., observations, interviews, audiovisual material, and documents)" (p. 73, emphasis in original). Bromley (1986) wrote that case studies, by definition, "get as close to the subject of interest as they can possible get, partly by means of direct observation in natural settings, and partly by their access to subjective factors (thoughts, feelings, and desires)" (p. 23).

Physical Context and Selection of Setting

The *Contextual Model of Learning* that Falk and Dierking (2013) conceptualized to deal with the richness of learning and meaning making from objects and experiences in museums suggests that three overlapping contexts contribute to and influence the experiences children have with objects. They identified these as "the personal context, the sociocultural context, and the physical context" (p. 26). The first context, the personal, relates to the unique prior experiences of the museum visitor, which include the visitor's developmental level and preferred modes of learning. The second context, the sociocultural, relates to the visitor's cultural background and the different perceptions that they have while visiting the museum. They are also strongly influenced by social

interaction factors within the museum. Falk and Dierking (2000) explain that "the third context, the physical, includes the architecture and 'feel' of the situation—in other words, the sights, sounds, and smells, as well as the design features of the experience" (p. 6). Whatever the learning experience, learning and meaning making are influenced by *setting*—that is, the ambiance, feel, and comfort of the place or situation.

Knowing that the setting for my research was paramount, I investigated ten regional museums in which to conduct my research. After reviewing websites featuring small and large city art museums, I developed an itinerary to visit three museums and contact their access coordinators. I arranged different times to shadow docents during tours for visitors with low vision or impairments. Traveling throughout the southeastern states, I found one museum that was most sensitive, especially in its commitment for their comprehensive accessibility for individuals of all abilities. That exemplar site was the Birmingham Museum of Art in Alabama, a national leader in tours for visitors with visual impairments. On a monthly basis, they provide one-on-one guided tours providing access to four art objects that can be investigated using various tactile aids such as exact replicas and verbal descriptions. The tour consisted of two stops where the visitor with low vision could touch the authentic art objects while wearing thin gloves. A museum map (written in braille) as well as a verbal orientation for the visitor was provided. The tour also allowed sufficient time for the visitor to explore the works of art in a slow, reflective manner.

After the completion of lengthy docent training sessions at the High Museum of Art in Atlanta, Georgia, my touring experiences with diverse students in grades K-12 began to develop. During the same time, I had an opportunity to attend a docent-training

workshop featuring touring techniques with the adults with visual impairments at the Birmingham Museum of Art. I remember the joyous feeling that my world shifted when I came to the realization that designing a tour for the visually impaired at the High Museum of Art would be a valuable addition to the docent-led tours already provided by the High's education department. About 150 dedicated volunteer educators give tours to over 30,000 visitors each year. Docents continue to attend trainings facilitated by curators, education staff, and outside experts. They are truly interested in providing rich tours in literacy, history, science, and technology for all children from different sociocultural and economic backgrounds. The real-world setting of the High Museum of Art was ideal for my research with children with visual impairments so they could experience authentic, real objects in actual curated galleries.

The High Museum[1] was selected due to its proximity for data collection purposes and my familiarity with its permanent collection of artworks and knowledge of the volunteer education staff's duties within the museum. The participant interviews were conducted in the Teacher Lecture room located in the Creative Center for Learning wing. The choice of conducting interviews in the educational area and art studio lab location was made not only as a convenience to the participants but also to situate the participants in a quiet environment with relaxing and comfortable seating.

The High Museum of Art, located in Atlanta, Georgia, has a vision of becoming one of the nation's great museums in the twenty-first century (Shapiro, 2005). It lies in the city's arts district, within the surrounding buildings of the Woodruff Arts Center. In 1983, a 135,000-square-foot building designed by Richard Meier opened to house the

[1] Permission granted by the High Museum of Art to use the actual name of the museum.

High Museum of Art. Meier won the 1984 Pritzker Prize after completing the building.

Meier's highly sculptural building was constructed with white concrete. The lobby and a giant atrium in the middle of the building's cutaway cube show how radiant and light-filled the room is. The Meier building, now the Stent Family wing, has room to display only about three percent of the museum's permanent collection (Merrill, 2005).

In 2005, three new buildings designed by Renzo Piano more than doubled the Museum's size. All three buildings erected as part of the expansion of the High are clad in panels of aluminum to align with Meier's original choice of a white enamel façade. Piano's design of the new *Wieland Pavilion and Anne Cox Chambers Wing* features a special roof system of 1,000 light scoops that capture northern light and filter it into the skyway galleries.

The High Museum of Art's permanent collection includes over 15,000 artworks across seven collecting areas: African Art, American Art, decorative arts and design, European art, folk and self-taught art, modern and contemporary art, and photography. The High's newest curatorial department is African art. Recent acquisitions from the Fred and Rita Richman Collection have begun to establish an African collection that will encompass the art of the entire continent (Brenneman, 2005). For example, the impressive *Three Nwantantay Masks* from Burkina Faso feature eight-foot wooden masks used in tribal village masquerades. Students are surprised by the height and weight of these colossal objects and enjoy viewing and listening to the music on a video provided in the gallery.

Most exhibits throughout the galleries in the *Stent Wing* are classified as static, non-interactive displays. However, the *Green Family Center* provides an inviting,

interactive gallery for children and their families. The museum's *Sifly Piazza* continues to provide interactive opportunities for all visitors, including children with visual impairments and their families. In the past, artists have been invited to create outdoor sculptures or playscapes for visitors to enjoy the large piazza space. In 2016, Spanish designer Jaimie Haydon created, *Tiovivo*, large, whimsical animal sculptures handmade in Venice for visitors to enjoy. Another installation called *Merry Go Zoo* will be Haydon's second installment on the piazza (Schleuning, 2017).

Development for Intervention

For the docent-led tours, three works of art from the permanent collection were carefully selected using the following criteria:

1. Since the space around a work of art is essential for a child with visual impairment to maneuver using a cane or wheelchair, the chosen works need to be located in galleries with little traffic and large open areas in the vicinity. The student needs space to interact and reflect with works of art and the tactile tools.

2. Similar works of art from the museum's permanent collection, which appeals to sighted children in the same age level as the participants, need to be considered when choosing the three pieces for this research. The works of art need to be innovative, playful, and contain familiar objects that all children could recognize.

3. The nature of the study consists of touching tactile replicas and using other tactile aids such as key/legend boards containing different materials similar to the original artworks. Therefore, the original artwork needs to provide a high level of various textures for the children with visual impairments to touch. The works of art selected need a variety of textural, rich adornment.

4. The three works of art need to be 3D and represent different cultural groups. In order to observe how children with visual impairments engage with art in the museum, the creation of tactile models is crucial to help in this primarily visual experience. How might an understanding of these tactile engagements contribute to the creation of museum models that facilitate meaningful experiences for children with visual impairments? This question is practical in that it relates to future work in museum settings allowing for docents to have accessible materials that provide the most meaning for specific tours with children who have low vision.

For purposes of this study, the three works of art were chosen from the permanent collection at The High Museum of Art (see Appendix A). To celebrate their communities and history, two works were created in the unique folk art (Outsider) tradition and the third was created by tribal people for use in celebratory ritual ceremonies.

1. ***Three Nwantantay Masks*** (*Bwa Ritual Plank Masks),* by Yacoube Bonde, Boni, (Born 1963). Burkina Faso, West Africa. Black, red, and white geometric shapes painted on wood.



Figure 2. Yacoube Bonde*, Nwantantay Bwa* Masks

Nwantantay Bwa Masks- A verbal description of the original sculpture was created for the docent to share with the child. The following text described the *Bwa* masks. *Bwa masks are believed to possess special powers that are controlled by those who wear them. These masks are plank shaped with a circular face at one end and a crescent moon at the other. Their wearer looks through a hole in the mouth. The eyes are based on an owl and the hooked nose comes from the hornbill. Both of these birds are thought to possess magical powers. The plank section is decorated with geometric patterns that are an essential design element in many African masks and carvings. Geometric pattern creates an external rhythm that echoes the internal spiritual energy of the artwork. It can also be used as a coded language where the design communicates secret knowledge to those in the know. The designs on this Bwa mask, which is used to celebrate boys' initiation into adulthood, represent information about the myths and morality that the boys must learn before they can be accepted into adult society.*

2. ***Howard's Tools After Joining Artists' World Discarded,*** by Howard Finster, American, (1916- 2001). On concrete, embedded with rocks, marbles, ceramic, and discarded bicycle tools. Formally in *Paradise Garden*, Pennville, Georgia.



Figure 3. Howard Finster's, *Howard's Tools*

Howard's Tools- The artwork of Howard Finster, called *Howard's Tools*, contained different tactile items such as marbles, pebbles, pieces of glass and mirrors, metal shards, and real tools. This artwork (a slab of cement) came to the High Museum from Mr. Finster's home called *Paradise Garden*. The following text described the verbal description shared by the docent.

This cement sculpture is a sidewalk that came from a larger garden that was built by the artist. The outdoor museum, called Paradise Garden in Pennville, Georgia, was built to celebrate all the inventions of mankind, but dedicated to the glory of God. In the garden the artist constructed concrete sidewalks, especially this one that was encrusted with found objects, rocks, glass pieces, bicycle tools, ceramic, and marbles. Small square pieces of tile spell out the saying, "Howard's Tools After Joining Artist World Discarded." Around the perimeter of the cement sidewalk slab there is a 4" border of river rocks and brownish pebbles. Above the sidewalk slab hangs a bike, with biblical sayings covered in enamel. The artist rode the bike, spreading the gospel to people in his community.

The final work of art is located on the fourth floor Outsider (Folk Art) gallery. The work of art is a favorite one for all the children that visit the museum on school tours. The sculpture captures the playful nature of children and they giggle with delight when they first encounter it. The materials used by the artist puzzled many visitors.

3. ***Horse***, by Gregory Warmack, (Mr. Imagination)

African American, (1948-2012)

Bottle caps, coins, velvet, rope, wire, beads, and painted wood.



Figure 4. Gregory Warmack's, *Horse*

Horse: Created by Gregory Warmack (Mr. Imagination), the *Horse* was located in the corner of the folk or *self-taught* art gallery. The following text described the image of the original sculpture.

This sculpture is a horse about 4½ feet high that is covered with colorful bottle caps that have been flattened. The horse's mane and tail are also made out of bottle caps strung on a curved wire. The horse has an arched back and legs that are tucked under showing the horse's hoofs. On the back of the horse lies a red, velvet saddle that has jeweled buttons and shiny pieces of metal. There is a golden braid that trims the edge of the saddle. The braid continues to wrap around the horse's neck ending with a tassel under the horse's head. The horse has a human face with a long, black beard. It has a brown face with large lips, large nose, and black eyebrows. The human face is where the

horse's face should be. A pole covered in red bottle caps holds up the horse. Even the base of the sculpture is fully covered by flattened, red bottle caps.

Pre-Production by the Researcher

The next section describes the preparation for the actual docent-led tour in the art museum. Various tactile aides were designed and created to provide access for the child with visual impairments in order to support an authentic experience in the gallery. The following tactile tools for each artwork were created: a smaller-scale replica model and a legend board with specific objects from the replica that were used in the creation of the replica model. Several descriptions were provided for the child and the docent. These consisted of a raised braille verbal description, large-print copy of the verbal description, and appropriate recorded music to enhance that particular work of art. A complete list of selected pieces of music for each tour stop is provided (see Appendix J).

Preparation of the Replicas of the Original Artwork

One of the tactile aids developed specifically for the tour were the replicas of the original artwork. Three replicas were constructed over a period of eight months. Various materials were used to create similar textures, and weight found in the original sculptures.

1. Yacoube Bonde's, *Nwantantay Bwa mask:*



Figure 5. Replica of the *Bwa* mask

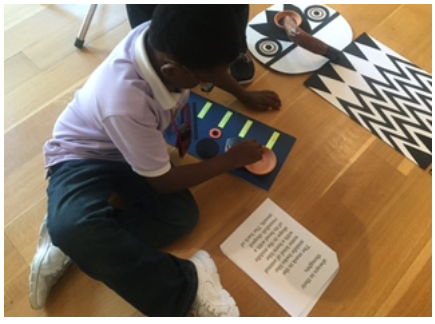


Figure 6. Key/Legend Board of *Bwa* mask

The basic structure of the *Bwa* mask replica was made of rust, black, and white colored foam board. Also included were found objects that resembled the horn and mouth of the large animal mask. The key/legend board contained every piece of material used in the creation of the replica. Each item was labeled in braille. A smaller mask version carved out of wood provided authentic texture as well. A soft doll wrapped in raffia was dressed in a similar fashion as the leader who danced in the festival while he carried the heavy mask.

2. Finster's, *Howard's Tools:*



Figure 7. Key/Legend board



Figure 8. Replica of Finster's sidewalk

In a similar fashion, the key/legend board displayed all the items used in the creation of the replica were included. By using small print on the braille label strips, the docent could read what the braille said. Also included with the cement slab and legend board, a plastic tub of authentic metal hand tools such as wrenches, pliers, nuts, bolts, and circular rings were provided. A small metal, workable bike was included to resemble the large bicycle that hung over the actual cement sidewalk slab.

3. Gregory Warmack's, (Mr. Imagination), *Horse:*



Figure 9. Key/Legend board, *Horse*



Figure 10. Replica of *Horse*

Also included with the full-sized replica, the key/legend board featured touchable items such as: golden braid (saddle trim), red velvet encrusted with gem stones and beads (saddle), silky tassel (reigns), bottle caps (flattened and strung on wire for body, mane, and tale), plastic eyes (horse's eyes), leather (hooves), and yarn (man's beard). The entire replica was mounted on a long, wooden board covered with flattened bottle caps. Casters were placed under the replica's base for mobility purposes in the gallery and in case the student wanted to roll it around to investigate all the detailed parts.

Selection of Participants

The purposeful selection of participants represents a key decision point in a qualitative study. Researchers designing qualitative studies need to have clear criteria in mind and need to provide a rationale for their decisions (Creswell, 1998). "Purposeful sampling is based on the assumption that the investigator wants to discover, understand,

and gain insight and, therefore, must select a sample from which the most can be learned" (Merriam, 2009, p. 77). The participants are selected precisely because of their personal experiences. "The logic and power of purposeful sampling lies in selecting *information-rich* cases for study from which one can learn a great deal about issues of central importance to the purpose of the inquiry, thus the term *purposeful* sampling," explained Patton (2002, p. 230, emphasis in original).

In order to choose the participants, I created a list of the attributes essential to my study and then proceeded to find and locate individuals to match the list. When conducting research with people who are visually impaired, a low-incidence disability, sampling is a major issue. The main criterion for participation was that the participants needed to be blind or visually impaired, between the ages of seven and fourteen, and without cognitive impairments. In addition, the participants needed to be able to read braille if possible, mobile and able to get around in the museum galleries, and have transportation to and from the museum with a parent, teacher, or guide. The selection of those individuals would provide information particularly relevant to the research questions and goals.

Recruitment Process

The recruitment process began by securing permission to conduct the research by contacting the Associate Administrative Superintendent of a local school system. With the county's approval, two face-to-face meetings occurred with three principals and teachers of the visually impaired in order to share the purpose of the research and to ask for approval to provide them with recruitment flyers (see Appendix D) to hand out to the children with visual impairments within their schools.

Eligibility requirements for the participants were discussed. Each teacher notified the parents of the students they recommended to participate in the research based on the eligibility requirements. The teachers called each parent and gave him or her specific details based on the information from the "Parent/Guardian Permission Letter" (see Appendix B) that I had included in the recruitment packet for each parent and child to review. The teacher of the visually impaired personally talked to each eligible child about the purpose of the research and what their role would be if they wanted to volunteer to participate.

Out of eight students with visual impairments, five were eligible to receive the recruitment flyers and packets. Eventually, with the permission of the parents (see Appendix C), four children volunteered to participate. After calling each parent along with a follow-up email message, I met face-to-face at the local public school with each child and his teacher of the visually impaired to introduce myself and answer any questions. At that time, I gave each volunteer a packet of information about the purpose of the research, a map to the art museum, parking pass information, and details about the date and time that their specific tour would be conducted. An email message was sent to each child's parent 1 week before the tour was to take place. This action was taken to remind the parent about the date, time, and location of the tour for his or her child.

Criteria Rationale- Vulnerable Children

This section addresses the complex issues of vision acuity in children with visual impairments. Please note that estimates of the number of people experiencing vision loss differ based on the definitions of vision loss used, as well as on the dates the data were collected, populations surveyed, and other features of data sources (Sheffield, 2015). The

Program Manager of the Instructional Materials Center at the State of Georgia Department of Education acknowledged "the Pre-K-through 12th grades had approximately 1,500 legally blind and another 1,000 visually impaired in the state's public schools based on the number of students I serve" (J. Downs, personal communication, October 7, 2014).

Students with visual impairments have a loss of sight that cannot be corrected through surgery, lenses, or medication, limiting their access to visual information. This condition may have been present at birth (congenital) or acquired through trauma, disease, or a degenerative condition of the eyes, brain, or nervous system. The condition may be characterized as poor visual acuity, restricted range of peripheral vision, poor contrast sensitivity, or a combination of these. The World Health Organization (2009) recognizes four levels of visual function: normal vision, moderate visual impairment (partial sight), severe visual impairment (low vision), and blindness (near or total). Students with low vision cannot read typical texts, even with the aid of corrective eyeglasses or contact lenses. Students who are near or totally blind cannot see and depend on other senses.

The continuum of vision loss, from near normal vision to the lack of the ability to perceive light, places unique demands on the learner. Vision is considered to be the primary integrating sense (Hatlen & Curry, 1987). Vision plays an essential role in learning, with estimates showing that 80 percent of education is presented through the visual sense (Pagliano, 1994). According to Kelly, Sanspree, and Davidson (2000), tactile exploration, aided by other senses, takes time and is available only in sequential

pieces that must be organized and associated mentally into a whole. Tactual information is enhanced by visual information.

Vision is a complex sense with many components. These include issues such as detail vision, diminished color-perception, glare sensitivity, and the visual field. The sharpness of visual detail is measured and compared with the norm of 20/20. As the denominator of the acuity measurement gets larger, it expresses a worsening of vision. For example, 20/200 is the beginning of the arbitrary category known as "legal blindness." Seidman (2003) notes, "Visual acuity alone does not tell very much of how a person sees or about the conditions under which that person functions best" (p. 51).

Participants

The different categories of participants in the study are as follows: children with visual impairments, parents of the children, museum docents, and education staff. In the next section, pertinent information about the all of the participants is discussed.

Children with Visual Impairments-

Four students who met all the criteria were selected. Two students attended the same elementary school. One attended a different elementary school, and one was a middle school student. All students attended public schools in the metro area about 35 miles from the museum.

Parental consent to have their child participate in the research was given during the initial interview by signing the "Parent/Guardian Permission Letter" form (see Appendix B) and "Parental Consent for Child to Participate in the Research" form (see Appendix C). The child with low vision volunteered to participate in the museum research by signing the "Student Assent Form For Participation in Research" form (see

Appendix D). Through the strict adherence of the IRB privacy rule of using pseudonyms for names and schools the following information is consistent with that privacy policy. If the child decided to withdraw from the study for any reason, grades in school would not be affected whether he/ she participants in the study or not.

The following table (see Table 1) summarizes the characteristics of each student participant in the study. The table includes the following information: gender, grade, age, school designation, vision loss, age of onset, use of cane, use of braille, use of large print, orientation and mobility training, cognitive ability, and preferred learning mode. The students who agreed to participate in this study have had experiences being without sight.

I am fully aware that this population of students is vulnerable. It is important to understand that "ethical considerations are ongoing, and that ethical dilemmas may arise at any stage of the research, and not just at the point of contact with research subjects" (Freeman & Mathison, 2009, p. 70). Participation in the study was strictly voluntary and participants were able to withdraw at any time during the study.

The students' names were: Greg, David, Charlie, and Edward (all participants' names are pseudonyms to ensure privacy). The information on the following table, (Table 1), denoted an age range of four males from 7-years to 14-years and grade level range from 2nd grade to 8th grade. The students had varying levels of visual acuity from 20/80 to severe (retinal detachment to 20/80- all with eyeglass correction). Each student was well trained with mobility and orientation skills. The males attended public schools and participated in sports, choir, art, STEM, and gifted program curricula. Their mothers transported the students to the museum.

Table 1. Summary of the Characteristics of Student Participants

Gender	Male	Male	Male	Male
Grade	5th	8th	2nd	2nd
Age	11 years	14 years	7 years	7 years
School	Public/Elem	Public/MS	Public/Elem	Public/Elem
Vision Loss	20/80- Better near vision. Legally visually impaired.	20/800-No central vision- but has peripheral vision. Uses a monocular telescope on glasses.	Anopthalmia (born without an eye) and Microthalmia (extremely small eye with Retinal detachment).	Nystagmus, Poor near vision. Legally visually impaired.
Age of Onset	Birth	8 years	Birth	Birth
Use of Cane	No	Yes	Yes	No
Use of Braille	No	Yes- But braille is not a primary learning medium.	Yes- braille is his primary reading medium.	No
Use of Large Print	Yes	Yes	No	Yes
Orientation and Mobility Training	No	Yes	Yes	No
Cognitive Ability	Gifted Program	Gifted Program	Gifted Program	Gifted Program
Preferred Learning Mode	Auditory or verbal learner.	Auditory or verbal learning medium. Uses electronic print at less than 4 inches from his eyes.	Auditory or verbal learning medium. Braille is his primary reading medium.	Primarily a visual learner.

Individual information concerning each student participant is presented in Chapter Four (Experiences of Docent-Led Tours by Children with Visual Impairments).

Parents of Students-

The mothers of each child were supportive of their sons by providing transportation to and from the museum. They accompanied their children on the docent-

led tours and took notes at each tour stop on the field-note form. They all participated in a post-tour interview. They were excited to be able to participate in the tour themselves.

Greg's mother stated that her son was interested in high-end cars, robotics, video games and plans on designing cars for a living. He uses a tablet to create unique car designs. She and her husband are proactive parents and excited to provide many travel opportunities for their son to experience. He wears corrective glasses.

The mother of David shared that he enjoys the regular teenage activities such as playing video games, wrestling, piano playing, using his tablet to communicate, and watching football and basketball. The family has been several times to the High Museum and attended plays in the theater complex. David has been in the vision program at his public school since the first grade where he learned to read braille and develop superior orientation skills with his cane. David does not have peripheral vision but can read large print. With the help of his telescope monocular, he is able to function in school using a computer.

Charlie's mother shared that she has several other children and devotes a lot of her time trying to keep up with the 'millions' of questions that Charlie asks throughout the day. He loves his little brother and is always playing with him by teaching him how to do things. Some of Charlie's favorite hobbies are writing short stories, as well as playing several musical instruments such as the drums and piano. He plays basketball and likes to run races. He uses a cane and protective eye gear to protect what little vision he still has. His mother said that she is grateful for the opportunities that Charlie has had with the care given to her son at his afterschool program at the Center for the Visually

Impaired in midtown Atlanta. He has made many friends and enjoys the after school time to socialize and learn new computer skills after his homework is completed.

Edward's mother works with special needs children as a lead teacher. She and her family has always been an advocate for their son by providing him with a well-rounded active life. They enjoy travel opportunities. Edward enjoys the one sport he can do, T-Baseball. A gifted singer, Edward enjoys the choir at school and loves performing in front of an audience. He wants to be a stand-up comic later in life. He has not mastered braille-reading skills yet but is working on learning how to type. He uses bifocal lenses to see up close. Edward does not need a cane for orientation purposes.

Museum Docents-

Another important group of participants for the study consisted of docents recruited from The High Museum of Art's current docent group. The education staff and I met, and three docents' names were suggested. Those docents who agreed to volunteer to be trained for this study all had more than 12 years experience as docents. For this study, these docents would lead the museum tours with the students with visual impairments.

Lorena. A veteran docent, Lorena, participated in her training at the High Museum of Art in 2005. She was in her twelfth year as a docent. She was a public school educator for 31 years and earned a B.S. in Education from the University of Tennessee and a M.Ed. from the University of West Georgia with a degree in Special Education, major concentration in Specific Learning Disabilities. She obtained additional education for Gifted and Talented certification from Georgia State University. As a teacher of young learners, she was always fascinated with the ways individuals learn and

process knowledge. The children with diagnosed learning disabilities she worked with were highly intelligent, yet with obstacles to their concrete learning. Many of these youngsters were able to conceptualize ideas through tactile as well as visual and auditory modalities. Their "out of the box" ways of thinking were often unique but helped them recall and use the information they gained.

Spencer. Spencer became a docent at the High in 2004. His undergraduate degree from Loyola University in New Orleans was in history with a double minor in visual arts and French. He had a Masters in Librarianship (M.L.) degree from Emory University. He worked in a variety of positions at the Atlanta-Fulton Public Library for 30 years. He has had a lifelong interest in art, and after he retired, he decided to get back in touch with his visual arts background by becoming a High Museum of Art docent. He wrote film reviews for the *Library Journal* and served as a film screener for the Atlanta Film Festival. He developed the first docent library in the docent room and served for many years as the Docent Webmaster.

Amelia. A veteran docent, Amelia, began her training at the High Museum of Art in 2014. During her 33 years teaching in the public schools, she participated in a staff development workshop called, *Teaching with the Brain in Mind*. She worked in an innovative program for multi-aged students to figure out why bright kids did not do well in school. This course provided countless number of teachers with specific knowledge about learning styles and left/right brain cognitive development. As a docent, she enjoyed helping students on the various museum tours and loved when they had “unique brains” that had the ability to make connections to the artwork. She believed the importance of working in a museum allowed children to have connections to others from

the past and feel like they were a part of the human race. As a Master Gardener, she relaxed working in her yard and took care of several garden projects within her community.

Museum Education Staff-

Anne. Anne received her B.A. in Art Education from the University of Georgia and her M.A. in Art Education from the School of the Art Institute of Chicago. Between her degrees, she completed a 9-month internship at the Smithsonian American Art Museum and the Morris Museum in Augusta, Georgia. She wanted to learn more about community arts programs from the Art Institute where the program focused on social justice and the arts. After Chicago, she moved to West Palm Beach to work as a Teaching Artist in public schools and part-time Museum Educator at the Norton Museum of Art. She moved to Atlanta in 2010 for the job at the museum, but in a capacity of working within the Atlanta Public School and Fulton County school systems to implement arts integration strategies for teachers. Her role was to provide services to ALL students and ALL teachers, including more inclusive programming. For the past couple of years, she and her team has worked to provide inclusive programming for students on the Autism Spectrum and those with mixed abilities.

Mary. A museum educator at the High for 1.5 years, Mary studied art education as an undergraduate and graduate student at the University of Georgia. As a graduate student, she had the opportunity to take several classes that explored museum education, and she interned at the Georgia Museum of Art. She volunteered with students with special needs starting when she was in middle school. As a vital part of the educational staff at the High Museum, Mary was involved in developing curriculum with an emphasis

on meeting the needs of all learners. With her education staff, she is involved with developing and implementing professional learning programming for teachers to encourage meaningful integration of art (specific to art on view at the High Museum) in the classroom.

Lynn. Lynn attended Georgia State University in Atlanta, where she received her Bachelor's and Master's Degrees in Music Education, with concentrations in voice and piano. She was a choral director and music teacher in elementary, middle and high schools in Georgia for a span of thirty-four years. She has also served as an adjunct professor at Tarrant County Jr. College in Fort Worth, Texas, as well as Mercer University in Georgia. Additionally, she is an adjudicator for Georgia Music Educators' Association Choral Events, and serves as a music minister in her church. Lynn truly believes that the arts are of upmost importance in the life and development of a child. She enjoys every opportunity to share the joy of music with children.

Roles of the Participants

Role of Child with Visual Impairment-

Each child with visual impairment volunteered to participate in one docent-led tour specifically designed to provide physical and intellectual access to three works of art from the High Museum of Art's permanent collection. The tour was planned for approximately 60 minutes, including an open-ended interview after the docent-led tour.

During the docent-led tour, the participant with visual impairment walked with an assistant, or had access to a wheelchair while in the galleries. The participant interacted with tactile replicas that represented actual artworks, touched tactile items on a legend board, listened to music, read braille or large-print verbal descriptions of the artwork, and

communicated verbally with the trained docent. After the tour, each child participated in a 40-min feedback conversation, through an informal, open-ended interview conducted by the researcher. The docent and parent were present in the large Teacher Lecture Conference Room, but were in another section and far away from the interviewee and researcher.

Role of Museum Docent-

Three veteran docents from the High Museum (Spencer, Amelia and Lorena) volunteered to participate in the study. Each docent was assigned a child to guide through the galleries using the tactile aids provided by the researcher. Spencer toured with Greg. On the next day, Amelia toured with David for one stop, and Spencer continued David's tour for another two stops. Lorena toured with Charlie on one day, and then on the next day she toured with Edward. The children came to the museum with their mothers in the afternoon after leaving their respective schools.

Providing information and training in order to conduct an individual tour with a child who was blind or had low vision, was essential. Before the docent tour, they were required to participate in a docent training session, which included two representatives from the Center for the Visually Impaired (CVI) in Atlanta.

Docent Training Session. A veteran museum docent participated in the tour, asking guided questions to each participant with visual impairment. The docent employed a modification of one of the Visual Thinking Strategies (VTS) (Yenawine & Housen, 1999) during this interactive activity. The modified VTS routine also incorporated a strategy called *Touch/Think/Wonder* (see Appendix L). It is an adaptation

from the *Artful Thinking Program* called *See/Think/Wonder*, a project of *Harvard Project Zero* (Tishman, 2004). The VTS routine helps children describe what they feel or know and asks them to construct explanations. It promotes evidential reasoning (evidence-based reasoning), and because it invites children to share their interpretations, it encourages a playful engagement with the multisensory objects.

This study's VTS routine was a simple conversation to engage the child in a dialogue with the docent. For example: The docent asked the child, "What are you touching?" "Have you ever felt something like that?" What do you think about what you felt?" "What can you tell me about it?" "What do you wonder about?" "Is there anything more you want to say?"

"A formal course of study validates the work as important and establishes credibility for those engaged in the educational endeavors of the museums (Shaffer, 2015, p. 102). For that reason, the museum docents attended a 3-hour training session to learn about conducting tours using multisensory objects with children with visual impairments. The following topics were shared during the training workshop:

1. Learning and teaching with objects – Two visitors from the Center for Visually Impaired who discussed their past experiences in art museums
2. Discussion and practice describing the works of art through *verbal description techniques* using the tactile models created by the researcher
3. Review of Art Beyond Sight's (ABS) video on guiding visitors with low vision through galleries in an art museum setting

4. Discussion of methods of engagement to be used on the tour and practice using the modified version of the *Visual Thinking Strategies* (VTS) called, *Touch/Think/Wonder*
5. Review of the "Feedback" form that docents would complete at the end of the museum tour

Learning and teaching with objects starts from sense perceptions, from the use of senses to accumulate as much data as possible about the object(s) under analysis. There are several components of sensory exploration. "These components consist of the following: size/scale, weight, temperature, texture, noise/taste/smell, age/condition, materials/how many/which/what, and colors/intrinsic/applied" (Hooper-Greenhill, 1994b, p. 232). As Hooper-Greenhill stated, "Objects can be a lot more interesting both to teach with and to learn from than books" (p. 234).

The docent encouraged the child with visual impairment to begin investigating the artwork's replica model. She could ask about the object's weight, temperature, texture, size-scale, materials used, and noise/taste/smell. "A sense of touch adds a meaningful dimension to almost any gallery experience and can be implemented with a collection of teaching objects the visitors can explore" (Shaffer, 2015, p. 163). In addition, the museum docent practiced describing the three works of art that were chosen for the three-stop tour. Verbal descriptions were provided in braille and large print. A replica of the original work of art was available for the child to touch.

Gallery Tour Structure-

The gallery tour's structure consisted of the following procedures:

1. The docent shared the verbal description of the artwork either orally or

by presenting the child with a braille or large-print version of the description.

2. The child examined the components on a key/ legend board to feel each small authentic item that was used to create the replica.
3. The replica was introduced to the child, who was encouraged to investigate/examine each part of the replica.
4. The docent used an adapted version of Yenawine and Housen's *Visual Thinking Strategy* to dialogue with the child about the art.
5. Additional sensory experiences involved appropriate music and video that enhanced each artwork and provided context to the object's meaning.

Throughout each child's personal tour, the researcher's observations and field notes focused on how the child listened to the verbal description of the artwork (or braille, large-print texts), interacted with the tactile aids on the key/legend boards, shared ideas through a dialogue with the docent, and touched the replica.

Role of Researcher as Participant-

Emphasis was placed on the individual child's experiences with tactile objects designed to represent artworks. Extensive field notes were taken during the tours and in the galleries and throughout the museum. Photographic and video recordings captured the "experiences" of the child. Audio recordings were essential to capture the voices of each child (who wore a personal microphone/recorder) during the interaction with the interpretive replicas, various tactile aids, and dialogue with the docent. Each docent also wore a personal tape recorder around their neck to capture the dialogue with the child.

Van Manen (1990) noted that "a certain openness is required in human science research that allows for choosing directions and exploring techniques, procedures and sources that are not always foreseeable at the outset of a research project" (p. 162). In my researcher's role, I participated in the children's museum experiences by creating interpretive tactile models that replicated the chosen artworks' artistic elements of form, line, texture, and weight as much as possible. I created vivid, verbal descriptions of the artworks, and provided a version in braille and audio format for the children with visual impairments to follow during the docent-led tours. In addition, the children had opportunities to touch tactile graphic images on two-dimensional surfaces of the artworks. Using small tape recorders draped around the participants' necks, their dialogue with the museum docents was captured for data collection purposes. In order to collect visual data of the participants' gestures and interaction with the artworks, the video camera on a cell phone was used to film the docent-led tours. Frequent note taking, still photographs, and small sketch drawings provided a means to collect anecdotes and descriptions of significant moments and events. Immediately after each tour, a snack time for the participant was provided. At that time an informal interview took place to obtain feedback about the children's experiences in the museum.

Summary of Collecting Case Study Evidence

For this research study, I employed an interpretive case study approach (Stake, 1995). I wanted to explore meaning-making events that occur as the participants with visual impairments interacted with replicas of actual works of art in the context of the art museum. This socio-cultural orientation focused on the processes of the participants' learning as they used the tactile tools provided in light of their prior knowledge and

experiences. The case study's structure and major objective was to collect data about actual human events and behavior. According to Hein (1998a), cognitive perspectives assume that knowledge is constructed through interaction with objects and people. The collection of data through case study structure and with an interpretist approach helped me to better understand how each child with low vision actually interacted with and experienced the works of art.

According to Yin (2009), "case study evidence can come from many sources" (p. 99). The sources of evidence that I used were direct observation of participants via field notes, docent-child conversational audio-recordings, photographs, small segments of videotapes, and open-ended interviews of all participants in the study. No single source has advantage over the others, yet all of the sources of data were pertinent to the study. Yin (2009) explained, "In fact, the various sources are highly complementary, and a good case study will therefore want to use as many sources as possible" (p. 101). The following sources of data evidence are explained in detail as they relate to the docent-led tours with the children with visual impairments.

Direct Observation in the Field-

Direct observation of the participants in the galleries of the art museum "represented a firsthand encounter with the phenomenon of interest rather than a secondhand account of the world obtained in an interview" (Merriam, 2009, p. 117). Wolcott (1992) stated, "Qualitative researchers like others whose roles demand selective attentiveness- artists, novelists, detectives….pay special attention to a few things to which others ordinarily give only passing attention" (p. 22).

As a university student-teacher advisor, my previous position involved regular, formal observations of teachers and their students working on tasks in different grade-level classroom environments. I followed structured evaluation techniques that enabled me to cite areas for teacher improvement as well as to describe teaching areas that were highly proficient. "Observation is a research tool when it is systematic, when it addresses a specific research question, and when it is subject to the checks and balances in proving trustworthy results" (Merriam, 2009, p. 118). This experience gave me the preparation needed to observe and note the interactions in the galleries between the children and the docents.

In order to provide parents and education staff team members an opportunity to observe the children during the actual docent-led tours, I supplied each observer with a field-note form, pencil, clipboard, and foldable stool (see Appendix I for a copy of the field-note form). Merriam (2009) noted that "observations are also conducted to triangulate emerging findings: that is, they are used in conjunction with interviewing and document analysis to substantiate the findings" (p. 119).

The docent and child were alone during their interactions during the tour. The parent, museum educators, one volunteer and I were located several feet away from the child and docent. All the children were highly engaged with the replica and other tactile aids while listening to the docent during the actual tour stop. They did not appear to notice that we were in the background. Only during the slow transition to the next stop along the tour did the child interact with his mother. The volunteer and I moved the key/legend boards and set up the replicas before the child, docent and parent arrived to the next stop.

The direct observations I conducted provided some knowledge of the context and provided specific incidents and behaviors that I used as a reference point in the follow-up interviews. For example, an incident occurred in the folk art gallery during one of the tours surrounding the sculpture *Horse,* created by Gregory Warmarck. During the tour stop, the docent and child were actively engrossed in a conversation about the materials used in the replica of the actual artwork. All of a sudden, a random museum visitor approached the artwork and started to join in their conversation. He began to supply answers to the docent's questions and tried to touch the replica model. To say the least, it was interesting to observe everyone's reaction as it occurred. It was important to record the incident since during future tours for blind visitors in the galleries during regular museum touring hours, anything out of the usual can happen. It also showed how sighted viewers wanted that same kind of tactile experience. Docents need to be aware of how the curiosity of such a unique tour may entice engagement with regular museum visitors.

Docent-Child Conversational Audio Recording-

According to Merriam (2009), "What is written down or mechanically recorded from a period of observation becomes the raw data from which a study's findings eventually emerge" (p. 128). On-site audio recordings were helpful in the present study because they provided the concrete basis for all aspects of the dialogue between the children and the docents, interviewer, education staff, and parents.

By providing a sensitive microphone in a leather pocket (which hung around the neck) that did not impede the experience for the child, I obtained a true record of his statements, questions, and reflections. The comments were invaluable in the analysis of his overall experience. "Audio taping of interviews is a standard practice in hermeneutic

research as the interview content is the data and needs to be transcribed verbatim to capture the language of the research conversation" (Moules, McCaffrey, Field, & Laing, 2015, pp. 91-92).

Photographs and Small Segments of Video Recording-

The docent-led tours were photographed during all aspects of the children's experience. From the time the child and his parent came through the museum's door throughout each tour stop until the time they left the museum, I documented their visit with still photographs and small segments of video recording. Visual records are important to this study because they focus on the authentic truth of actual events at the time they occurred. The details of the photographs allowed for intense inspection of the faces and gestures of the children and docents as they investigated the artwork together. This visual documentation, along with the written transcripts of the interviews became the focus for sustained and repeated analysis (Moules et al., 2015).

Walsh, Bakin, Lee, Chung, Chung, and colleagues (2007) noted that video data of action could be coded multiple times for in-depth detail by replaying the video numerous times while focusing on different aspects of the action of the subject. Heath, Hindmarsh, and Luff (2010) advised against coding and categorization of video and, instead, supported an analytic inductive approach that favors "the ways in which social action and interaction involve the interplay of talk, visible and material conduct" (p. 9). Even though there are various systematic methods for analyzing visual data, Saldana (2013) suggested, "that there are not any approaches that rival the capability of human reflection and interpretation" (p. 57).

Saldana (2013) stated, "Trust your intuitive, holistic impressions when analyzing and writing about visual materials" (p. 57). For my study, I used a combination of descriptive memos running alongside the interview transcriptions to capture what the video recording was showing. For eventual analysis purposes, I made detailed notes about the facial expressions, gestures, whole body movements, and manipulations of objects and tactile aids demonstrated by the children.

Interview Process-

I conducted two open-ended interviews with each child after the tour (see Appendix L). The first interview was held immediately after the 2-hour gallery tour. With permission from each parent, one follow-up telephone interview was conducted for each child approximately 2 weeks after his initial museum tour.

The first formal interview for each child was conducted to obtain their feedback and to share their museum experiences. To ensure privacy and in light of concerns about noise level, each child and his parent were invited to participate in the interview session in the Teacher Lecture Conference Room located near the art studio labs and docent library. The students had to leave their school before lunch to reach the museum in time for their tours. During that particular week of the study, their school system was in the midst of completing the mandated annual state tests. Therefore, the students had to complete their tests before they were allowed to leave their school's campus.

Because I considered that hunger might be a problem for the participants, I called each parent to ask about the child's favorite snack and to check for any food allergies. This information was invaluable because the children were relaxed and happy to get something to eat. The large conference room provided comfortable space and sufficient

lighting. Each child still had on his microphone so the audio-recording element was not an issue. By the end of the tour, they were used to wearing the small pocket and microphone around their necks. The interviews lasted approximately 45 minutes to 1 hour. I documented the interview questions and answers via audio recordings and took notes as well. This practice helped when I transcribed each interview to check for any comments that I missed or could not understand.

Yin (2009) contended that when listing the strengths and weaknesses of the different sources of evidence, interviews are insightful, providing perceived causal inferences and the ability to focus directly on the case study topics. One weakness of relying on interviews, as a source of evidence for the case is *reactivity*—where the interviewee gives what he thinks the interviewer wants to hear. Before the actual tour and at the beginning of the interview in this study, the child was encouraged to share everything he could concerning what was helpful and what areas of the tour would not be helpful for other children with visual impairments to gain meaning from a similar tour. Consequently, the children's responses were candid and carefully articulated.

A more in-depth, telephone interview was conducted with each child 2 weeks after they completed the tour and interview in the museum. These interviews were guided conversations rather than more formal structured queries. Throughout the interview process I asked about the facts of the actual tour as well as their opinions about events. I encouraged the participants to propose their own insights into certain occurrences in order to use that information as the basis for further tour development.

To summarize, I recorded the gallery tours of each participant and docent via audio and video recordings and still photographs. The addition of all the tactile aids such

as the replicas, the key/ legend boards, and the large-print and braille texts of the verbal descriptions of the artwork provided a rich environment to document. Any field notes from observations that I developed were informal because I wanted to be present to capture the visual images that I could transcribe and make memos from. Each parent and two museum educators who accompanied the group through the galleries took field notes. I provided clipboards, pencils, stools, and a form for the parent and education staff members (see Appendix I). In addition, a volunteer handled the cart of supplies needed for each tour stop at the original artwork. The volunteer kept a running record of time as events in the gallery unfolded. This pragmatic approach to collecting the data that I eventually analyzed was a good choice for my level of collecting all the data simultaneously.

Data Analysis Methods

To analyze the data or field texts of this study, I used the constant comparison inquiry approach. Butler-Kisber (2010) defined constant comparison as "a thematic form of qualitative work that uses categorizing, or the comparing and contrasting of units and categories of field texts, to produce conceptual understandings of experiences and/or phenomena that are ultimately constructed into large themes" (p. 47). Butler-Kiser (2010) used the term *field texts* instead of *data* to underscore the idea "that data are constructed (not entities in themselves) and are what is generated from observations and/or interviews" (p. 29). In this study, recordings of the voices of the two main participants, the child with visual impairment and the docent, were considered part of the field texts. The recordings were referred to as *dialogue texts*. Capturing the actual dialogue between participants was an essential part of the analyzed data.

"The constant comparative method of data analysis was developed by Glaser and Strauss (1967) as a means of evolving grounded theory" (p. 437). The purpose of the constant comparison method of joint coding and analysis is to generate theory more systematically than another approach. A theory that is integrated, consistent, plausible and close to the data. I used the constant comparison strategy of inquiry to compare incidents from interviews, *dialogue texts*, field notes, or photographs with another set of data in the same set or another set. This decision to analyze all the data collected in this manner eventually facilitated analytic insights.

The purpose of analysis is to bring meaning, structure, and order to the data. I began the process by organizing all of the recordings of the dialogue texts between each child and docent during their one-on-one tour. "Listening to the interview tapes prior to transcription is also an opportunity for analysis as is the actual process of transcribing interviews" (Maxwell, 2013, p. 105). In total, there were seven dialogue texts that I reviewed. I gained insight on how the children felt about their tours by listening to their voices during the actual tour with the docent. Roulston (2010) noted, "For researchers using a constructionist conception of interviewing, 'all is data,' and both interviewers' and interviewees' interactions may be subject to analysis of how and what was said" (p. 104). Those dialogue texts were listened to three times as I made notes to review each tour and begin the process of interpreting that data and generating preliminary analysis.

In addition to the data gained from the dialogue texts, a total of twelve face-to-face interviews with the children, four with their mothers, and two with the museum education staff were conducted. I manually transcribed the recorded interviews obtained from the children during their initial recruitment interview and then immediately after

their individual tours. Each student's transcript was placed in a notebook clearly marked with the name, date, time, and location where the interview took place. The initial step was reading the interview transcripts and observational notes collected from all the participants. To ensure absolute accuracy, I listened to each recording five times, concurrently reading over the transcripts. I found that experience essential and took notes to accurately express their words. I listened to the voices of the children and docents intently and gained enormous insight from their dialogues. By listening with intention, I captured the participants' tone, moments of pause, emotion, and enthusiasm while investigating each work of art.

Students were interviewed 2 weeks following their museum tour. In that instance, I employed a local transcription service to create written transcripts. Again, I listened to their audiotapes five times to make any corrections on those professional transcripts. Butler-Kisber (2010) noted, "It may include going back to the participants to observe further and/or ask questions to help guide the process" (p. 31). After the transcripts were reread and memos (Miles & Huberman, 1994) were written, I created a list of all the similar comments made by the children in my journal log. The identification of units of data helped to address subsequent analytic procedures. These comparisons lead to tentative categories and relationships in the data. The simultaneous data collection and analysis for generating categories and building theories occurred as the data were compared.

After transcribing the interviews, I used both tentative categorizing and connecting analytic approaches (Glaser & Strauss, 1967, p. 108). One limitation of setting up categories was that only decoding the "chunks" of data and placing them into

refined categories neglected some of the context. One of the most difficult aspects of implementing a constant comparison analysis was my moving from the descriptive categories to the conceptual/interpretive level. To solve this dilemma and facilitate the process, I used a system of classifying what part and where the "chunks" fit in the categories. I then developed codes based on the definitions of the categories. I listed each code name and the rule of inclusion in my journal log. I used a narrative or connecting approach (Miles & Huberman, 1994) to create narratives to retain the contextual dimensions that could be lost by only categorizing data.

The meaning of the museum experience for the child with visual impairment was not stripped of the context. It was not just locked into and limited to the stories of individual children with visual impairments. Coding matrices were combined with narrative summaries to gain an understanding of the interview data that categorizing data never could have provided alone. "The power of the case study is in its attention to the local situation, not in how it represents other cases in general" (Stake, 2006, p. 8). A case study is both a process of inquiry about the case and the product of that inquiry.

The analysis of collected data was ongoing and data were coded in an organized graphic organizer based on the emergent themes that were found to be similar or in contrast with other participants' experiences during the docent-led tours in the art museum. In my research, I observed the dialogue between the docent and child with visual impairment, especially noting its promise for pedagogy and the development of a unique tour for that type of visitor.

Synthesis of Data Analysis

In conclusion, the data analysis was performed in conjunction with the data collection. The four sources of data collection were as follows: (a) participant observation, (b) dialogue texts (audio/video recorded from the child and docent during the tour), (c) open-ended interviews, and (d) field notes. Assigning codes to different pieces of data was a way in which similar patterns and categories emerged. After dozens of tentative categories were generated, color-coded files were created and labeled with category names. According to Glasser and Strauss (1967), these categories have a life of their own apart from which they came.

After another review of all the sources of data collected, there was a move from this inductive approach of data analysis to a more deductive mode of thought. The names of the categories were based on the terms and concepts reflected by the comments and opinions suggested by the children, docents, and museum educators. "The latter task requires substantive categories, ones that explicitly identify the *content* of the person's statement or action" (Maxwell, 2013, p. 107, italics in original). These substantive categories were primarily "descriptive that included descriptions of participants' concepts and beliefs" (p. 108).

Constant comparative analysis aided in coding data and categorizing findings. Analysis of the data sets revealed that the major findings of this study fell under five organizational categories that served as useful ways of ordering the data. The five categories are: (a) Diversity of children with visual impairments, (b) Engagement with multisensory aids, (c) Connections made with docents, (d) Importance of environment,

and (e) Interpretations and meaning making. Each category provided evidence to verify information obtained by the sources of collection methods.

Standards for Quality of Data

How researchers account for and disclose their approach to the analysis and interpretations of data are key to the evaluation of their work. In order to address what Maxwell (2013) noted concerning the process of ruling out validity threats and increasing the credibility of my conclusions, I am sharing the strategies that I employed in this study. Several strategies that I used provided descriptions and details to allow validity judgments to be made by the reader. For social scientists, it is necessary to disclose the way in which the data was collected, analyzed, and interpreted, and the way in which the findings are presented.

Validity

Maxwell (2005) concurs that one can never really capture reality. "Validity," then, "is a goal rather than a product: it is never something that can be proven or taken for granted" (p. 105). Since the study's participants were the main sources of data collection, interpretations of their reality were accessed through observations and interviews. The strategies used were verbatim transcriptions from interviews, descriptive note taking of specific, concrete events that I observed as well as field notes taken during the intervention by the students' parents. I solicited feedback about the data and the conclusions from the children I studied, the education staff, and the docents who led the tours. This evidence helped in regard to the validity of my conclusions.

"Internal validity deals with the question of how research findings match reality" (Merriam, 2009, p. 213). The data sets do not speak for themselves, they are constructed

by interpretations from interpreters or persons who were observed and interviewed. One strategy that helps with objective "truth" and can help the internal validity of this study is known as *triangulation*. Maxwell (2013) states, "Triangulation is a means of collecting information by different methods (e.g., observations, interviews, notes, and journals) as a check on one another allows the researcher the ability to see if all methods support a single conclusion (p. 102). This strategy allows the researcher to gain a more secure understanding of the issues she is investigating. I gave the transcribed interviews (of the docent and child on their tour) back to the docents for their review and comments. Their feedback was discussed at length and the information was incorporated into the final section of suggestions for improvement of the tours using the various forms of tactile aids.

Trustworthiness

Using a "conversational" or open-ended interview method, I gathered lived-experience data such as anecdotes or actual comments, gestures, sounds, questions, and movement while the participant was "living the experience" in the art museum context. I provided an opportunity for the docent to give feedback about his or her experience during the tour. Therefore, these open-ended interviews turned increasingly into hermeneutic interviews, as I went back and forth in discussion with the docents and other collaborators in the research project.

It was difficult to include the students at this point. Even having the student participants write about their experience was difficult. One of the major challenges of the process of having the minor child write about his/her experiences at a later date was the linguistic difficulty and level of braille/writing knowledge. Therefore, I audio-recorded

the conversations with all of the participants in order to develop a relationship with them about the meaning of their experience. I explored this challenge with Teachers of Visually Impaired students to glean practical ideas.

According to van Manen (1990), another method of collecting experiential data from others is the "more indirect method of *close observation"* (p. 68). Because children with visual impairments may not be able to write about or even want to have a casual conversation after the experience, a less formal location was available. A family play space was accessible for the child to interact with puppets or blocks while conversing with the researcher. I remained attentively aware of the way the museum experience unfolded for that child. The best way to enter a person's lifeworld is to participate in it.

Generalizability

Since this study is qualitative in nature and focused on a limited number of participants who met selection criteria, the results are not intended to be generalizable to the larger public. Generalizability, in any case, is not where we believe that truth lies in hermeneutic work. "We are not seeking an exactly replicable application of findings across any and all domains; therefore, the idea of transferability sometimes has a better fit with hermeneutics" (Moules, McCaffery, Field, & Laing, 2015. pp. 175-176). Sandelowski (1986) stated, "Generalizability occurs when the findings of the research fit into contexts outside the study situation and when its audience views its findings as meaningful and applicable in terms of their own experiences" (p. 27). "The more meaningful criteria of good hermeneutic work are those of suggestiveness and potential" (Madison, 1998). Merriam (2009) noted, "Flyvbjerg makes the point that both human

and natural sciences can be advanced by a single case. He also argues that formal generalizations based on large samples are overrated" (p. 54).

IRB- Vulnerable Children as Participants

Volunteers for this study comprise participants who are children with visual impairments presently living in the northeastern part of Georgia in the United States. In order to conduct research with children, and, most assuredly, vulnerable children with visual impairments, permission is needed to protect their dignity and personal rights. An established Institutional Review Board (IRB) review process is to assure, both in advance and by periodic review, that appropriate steps are taken to protect the rights and welfare of humans participating as subjects in a research project. A key goal of IRBs is to protect human subjects from physical or psychological harm. The protocol review assesses the ethics of the research and its methods, promotes fully informed and voluntary participation by prospective subjects capable of making such choices, and seeks to maximize the safety of subjects. Further safeguards (Freeman & Mathison, 2009) typically include seeking parental permission and informed assent forms from child participants. These were provided in the current study (see Appendices B, C, and D).

Freeman and Mathison stated, "These principles are the basis for the requirements of IRBs, including a clear process for securing informed consent from participants, an assessment of the risks and benefits to participants, and a description of recruitment and selection strategies" (p. 21). All required forms are on a secure, password protected file and in my approved IRB research proposal. A pseudonym was assigned to each participant to ensure privacy rights, since the IRB guarantees confidentiality.

Limitations

One of the main goals of this study within the context of a museum setting was to provide as authentic an experience as possible for the participants. The individual docent-led tours would be planned on days when the art museum also conducted tours with other groups of students from neighboring public school systems. The participants would mingle throughout the permanent collection galleries along with the general public visitors. However, during one tour, when the docent and child (participant) were in a discussion about why the artist (Gregory Warmack-Mr. Imagination) added a human-like face on the head of the *Horse*. All of a sudden, a man who was also looking at the artwork came forward and started to engage in the dialogue between the docent and the child. The man began answering the docent's questions and even started to touch the replica's bottle caps and velvet saddle. This was a complete distraction for the child and docent. As someone who was taking field notes and photographs at the time, it caught me off-guard as to whether to intervene or not. Then I remembered that this kind of behavior is sometimes important in an art gallery. Two people meet and are so intrigued by the work of art that a spontaneous discussion develops, regardless of others in the same gallery. Truly the man wanted to listen to the child's interpretation, especially since the child was unable to actually see the work of art.

Another limitation to the study was the use of maps for the tour. The prepared floor maps were inadequate because they did not have the sides of the buildings clearly marked. There was a raised line drawing, which followed the path of the tour from gallery to gallery, onto the elevators, and down to the lower level where the poet-tour interviews were conducted. A better choice would have been a 3D designed graphic with

raised line for all sections of the building including bathrooms, elevators, and individual galleries used during that particular tour. The limitation of a feasible working tactile map for the tours with children with visual impairments was brought to the attention of the museum staff. The museum educators requested the technology department to create some form of tactile floor map for the entire museum to be available at the visitor's entrance area. Several discussions and attempts have been made to create visual floor diagrams using a tablet with Voice-Over technology, which would provide all visitors with low vision to have better access to the physical aspects of the museum.

Subjectivity Statement

A dictionary definition notes subjectivity as "the quality of an investigator that affects the results of observational investigation" (Webster's Third International Dictionary, 1996). The "quality" affects the results of the study with a biased or prejudiced account. Schwandt (2007) noted, "the term has also been used more broadly to refer to the notion of *lived experience* in its historical, political and physical contexts" (p. 280, emphasis in original). I acknowledge that I have a lifelong, passionate interest in working with children toward their aesthetic development and cognitive growth. Ever since I met a young 3-year old boy who was blind, I have been interested in how this child could function so well in his play and interactions with his Teacher of the Visually Impaired. Since he was so young and enthusiastic about colors (what they were) and feeling everything around him, I asked him one day, if he had ever been to an art museum? He answered that he had not even "been to the beach!" That instilled in my heart to find ways for all children to be able to explore new environments in order to help

them have richer background contexts to make connections. Learning is about the connections a person makes from prior experiences to new experiences.

"The opportunity to see things from your own cultural bias is recognized as a potential problem in qualitative research" (Mertens, 2010, p. 430). "What needs to be accounted for and interrogated is what perspectives are brought to the work and why we see things the way we do" (Butler-Kisber, 2010, p. 19). To minimize the source of the bias or to recognize how it might influence the data analysis, Mertens (2010) recommended that the researcher describe her own values and cultural framework for the reader. Additionally, a journal kept throughout the study, may reveal how perspectives have changed. Identity memos (Maxwell, 2013), or little comments throughout the data collection and analysis accounted for personal beliefs and assumptions that may influenced or had an impact on the interpretations of the participant observations. Butler-Kisber (2010) stated, "In qualitative inquiry, no apologies are needed for identity, assumptions, and biases, just a rigorous accounting of them" (p. 19). In my journal entries, I noted that to my great surprise when the process of recruiting students for this study, the same 3-year old young boy was now 7-years old and in the second grade. He eagerly volunteered to participate in the study at the High Museum because he wanted to share his ideas on what would be helpful for other children with low vision or blindness to have as aids while touring the museum. Finally, he had the opportunity to visit an actual art museum!

The dissertation process is often a time of introspective self-reflection. I conceptualize research as a process where I can "generate," "grow," "build," and "dig deeper" (Pfeiler-Wunder, Buffington, Rao, & Sutters, 2017, p. 13). These actions speak

to the *how* of research and the predominant theme for *what* happens, with a byproduct of their cultivation being "new knowledge," "new methods," and "new practices" (p. 13, italics in original). Buffington and McKay (2013) explained, "Gaining self-knowledge about what you value and what theories you employ in your research, can be a way to broaden theories you consider, work with, and form on a daily basis" (p. 12). This research has been a transformative experience because my views on the abilities of children and their desire to want to contribute their opinions so others can take a tour.

CHAPTER 4

EXPERIENCES OF DOCENT-LED TOURS BY CHILDREN WITH VISUAL IMPAIRMENTS

Welcoming Environment

Probably the most important thing that an art museum can do to ensure a satisfying visit once someone actually arrives at the front door is to first fully welcome him (Falk & Dierking, 2013). To further reinforce this welcome, visitors should be greeted as they walk through the door. On the day that each child and his parent were scheduled for their personal tour through the galleries at the museum, there was a cheerful group of docents, museum staff, and volunteers ready to offer their personal greetings. The message that was conveyed was that there were special experiences prepared for the child. Personal connections between museum staff and children set the tone for the visit (p. 94).

In addition, the museum education staff notified the security personnel that the group would be traveling to three galleries in the main two buildings. The security staff had been through an awareness meeting to notify them that students who were blind or had low vision would be touring and studying in the museum during the next 4 days. Shaffer (2015) noted, “While the physical environment needs to welcome and invite visitors, including our youngest museumgoers, the attitudes and actions of the staff are even more important” (p. 94).

In preparation for the tour, all the tactile aids and artwork replicas were placed in the respective galleries where the original artworks were located. The tubs were clearly marked so that security was aware that they were a part of the study. The visitor services staff provided complimentary entrance stickers and the guards helped with safety and orientation by the elevators. A welcoming environment can create a sense of comfort and helps establish a positive starting point for the entire experience.

Because the children came from a local public school system 35 miles away from the museum, their parents volunteered to provide transportation from their schools to the museum. In addition, the study happened to coincide with the schools' participation in the statewide testing week. Each school's principal and Teacher of the Visually Impaired were notified and subsequently approved letters of participation. The child's tour was carefully planned to start after his testing schedule and before there was too much traffic on the roads to impede his travel time.

One component of the welcoming environment critical to a successful visit relates to a sense of comfort- appropriate place to sit, have a snack, and use the restrooms. During a discussion with each parent, a list of the child's favorite snack and any allergy needs were identified prior to the tour. The child and docent had an opportunity to visit and get to know each other. By creating a culture that respects the needs of the child and his parent, the museum demonstrated an interest in and support for this type of visitor and museumgoer.

The tour was officially ready to start. The researcher restated the purpose of the study. When the child and parent volunteered to participate in the study, they had an opportunity to discuss the information about the goals of the study. The study's purpose

was to examine the experience of a child with visual impairment in an art museum setting. Using a variety of multisensory tools, the child would interact with three works of art. Since a researcher cannot observe directly what a child is thinking, gains in knowledge or understanding are observable only in what the child says or does. It is important to find a way to *see* the engagement and its impact "through the eyes" of the child to consider multiple outcomes of his understanding or interpretations. Collecting data from a child's point of view requires self-reporting by recording what he says and does. The researcher was open and responsive to the child's input in this study.

Before the small group of participants began the tour the researcher explained that photographs and audio/video recordings would be taken of the child during the dialogue with the docent and while the child interacted with the replica/model of the original artwork. Each participant was equipped with his or her audio-recording device in a pouch that hung around his neck. The personal recorders were kept running throughout the duration of the galleries tour and during the post-tour interview. Tactile maps of the museum's floor plan were presented to help the child, docent, and parent maneuver through the different galleries. Each parent, museum educator, and volunteer aide was supplied with a clipboard, stool, pencil, and field note form.

Greg's Tour Experience

Greg was a 10-year-old, Caucasian male participant and a fifth grader. His Teacher of the Visually Impaired mentioned that he had 20/80-vision acuity (with correction glasses). Looking at an object very closely best suited his near vision. He made use of the large-print written description of each artwork on the docent-led tour. Although he did wear glasses, he did not need the aid of a mobility cane. Greg was

proficient using a personal tablet that was loaded with vision-assistive technical apps. However, even though his mother reminded him, Greg preferred not to use his personal tablet during the museum tour or in the galleries.

An only child, Greg enjoyed travelling on a cruise ship over the summer with his mother and father. Since one of Greg's career goals was to become a car designer, he and his father have visited several museums that have exhibited exotic and high-caliber racing cars. However, he had not had the opportunity to visit the High museum.

When Greg and his mother entered the museum for the tour, he was excited and cordial greeting the docent (Spencer) and museum educators. Greg left his school right after he completed the end-of-the-year testing for the day. He did not use a cane and was fully able to maneuver in the galleries without any assistance. Since this was the first docent-led tour of the study, the ability to know how much each participant could actually see was unclear. The docent, Spencer, did ask Greg his preference on how he wanted to receive the information as the child viewed the *Bwa* masks. The following image depicts Greg and Spencer looking at the original *Bwa* masks hanging on the wall. Spencer is reading the verbal description to Greg.



Figure 11. Spencer and Greg at the three original *Bwa* masks.

Spencer- *We've got three different masks. The written description is also in braille. Want the braille? You can read along, or you can just listen.*

Greg- *Listen.*

Spencer- *You want to just listen? Okay- So, we're starting with this Yacoube Bonde Mask. There are three masks and an artist carved them named Yacoube Bonde from Burkina Faso* (lines 8-16, p. 1).

Spencer, Greg's docent, made this comment after the tour: "At the first stop I did ask him if he wanted to read along with me and he said, 'No.' My verbal descriptions of the art were probably a little hesitant because it was the first time for me to give this particular tour. Greg indicated at the end of the tour that he didn't read braille and didn't need that since he had some sight."

Spencer began by simply explaining the historical and physical aspects of the three *Nawatantay Masks* from the *Bwa* culture. During most of the tour stops, Greg listened and answered the questions that the docent asked. The true dialogue between Greg and Spencer usually consisted of a quiet exchange of questions in order to elicit meaning. Greg wanted to listen to the docent read the description and then discuss what he heard. Eventually, Greg had the opportunity to actually touch the large scaled replica.



Figure 12. Spencer and Greg investigated the *Bwa* mask replica on the floor.

Spencer- *What shape are those?*

Greg- *Circles.*

Spencer- *Circles. Okay! Then feel the top and how the next shape kind of differs. That gives you a sense of the lines on the board and how big they are. So you had to move along the floor quite a ways, didn't you? Can you visualize how that would be on top of your head? What do you notice about these lines that you are feeling now?*

Greg- *Like they are coming toward me* (lines 74-96, p. 2-3).

Greg was making connections by describing the replica that he was able to touch. By feeling all the different parts of the replica in a kinesthetic manner, Greg was able to further develop his sense of depth perception of this particular work of art. The following conversation took place with the Research Interviewer (RI) and Greg.



Figure 13. Greg interacted with the wooden version of the *Bwa* mask.

RI- *Can you remember some of the tactile items?*

Greg- *I felt the mask. I guess the smaller version of the mask. I felt what the*

mask is, the designs on the mask, the hair that they use to put on the costumes, and the dolls.

RI- *The straw-like hair. Is that a feeling you have had before? Touching that?*

Greg- *No, I have not.*

RI- *Which assistive tactile tool did you feel helped you best understand the original work of art? Can you tell me about it?*

Greg- *The wood. I could feel a small version of how heavy it was even being that small, the designs on it, how they had to hold it to be able to look through it* (lines 204-205, p. 5).

Use of Key/Legend Boards-

Greg's next tour stop was at the art of Howard Finster. The name of the work is *Howard's Tools,* which consists of two large cement slabs of a sidewalk built at the artist's home in N.W. Georgia. A heavily inscribed bicycle hung right above the art on the floor. The research interviewer (RI) talked to Greg about his experiences using the key/legend board for the Finster piece.

RI- *What kinds of items did you find in the sidewalk?*

Greg- *The tools, the writings, a wrench, and pliers.*

RI- *Were you able to actually touch and feel how heavy the pliers were? Did your docent show you the bag of pliers?*

Greg- *He did show me them and also the marbles.*

RI- *Can you tell me anything else about the key/legend board?*

Greg- *Oh, yeah, it did help me know what the items were in the real artwork.*

RI- *Was it helpful to have a dialogue with the docent? Can you explain?*

Greg- *Yes, I wouldn't know what the work was made from, how it was made, or why it was made* (lines 287-322, pp. 7-8).

Music and Video in the Gallery-

Greg shared his opinions and interpretations about the use of the music via a video that was present at the *Bwa* mask stop. A list of the musical selections used at all three tour stops has been provided. (see Appendix J)

RI- *Can you tell me about your experience at the Bwa masks exhibit?*

Greg- *The music was really cool. Being able to see the videos and dancing. The masks, how much they weighed, the way they had to carry them, how heavy they were, and how they had to dress while they were carrying them.*

RI- *Can you explain why you think the men danced with the heavy masks?*

Greg- *The way they had a celebration usually for parties or people coming to see the big masks. I learned what the texture was, what designs were on some of them. I learned how different cultures use the different masks to show different types of things. That's what I learned.*

The student made several suggestions about the use of the cell phone playing pre-recorded music during the three tour stops.

RI- *We had some special music that Mr. Finster used to play when he would walk around. Did you hear that?*

Greg- *Banjo!*

RI- *Can you tell me about the music? Was it too loud? Was it helpful to get the image of the work in your mind?*

Greg- *It was helpful. But maybe play it at first while I am looking at the art and not having any discussions* (lines 264-273, p. 7).

Greg- *The music at the Mr. Warmack's, Horse, was playing too softly. I didn't know the direction it was coming from. I didn't get it. It needs to be played behind the original Horse. It would be good to stop and just listen to the music and try to figure out how it relates to the Horse* (lines 824- 827, p. 11).

Interpretations and Meaning Making-

The next section reveals some of Greg's comments made that demonstrate how his interpretations manifested through dialogue with his docent, Spencer.

RI- *Can you tell me about the experience you had at the Bwa mask stop?*

Greg- *The music was really cool. Being able to see the videos and dancing. The masks, how much they weighed, the way the men had to carry them, how they had to dress while they were carrying them.*

I learned the way that the people had a celebration usually for parties or people coming of age. I learned how different cultures use the different masks to show different types of things (lines 128-137, pp. 4-5).

RI- *Which one of the tactile aids helped you understand the original work of art?*

Greg- *The wooden mask. I could feel a small version of how heavy it was even being that small. I could feel the designs on it, how the men had to hold it, and how they had to look through the holes in it* (lines 204-214, p. 5).

After 2 weeks, Greg was interviewed again to see what parts of the tour he remembered or which activities made the most impact.

RI- *What part of your tour do you remember being the most interesting?*

Greg- *What I thought was most interesting was that horse thing. The bottle cap thing. (He was referring to Gregory Warmack's, Horse.) The model was cool since we got to touch it!*

RI- *Were there other items to help you with understanding what the work of art was all about?*

Greg- All the tools used, the rocks, all the different parts for it, what the bike felt like, what the tools felt like in the cement, and the words coming out of the cement and the painting on the bike. That was very cool (lines 61-76, p. 2).

RI- *Of the three works of art you visited, can you describe the work of art in detail? What were the materials used to make the art?*

Greg- *For the bike, there were the rocks, marbles, tools, and the paint for the bike. For the Horse, there was the rope, bottle caps, and cloth. For the mask there was wood, paints, hair, and cloth* (lines 150-154, p. 4).

An unusual occurrence happened while interviewing Greg after his initial tour with Spencer. I told him how to get back to the front entrance of the museum in order to get to the parking garage: "You need to go through this door and take the elevator up to the lobby level where the atrium is and then walk over the bridge that connects the two buildings we came from. Then turn left and go through the front entrance to go out to the garage." Greg quickly said, "Got it! E, L, A, B, L, F." I said, "How did you remember all of that information so quickly?" He answered with a twinkle in his eye, "I use acronyms. Elevator, Lobby, Atrium, Bridge, Left, Front."

Another question I asked Greg was, "When walking through the museum transitioning from one gallery to another, do you prefer just to be silent and concentrate on things that you are encountering and not like to talk along the way? He said, "No, ma'am. I like people talking to me about what everything is" (lines 325-329, p. 8). In addition, I asked, "Have you ever figured out the best kind of learner you are?" Greg stated, "I'm a physical learner. I always enjoy it more if we had to do a play. If I had to do a book report on George Washington, I would like to do a play more than write a book report" (lines 229-331, p. 8).

Reflections of the Docent-

Spencer. **"**Meeting the child and his mother in the entrance lobby went well. Since Greg just came from testing and they had traffic issues, he had to have a snack. This put a time crunch on the start of the tour. At the first stop I did ask him if he wanted to read along with me and he said no. As he did have some sight, he seemed to like some of the transitional pieces more. For example, he said he liked the tall bird mask that I showed him more than the Bwa mask. Greg seemed to like to touch the objects such as the replicas. When asked what his favorite touch object was, he said the *Horse* because he had some sight. He indicated after the tour that he does not read braille and did not need that. At the Finster piece, *Howard's Tools*, he liked looking at the actual work of art. He focused on the bike and asked a lot of questions. He is interested in anything mechanical, especially cars and engines" (post-tour reflection feedback, April 21, 2016).

Reflections about the Museum Environment-

Greg. Greg remarked, "The tactile floor map that was provided did not show the entire perimeter of the building" (line 54, p. 2). Even though it did have an outline of the

galleries that the students would be visiting, the map needed to have a more holistic bird's-eye view. The maps created for this tour were primarily to be used by the sighted parent and felt by the child together as they walked through the galleries. Since the docent escorted the group as they transitioned to the next stop, the maps were not used as effectively as they would have if the child came back on another day with his friends or family members.

David's Tour Experience

David was a 14-year-old African American participant and an eighth grader. His Teacher of the Visually Impaired mentioned that his vision acuity was 20/800 (with eyeglass correction) meaning he had no central vision. David felt at ease independently walking with the help of his cane. He had an excellent knowledge of braille and demonstrated proficiency when he used the braille copies of the artworks' verbal descriptions.

For his schoolwork, David used a tablet with assistive technology that had the capability to display three-inch high letters. He corresponded with his teachers through emails and with typed assignments. He was proficient reading the large print written descriptions throughout the gallery tours.

David was an active sports enthusiast who participated in basketball and wrestling at his middle school. He was a member of the school's art club that designed and painted 3-D murals for the hallways' blank walls. Being included in the sports and art club activities was important to him since the following year he would be a high school freshman. David's hobby was playing the piano, since he had played for many years and created his own compositions. He was looking forward to entering high school next fall.

Engagement with the Tactile Aids-

The following information comes from the transcription of the participant, David, and his docent, Amelia. Since David was an eighth grader, Amelia presented the information from the verbal description much later in their first tour stop at the *Bwa* masks. At first, they stood before the large masks on the wall and listened to the video of the drums playing while the leader of the festival danced throughout the village. David felt a sample of the raffia worn by the lead dancer as he carried one of the large masks during the celebration of life. Then this dialogue between Amelia and David began.

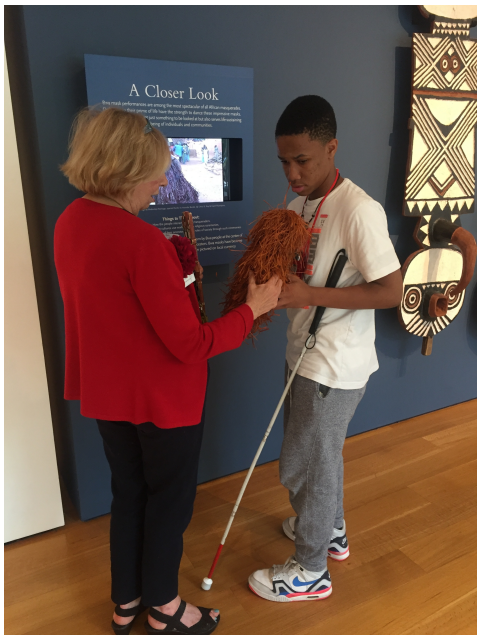


Figure 14. Amelia and David listened to the video of the *Bwa* mask celebration.

Amelia- *They're not like they are dancing, how can I say it? But they are just sort of sliding their feet. And it's not like dancing. It's just sort of in your imagination. You dance. David, the name of these masks are called Bwa masks. It's the name of their village. Now, the High Museum realizes that there might come a time where the mask maker who made these and*

lived in this village couldn't make them anymore. Why couldn't he make them anymore?

David- *Maybe he passes away?*

Amelia- *Yeah, maybe he died. What else could happen that maybe he wouldn't make them anymore?*

David- *People stop celebrating this tradition in the village.*

Amelia- *Thank you. Tradition changed, and maybe they decided to do away with this sort of thing. The High Museum felt these are such beautiful pieces of art and mean so much to so many people, so we went to this village, and we asked the mask maker to make these masks for us so that we could keep them forever. They are made by that mask maker so that, in years to come, we can look back to see the culture and the things that they did. They are very meaningful* (lines 225-257, p. 6).

Dialogue with the Docent-

David used his braille skills to read the written description and afterwards stopped to discuss the different facts with the docent. Docents are important in the creation of context during the dialogic exchange of ideas. Amelia and David shared ideas while investigating the *Bwa* mask artwork. This picture shows them sitting on the floor with the key/legend board so that David could feel the parts of the replica that was beside them in front of the original mask. The following is some of their dialogue about the mask.



Figure 15. David engaged with tactile items on the Key/Legend Board, *Bwa* mask.

Amelia- *We've been investigating the Bwa mask. Do you have any questions?*

David- *I did have one question. So is this supposed to be the face and it goes up?*

Amelia- *Yes! I think so. I think you put it right there over your face. I don't know how you breathe, but you'd put it right there. And this would go on top. How would that affect the way you could move around?*

David- *So you would have to hold this above your head?* (makes hand gestures)

Amelia- *Yeah. How would you think about how you would do that?*

David- *It would be pretty heavy!*

Amelia- *It would be. How about balance?*

David- *I guess if they practiced enough, they could pick it up.*

Amelia- *Yeah, you would have to practice. You couldn't just put it on cold and go out and do it* (lines 258-278, p. 7).

David stands in front of the large mask on the wall and is silent for a long while.



Figure 16. Amelia and David in front of the original *Bwa* mask.

The context and practical aspects of how the dancer would be able to breathe and hold up the heavy wooden mask was intriguing for David. The dialogue between the child and docent kept both parties alert and open to moments of understanding or interpretation without breaking their attention of the work of art. It is easy to share the gallery dialogue between David and Amelia to relate how they described how the mask was worn and how the dancers balanced the heavy objects on their heads. What is not so easy to relate is the moment of attentive silence that David experienced. This moment of attentiveness motivated the process of whatever meaning David used to construct his interpretation. David commented, "I wasn't able to actually see the video of the men dancing with the masks on, but I was listening to it. If I had gotten closer I would have been able to see it" (lines 69-70, p. 2).

Every experience (Dewey, 1934/1989) that the child has is the result of interaction between the child and some aspect of the world in which he lives. David played piano and loved all kinds of music. The video's music showed men playing on a

balfon, which is a wooden xylophone, similar to the marimba. This sacred instrument's sound is entrancing and played at events such as ritual events and festivals.

Since he was involved in wrestling and basketball, David identified with the movements of the dancers holding the heavy wooden masks parading in each village in the Bwa community. David remembered that Amelia commented that they weighed as much as nine gallons of milk. He said, "That's a lot of weight that those guys have to carry around through the villages" (line 64, p. 2). Amelia made the discussion personal for David's interests and age level.

Music Played at the Artworks of Howard Finster and Gregory Warmack-

David was curious about all of the works of art in the Howard Finster gallery. At this tour stop, David listened to Spencer's description of the cement slabs embedded with different pebbles, tools, marbles, glass, and tiny mirrors. In front of the original work of art, the replica in the small tub and key/legend board are displayed. Soft banjo music playing in the background resembles Howard Finster's own music.



Figure 17. Spencer and David examined Finster's artwork, *Howard's Tools*.

Research Interviewer (RI)- *At the Bwa mask stop you heard the sounds of the balfon. At the Finster piece, did you hear any instrument being played?*

David- *Yeah. It sounded like a guitar or banjo.*

RI- *Would you know why we were playing that type of music?*

David- *No, it took me a long time to figure out why that was and to understand that.*

RI- *The artist played banjos and gospel music on his guitar. The tape was played to help you make a connection between the artwork and the artist.*

David- *It might be better if the docent played the tape and then we had a discussion about it after I listened to it first. I need time to process it* (lines 129-141, p. 3).

The imaginative work called *Howard's Tools* was David's favorite work of art on the tour. He said, "It really captures all the things that you were supposed to be looking at. To me it was the only one of all the different styles of artwork that captures everything that the actual artwork was showing. It was authentic. I could really relate to the cement replica" (lines 149-152 p. 3).



Figure 18. David touched the base on the replica of the *Horse*.

David- *At the Horse work of art, I didn't actually hear any music. I would put the tape*

recorder over there in the corner where the actual horse is so you would get the best effect. I like to play music so I can really hear it (lines 184-190, p. 4).

Authentic Artwork- Textures and Weight-

David- *The Horse replica sort of threw me off because the real artwork had his legs bent under. Yours were straight. I think if someone really wanted to get an experience for the full artwork they should feel the original piece with the legs bent* (lines 175-178, p. 4).

David liked that he could identify the lines and shapes on the *Bwa* mask replica. He was interested in what his docent was saying while interacting with the replica. He appreciated the miniature version of the mask more than the foam board replica on the floor. He commented, "I liked to feel the different textures of the raffia on the doll."

The next image is with David and Amelia as they feel the different textures of the raffia doll, which replicates what the dancer was wearing during the *Bwa* mask ritual.

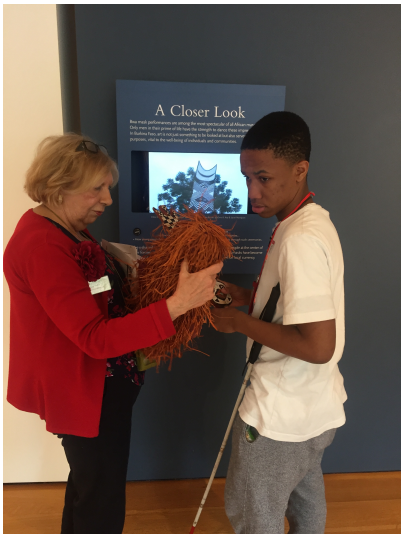


Figure 19. Amelia and David explored the raffia material worn by *Bwa* dancers.

He wished that the *Bwa* mask replica was made of wood so he could get a sense of how heavy the original one was. Authenticity was important to David. In addition to that suggestion of authenticity, he noticed that during the tour stop the replica was originally placed in a horizontal position on the floor. Because the real mask on the wall hung in a vertical position, it confused David when the docent talked about the top of the mask. That area is in the shape of a half moon. David said, "It was confusing to think how the dancer could hold the bottom part of the mask with his hand in order to carry it throughout the village" (lines 90-91, p. 2).

Those directional (top and bottom) markers confused David. He suggested, "The replica needs to be placed on the floor in the same vertical direction that the original hangs on the wall" (line 83, p. 2). He said, "I thought the face went at the top for a minute. Just place it on the floor with the face on the bottom in a vertical position" (line 92, p. 2). That helpful suggestion was implemented as a modification to eliminate any confusion for the students. Subsequently, for the next two tours, the replica of the *Bwa* mask was laid down in a vertical fashion in front of the original one on the wall. David was sensitive to the needs of the other students that might take a tour similar to the one he took and did not want them to get confused, especially if they were totally blind. He stated, "People with low vision or no vision- they wouldn't understand immediately. Might be cool or confusing" (lines 207-208, p. 4).

Interpretations and Meaning Making-

The docent's role is invaluable for this type of tour. Listening to and discussing the artist's life and methods used to create each work of art was important to bring meaning to the artwork. David commented, "The large-print written description notes

were really good because it told you about the artists and everything they did and other details. I read my sheets as my guide talked about it." David had been to other museums and liked to hear about their lives of the artists and materials used in their work. Since he was the oldest participant in the group, his life experiences in other museums were greater than the other students. He remembered visiting the High Museum when the Salvador Dali exhibit was presented. David shared that he did not know what the paintings looked like even when his family members tried to describe the artworks. He felt discouraged by that museum visit. He was inspired by the special tour designed for students with low vision. David wanted to have the opportunity to contemplate his role as a participant and relate what his opinions were. He surmised, "I think the most positive aspect was basically the whole idea of trying to duplicate art so that low vision people could get an understanding or meaning of the work. I came here before and have seen some of the same stuff, but I really didn't have an experience like I did today with it" (lines 277-280, p. 6).

Charlie's Tour Experience

Charlie was a 7-year-old African American participant and a second grader. Since infancy, Charlie's vision had gradually deteriorated. His condition, called Anopthalmia (born without an eye) and Microthalmia (extremely small eye) with retinal detachment caused him to wear goggle-type glasses with bands around his head. He had comprehensive Orientation and Mobility (O&M) training since age three. He was able to see some color and had excellent braille reading skills. In fact, he won a state award for the fastest braille reader in his age group. Braille was his primary reading medium in his public school. Charlie had access to a Vision Aide who travelled with him throughout his

school day. For several years he participated in weekly afterschool activities designed for elementary school students provided by the Center for the Visually Impaired in Atlanta, Georgia. He had a curious, effervescent personality, demonstrated by his excitement to be a participant in the research.

Use of Verbal Descriptions-

Since the age of three, Charlie loved the challenge of learning to read braille. Having the verbal description in braille was a comfortable resource for him in the galleries. Reading braille proficiently by himself at age seven, Charlie confidently volunteered to read the verbal description aloud to the docent. Lorena helped him when he came to a new vocabulary word or when he wanted to get clarification on the meaning of word in the sentence.

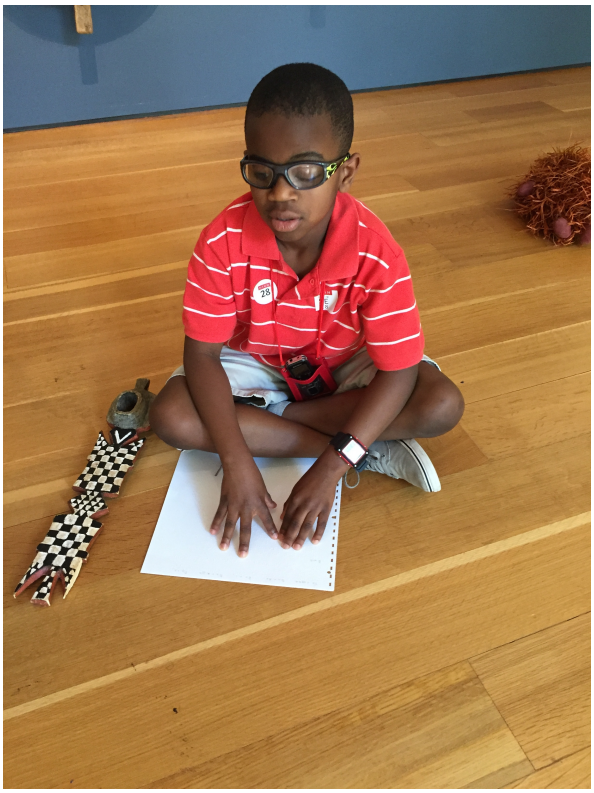


Figure 20. Charlie read the verbal description of the *Bwa* mask in braille.

The following script demonstrates the interaction of Charlie and Lorena with the tactile aid of the reading medium to learn about the history of the mask in the African collection.

Lorena- *Now I am going to tell you about this Bwa mask. This sheet has a description of the mask.*

Charlie- *Okay.*

Lorena- *So, right up here at the top of your page. That's it. And would you like to read it by yourself in braille? Do you want me to read a copy? I can read it out loud.*

Charlie- *Yeah, you can read it, too. I'll read it in braille.*

Lorena- *That sounds like a good idea. Okay, it was made by Yacoube Bonde.*

Charlie- *Yacoube Bonde*

Lorena- *Uh-hum, can you feel that name? Yacoube Bonde from Burkina Faso.*

Charlie- *Bon, Bondie….*

Lorena- *From….*

Charlie- *Burkina, Faso!* (lines 700-721, p. 17).

Charlie continued to read the rest of the verbal description to Lorena. They would stop at any word that he was not sure how to pronounce. He asked questions when necessary for clarification purposes. By depending on his docent to help him get through the reading allowing him to read at his own pace a certain trust developed between the two. Charlie's young age and normal social development level lead to an instant bond. Through their thoughts and observations, they would help each other slowly build an interpretation together.

The following script is a short excerpt of the post tour interview discussing the verbal description as an aid to understanding the work of art.

Research Interviewer (RI)- *When you went to the Bwa mask stop you read the story in braille. Tell me: How was reading in braille important to you?*

Charlie- *Yes, so I could get information about it and the artist.*

RI- *Did the docent read at the right pace? Would you have liked her to do something different with that?*

Charlie- *No, no, she went at the right pace, yes. If someone doesn't know braille they could just listen to her read the script. I could show them how to read braille. Maybe I should teach them the letters and contractions* (lines 3452-3468, p. 81).

At each tour stop, Charlie found ways to make suggestions and share what he understood and what he needed help with. Selflessly, his intent was to help other children with visual impairments be able to come to the museum and interact with the art. In *Figure 21,* Charlie is reading the description of Howard Finster's work called, *Howard's Tools.* Lorena and Charlie took a lot of time at the beginning of the stop to review the information in the verbal description while Charlie read his braille version.



Figure 21. Charlie read the verbal description aloud and shared ideas with Lorena.

Charlie- *Howard Finster was an American artist from Alabama and Georgia.*

Lorena- *And when did he live?*

Charlie- *1916 to 2001, so he was 85 years old when he died.*

Lorena- *That's so smart, because if he was born in 1916, this year is his 100th birthday!*

Charlie- *He'd be 100 years old since he was born in 1916 and this year is 2016* (lines 1246-1260, p. 30).

Lorena facilitated Charlie's understanding of the age when Finster did his work by asking questions that helped empower Charlie by encouraging active thinking and participatory learning. To help Charlie to personal discoveries, Lorena stopped the reading of the verbal description to listen to a tape-recorded banjo and guitar selection of music. Charlie needed to be gently guided to focus his attention to the background sounds he was hearing. From the previous tour with David, I learned that it takes a little longer for a child with poor visual acuity to refocus and concentrate on the different parts of the input he was receiving. He needed time to process all the sensory information surrounding him to make meaning. The following is the script of the dialogue when Lorena encourages Charlie to listen and then reflect on Reverend Finster's life.

Music Played at the Artworks of Howard Finster and Gregory Warmack-

Lorena- *Listen to the music for a second. Do you know anything about that kind of music?*

Charlie- *No. I didn't hear it at first.*

Lorena- *That's the kind of music that Howard Finster really liked. He would*

play it when he would go around and preach to people (lines 1285-1289, p. 31).

Charlie made several suggestions about the playing of pre-recorded music during the different gallery tour stops.

RI- *Can you tell me about any music you heard at one of the stops?*

Charlie- *At one of the stops there was a pastor and while he was preaching he played the banjo. I remember that is was kind of cool! But I couldn't hear it while reading the braille description* (lines 3562-3578, p. 84).

RI- *Can you tell me anymore about the music at another tour stop?*

Charlie- *Well, there was something like a flute, some kind of African drums at the Bwa mask. Yeah, and people were marching in a parade while this male was doing a dance or something* (lines 3408-3417, p. 80).

While investigating the different materials used to create the replica for Gregory Warmack's, *Horse*, Charlie felt several objects such as velvet, leather, rope for a tassel, and bottle caps. The artist used the same materials to create his work of art that was in the next gallery. The *Horse* was made of unusual materials that had been recycled. Charlie knew what it meant to recycle. He stated, "It means to reuse something." One of the common objects that Gregory Warmack used was flattened, bottle caps on the body of the *Horse*.

Lorena- *I'm going to hand you something for you to hold.*

Charlie- *What is that? It's made of bottle caps! Dang!*

Lorena- *It is. Now shake it and make some noise with it.*

Charlie- *Something like an instrument.*

Lorena- *It is an instrument. Absolutely.*

Charlie- *And he poked. He made a hole in this bottle cap and poked the wire through the hole. He added a lot of bottle caps to the wire.*

Lorena- *Yes, he made them so it would be like a musical instrument.*

Charlie- *It's like bells!* (lines 2313-2324, p. 55).

Use of Key/Legend Boards-

Since Charlie needed to have several modalities to help him in engagement with the artworks, he enjoyed using the key/legend boards. In *Figure 22*, Charlie is shown touching the different objects for the replica of *Howard's Tools*. Charlie recommended enlarging the print writing on the legend board. He claimed the size of the print needed to be enlarged.



Figure 22. Charlie interacted with the Key/Legend Board of *Howard's Tools*.

He liked the braille strips to identify the different objects on the key/legend board, but recognized that someone with low vision needed large print cards to be able to learn the names of the different objects. The following script is a portion of what Lorena and Charlie discussed as Charlie made a comparison between two types of pliers.

Lorena- *Can you tell me what you feel there? There's a card, a sign.*

Charlie- *There's some lines that are raised.*

Lorena- *There is something lined. It tells you in braille what it is.*

Charlie- *It's a tool. Then there is a bolt. Then some little rocks.*

Lorena- *Mm-hmm. Smooth river rocks.*

Charlie- *Uh, this tool is a plier. I've heard of that.*

Lorena- *Yes! So you discovered that the artist used pliers and mirrors. Here's one that you can open up and feel the whole thing.*

Charlie- *It's something like…. It opens up like scissors. Dang!*

Lorena- *Uh-huh. What is the difference between that one and the plier that the artist placed in the cement slab?*

Charlie- *Well, it's kind of…I don't know. It's kind of rough inside it.*

Lorena- *Yes. Here's another one that has a different name. It's called a needle-nose plier because the top of it reminds you of a needle.*

Charlie- *It's pointed. And I hate needles. It hurts. When I get a shot, I cry the whole time. Dang! I will cry every day of my life when I get a shot!*

(lines 1505-1618, p. 37-38).

Reflections of the Docent-

Lorena. **"**Having a child almost totally blind was a blessed challenge. At times, I was giving too many directive phrases. Other times, I felt that I was on a trapeze! Staying on track with him was hard. The tactile objects were so well planned and led into the larger original works of art. The braille was fantastic! My student really wanted to read it by himself. Grade two and reading really well! He was good at making

connections such as, “Oh, yeah, that’s a zigzag line,” which made the experience more powerful for him.” (post-tour reflection feedback, April 28, 2016)

Reflections about the Environment-

Charlie. Throughout the tour, Charlie would make references to the size of the atrium, different galleries, walkways, and works of art. He also measured his steps from the elevator and was able to tell his docent how many steps it was back to the elevator when they left a specific gallery. For example, he wanted to know how high the ceilings were. Every reference he made was measured to a specific size, weight, or texture.



Figure 23. Charlie (and parent) with Lorena in the Taylor Lobby (high ceilings).

Lorena- *This is part of the museum. Stop right here, and I’m going to show you on the map what this gallery is like. We call a big room in a museum a gallery. Are you comfortable now that we are off the elevator?*

Charlie (hesitates at first)- *Yes. Going through this opening?*

Lorena- *Mm-hmm. There are different things in glass boxes all around to the right of us. But you are doing great with your walking cane!*

Charlie (smiles)- *Thanks!*

Charlie- *How big is this room? Like huge?*

Lorena- *Yes, it's probably about the size of your classroom, but its divided a little bit differently. Okay?*

Charlie- *Well, my classroom might be a little bit bigger… or maybe smaller.*

Lorena- *Maybe smaller? Well, in a few minutes, you'll be able to tell us by how the sounds work. Because the ceilings are taller in this room, I imagine, than in your classroom.*

Charlie- *Yes. The ceilings in my classroom are like 10 feet or 12 feet, yeah.*

Lorena- *This is taller.*

Charlie- *This ceiling is like 15 to 20 feet?*

Lorena- *Probably like 15 feet, yeah. You're very smart to make that judgment!*

Charlie (smiles)- *Thanks!* (lines 109-159, p. 3-4).

Interpretations and Meaning Making-

The following excerpt is from the dialogue between Charlie and Lorena, when they explored the geometric designs on the *Bwa* mask replica.



Figure 24. Charlie explored the geometric aspects of the *Bwa* mask replica.

Lorena- *The circles you mentioned, are they all the same size?*

Charlie (silent for a minute while tracing the circles with his hand)- *No. No.*

Charlie- *Both of these are. Wel,l there are two circles on top of each other.*

Lorena- *I'm glad you mentioned that.*

Charlie- *And you know…. this big circle?*

Lorena- *Mm-hmm.*

Charlie- *It is twice the size of both of these circles.*

Lorena- *That's a great estimate! You're absolutely right. It's at least twice the size of this one.*

Charlie (getting very close to the replica on the floor)- *It's twice the size. And you know, nearly like four of the smaller circles would fit in this circle.*

Lorena- *Okay. I like how you think.*

Charlie- *And maybe two of this medium circle could fit in that one.*

Lorena- *Because you are talking about the diameter of it, aren't you?*

Charlie- (leans up and smiles)- *Yes!* (lines 245-275, p. 6).

Lorena reflected on the experience when she made these comments. "This child was extremely bright intellectually and has innately learned to relate to spaces in the size of the circle in the first set of objects. The child compared how many of the smaller circles could fit into the larger one!*" (*post-tour reflection feedback, April 28, 2016).



Figure 25. Charlie investigated the zigzag lines on the *Bwa* mask replica.

Charlie and Lorena continue investigating other aspects of the head and back of the mask replica, noting especially the geometric stripes and height of the raised lines.

Lorena- *Please put your hand back on that mouth for a minute, would you?*

Charlie- *Sure.*

Lorena- *Do you remember you and I were talking about sculptures, which are three-dimensional, 3-D?*

Charlie- *Yes! It's 3-D!*

Lorena- *That's right!*

Charlie- *And these circles are, too. But just a little bit.*

Lorena- *Good. I'm so glad that you figured that part out.*

Charlie (leaning further onto the mask replica)- *And one of the or two of these lines are, or maybe all of them, but one of them is just…. hmmm…..*

Lorena- *It's not as thick, is it?*

Charlie- *…like a quarter of a centimeter high.*

Lorena- *Alright, so you've got the elements that are going to be on our big*

original mask. Okay?

Charlie (still engaged in feeling the raised lines on the back of the replica)- *All of these are three-dimensional.*

Charlie- *If you put one-mouth shape and one extra one-mouth shape on top of the other one, it would be more three-dimensional for those kids that learn best by touch. Just a suggestion!* (lines 345-381, p. 9).

Tour Behavior-

Charlie's mobility was excellent even with his cane and his bright red thick goggles/ glasses. He seemed to be aware of even tiny sounds that he used for spatial orientation purposes. With boundless energy and constant questioning of measurements of the ceiling and length of the room, he was able to maneuver quite easily. He needed guidance getting on and off the elevator, but enjoyed the thrill of the new experience. At each tour stop, Charlie enjoyed the hands-on tactile experiences by actively moving all over the floor with his body fully engaged in his investigation. Joyous observations!

Edward's Tour Experience

Edward was a 7-year-old African American male participant and in the second grade. He attended a public school in the metro area about 35 miles from the museum. From infancy, his vision condition was Nystagmus (poor near sightedness); therefore, he was legally visually impaired (with eyeglass correction). He was primarily a visual learner because he could see from a great distance.

Edward, an only child, had attended private schools until he moved into the public school district for second grade. He participated in the school's Gifted and Talented program. He felt he had the gift of telling jokes and singing. He enjoyed participating in

his school's choir. He had an active social life and loved to make others laugh. The family travelled together often to provide enrichment for Edward. His goal was to be an entertainer and singer.

Use of Verbal Descriptions-

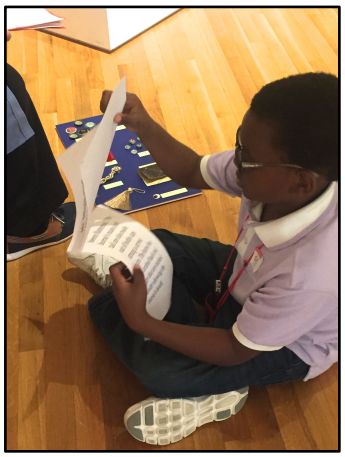


Figure 26. Edward looked at a large print copy of the verbal description of the *Horse*.

Since Edward's tour was the second tour that Lorena led in the galleries, she modified her introducion to meet the child's visual needs and preferences. For example, she asked Edward some questions about which actiivity he wanted to do first.

Lorena- *Since you're a second grader, may I help you with reading the verbal description? Would you like to hear it out loud?*

Edward- *Um- I usually read in my mind.*

Lorena- *Okay- I understand. But you have to tell me how I can help you.*

Edward- *Okay. I sure will! I hear some music.*

Lorena- *That is some music coming from the video that we'll watch. Would you like to see the video first or look at the Bwa mask in detail?*

Edward- *Can I see the the video first?*

Lorena- *Certainly. While you are hearing all this music, I encourage you to look at the people who are masuerading with these masks on.*

Edward- *At first I couldn't understand how this mask would go on someone's face, but then I realized it was a whole body underneath the mask.*

Lorena- *Right! In a minute you'll see the man who's wearing the mask. Here they come. They're far back now but in a minute they'll be prominent.*

Edward- *Is that the real mask, like the one right here on the wall?*

Lorena- *Right! I have a smaller mask that I can show you. You may hold and touch this one. This is a small model of the one that we are going to look at bigger on the floor, okay? The man on the screen is dancilng to the music and making this character go all around the village.*

Edward- *Sort of like a mascot. It actually looks surprising.*

Lorena- *It is surprising to me, too.*

Edward- *You know I can relate to that. One time I went to Mexico and Cozumel on a cruise. There was this tin man and another guy dressed as a pirate. We thought it was a statue but he actually held a sword out and scared us. It was surprising!*

Lorena- *I love the way you made that connection. That's really smart because that's how you learn faster. The more connections you make in your mind when you're seeing something and feeling something the better you remember it.*

Lorena- *Now there is a paper there with large print type that is a description of the mask. Is that interesting for you to read? Would you like for me to*

read the verbal description to you?

Edward- *I'm good to listen and read along in my mind* (lines 389-519, p. 10-13).

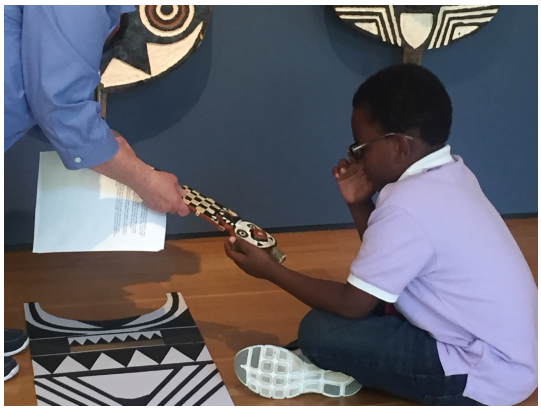


Figure 27. Edward investigated the wooden replica of the *Bwa* mask.

Use of the Replica and Key/Legend Boards-

After the exhibit of the *Bwa* masks in the African Collection gallery, Lorena and Edward travelled to the fourth-floor Folk Art gallery. The next tour stop was at the Howard Finster sculpture called, *Howard's Tools*. Lorena patiently let Edward investigate all the components of the replica. She provided time for him to process what he was feeling and to make any connections to prior experiences with items such as pebbles, tools, nuts, and bolts. Next, they discussed why Mr. Finster wanted to collect all the broken pieces of glass, rocks, and old tools and put them in cement. Edward delighted in the mystery of Finster's decision to do that.



Figure 28. Edward investigated the *Howard's Tools'* replica and Key/Legend Board.

Lorena- *In the gardens, the artist constructed concrete sidewalks, especially this one that was constructed with found objects. He would write on some pieces of art such as this sign. He said, "I take pieces you throw away and put them together by night and day, washed by rain and dried sun, a million pieces all in one."*

Edward- *One man's trash is another man's treasure!*

Lorena- *That's right! He was one of the artists that first started doing all that recycling and reusing of small objects.*

Edward- *Ooh….they're actually in there. Thank you.*

Lorena- *Oh, that's a good idea. Now here at the bottom you can start feeling all the things on the key/legend board. Then feel the replica to see if you can find the something you felt on the key/legend board.*

Edward- *Ah! Pebbles!* (lines 860-880, p. 25).

Reflections about the key/legend boards-

Edward thought the key/legend boards were interesting to touch since the individual pieces helped him understand the components of the original artwork. Edward said, "That was one of the best things, because I could feel it with my hands. And I could interact with it and touch it, feel it, and look at it. It was surprising that it was actually made of the same things as in the sculpture." On an earlier tour, another participant, Charlie, recommended enlarging the writing on the cards next to the items on the key/ legend boards. Edward suggested that as well. He mentioned, "I don't think you could have changed this, but when I was reading about one of the items on the key/legend board, it was really small and it was hard to read. I just couldn't read it at all."

The following is an example of Edward's dialogue text during the post-tour interview.

Edward- *The sidewalk was cool! Some of the things that surprised me were those that he put some of his pliers in there. He just took stuff he found. That was really cool! Even the fact that you actually put something in cement is almost beyond me.*

Research Interviewer (RI)- *It makes you think about why he would do something like that.*

Edward- *Yeah. I felt two pliers. One was like a Pterodactyl's beak that you could open and close and another one was like scissors* (lines 2377-2382, p. 56).

RI- *When you got up and leaned over the real cement artwork, you were trying to read what was written in the cement. Can you tell me about more about that?*

Edward- *Yes. Howard's Tools. That's what he stuffed in the ground. Sometimes, I bury some stuff that I find that I think is really important and I don't want anyone to find it* (lines 2408-2414, p. 57).



Figure 29. Lorena and Edward inspected the original artwork, *Howard's Tools*.

Music Played at the Artwork of Gregory Warmack-

In front of the original artwork by Warmack, soft carousel music played in the background (see Appendix J). In addition, several different tactile items were provided to engage the student at each tour stop. One such object that Edward could hold and shake was a wire and bottle cap rattle. Edward eagerly picked up this object and immediately knew what to do. Edward asked the following questions.



Figure 30. Edward interacted with the bottle caps on a wire.

Edward- *What is this? It looks like a bunch of bottle caps on a wire. It kind of looks like those spring things. What is it?*

Lorena- *Ooh….it does remind you of a spring. Good. Shake it!*

Edward- *A tambourine!* (lines 1534-1545, p. 37).

His gestures were indicative of a person playing in a band, using very enthusiastic hand movements. In the follow-up interview, Edward shared that he was in a choir and expressed a desire to make a career of singing and doing stand-up comedy. He loves to make music and sing anything.

Interpretations and Meaning Making-

The original *Horse* has a human face with a long black beard and is placed where the *Horse's* head should be. A pole covered in red bottle caps holds up the *Horse.* The following image depicts the student silently taking his time to reflect as he ponders the strangeness of the replica, which was placed in front of the original work of art. Edward looked intently at each separate section first and then began to feel the different parts.



Figure 31. Edward silently studies the different materials on the replica, *Horse.*

RI- *Can you tell me about the replica for the Horse by Gregory Warmack?*

Edward- *That was my favorite stop. The face was kind of creepy, but not too creepy. When that happens then I get to have nightmares. I keep praying about them and they just don't get out of my head. I also remember there was a saddle that had really good texture. It felt really soft.*

RI- *And what else did you feel?*

Edward- *Um, I'm sure the favorite thing about the whole exhibit, in this whole museum, is that I got to touch the red velvet!! It was really soft and fuzzy. It was really decorated!* (lines 2430-2467, p. 57-58)



Figure 32. Edward looked at the face and beard of the replica and original, *Horse*.

RI- *You were able to make some comparisons between the real work of art and the replica that was provided. Can you tell me one thing that was different or the same about those two pieces?*

Edward- *Something that is different is that original one's face is made of wood and the replica is made of something like plastic and other materials. One thing that is the same, that I enjoyed, is that the replica looks like the real one's son. The small one looked exactly the same as the big one.*

RI- *So it was like a baby horse, right?*

Edward- *Yeah! Like a creepy, baby horse!* (lines 2479-2503, p. 58-59).

Authentic Experience-

It was important for Edward to have an authentic museum experience and touch real objects. The following script is an example when Edward touched the replica of *Howard's Tools.* He had the sensation of what the original artwork felt like. From his reactions and the pleasure shown on his face, he visually seemed transformed by that experience. It appeared to have surprised him.

Lorena- *Look at these items in the replica of Howard's Tools.*

Edward- *Are these pebbles?*

Lorena- *Uh-hun. And these are also pebbles. In the original art display over here they're also pebbles.*

Edward- *That's really cool! There are lots of pebbles.*

Lorena- *Yes! Inside this small tub of the replica is what it's like for you if we could touch Mr. Howard Finster's real sidewalk.*

Edward- *Then it feel like this. Bumpy.*

Lorena—*Feel the middle part there. That's it. That's what the real sidewalk would feel like if we could be really touching it.*

Edward- *I am now arguing that an old sidewalk actually looks and feels exactly like that!*

Lorena- *Good! That's exactly what we were hoping; that you would it would be a good replica an authentic replica.*

Edward (with a joyful smile on his face and head almost touching the cement part of the replica after running his hand over all the metal items and rough cement)- *It really is! This is 100 percent the same as the real one!* (lines 1240-1261, p. 30).

Evidence of Learning During the Tours

Rennie, Feher, Dierking, and Falk (2003) stated, "learning is a personal process which focuses attention on the learner as an individual who has a unique museum experience" (p. 63). The learning the child with visual impairments goes through requires mental, physical, and social engagement. More importantly, since researchers

cannot observe directly what the child with visual impairments is thinking, gains in understanding or interpretation are observable only by what the child says or does. Because this has direct implication for research in the museum context, it is important to find a way to *see* the visit through the eyes of the child to consider multiple outcomes of his understandings. Collecting and analyzing data from a child's point of view requires a means of self-reporting and using various ways to record what he says and does.

The expectations of the High Museum education department are to meet the current student needs through all of their various programs and docent-led tours. The goals of the museum are to be personally relevant, current, and open/ responsive to visitor input. Shaffer (2015) explained, "In modern museums there is an ideological shift toward greater inclusion and an emphasis on visitors' ideas and experiences" (p. 23). Interpretations of the data collected were developed before, during, and after the actual student tours and interviews with all the participants. According to Stake (2006), "Qualitative understanding of cases requires experiencing the activity of the case as it occurs in its contexts and in its particular situation" (p. 2). This case study was heuristic in that it illuminated my understanding of the children's experience as they interacted with the different objects in the art museum.

Parents' Voices-

Expanding opportunities for their sons with visual impairments to engage in interesting and meaningful activities in an art museum environment required ingenuity and commitment on the part of the parents. During the tour, the mother had an opportunity to take field notes on a form provided (see Appendix I). The different

sections on the form included the following: (a) Name of the original artwork, (b) Tactile objects used, (c) Engagements/ Observations, and (d) Suggestions/ Feedback.

The mothers wanted to help their sons become actively involved in the process of touring with a trained docent in order to give their child an opportunity for positive social interactions, as well as explorations of the artwork, objects and their properties. It is through the playful involvement in the processes of engagement, exploration, and discovery that children do the work of constructing meaning" (Recchia, 1997, p. 401). The mothers listened intently and took notes at each tour stop and participated in a post-tour, open-ended interview.

Charlie's mother mentioned, "The objects at the *Bwa* mask stop were well replicated with obvious visual similarities but distinguishable tactile differences that were key to a person who is blind to really experience the artwork." Concerning her son's engagement with the docent, she stated, "The docent was absolutely key to totally engaging and guiding him through exploration of the sample board." Another comment she shared was about the docent's ability to help her son understand the artwork, *Howard's Tools*. The mother shared, "The docent took time to allow Charlie to read the braille version of the facts about the artist and the art piece. She made it a point to give explanations of words used to describe the components to the art piece."

Another point she made was, "It is vital for a blind person to be able to reference the various objects and items in the artwork, too." When she observed her son investigating the materials used to create the *Horse,* the mother commented, "This replica was the one that he could relate to the most because it was a replica of familiar items, bottle caps. Because of this, Charlie seemed to be more engaged in this piece of art but at

the same time, he was again introduced to new concepts (recycling), which I feel is the whole point to this experience of exposure.

Edward's mother was interested to see how her son listened to the docent and responded to her questions. She mentioned in her field notes, "The docent made a point to describe what was happening in the *Bwa* mask video/ celebration. She offered analysis of the dancer's costume and made comments such as, "That would be a hot costume! The masks weigh about 30 pounds each." Her son could visualize those concepts in his head since that is how he understands things he can't see up close. She also wrote in the notes that the docent allowed plenty of play time for Edward to try out the two different pliers provided by the replica of Finster's, *Howard's Tools.* At the *Horse* work of art, Edward was most intrigued. Under inspection, he noticed some of the finer details and the fact that the pole holding up the original work of art was decorated with the same red colored bottle caps.

Finally, the mothers mentioned that their sons were "hands-on" by feeling free to manipulate several pieces and seemed to enjoy the look and feel of the replicas and other objects. They thought the docents were very thorough with their verbal descriptions and answering any questions that their child asked. Their son's level of interest and motivation to help other children who are blind or have low vision was contagious.

Reflection of the Tour Stops Using Various Tactile Aids

At each stop during the docent-led tour, besides the verbal description of the original work of art, the child and docent entered into a dialogue using the *Visual Thinking Strategies* (VTS) routine to examine the tactile objects and replica model. For example, in the African Art gallery there are three *Bwa* Plank Mask ritual objects from

the Yenou Village, Burkina Faso, located in West Africa. At that tour stop, the child and the docent began by investigating the legend board that contained foam board pieces and other textural objects that feel similar to the authentic work of art. Throughout the time that the child was investigating the replica model, the docent inquired what it felt like and discussed if the child ever experienced something similar. The docent read the verbal description or the child read it using braille or large-print text. The child had the opportunity to examine an actual wooden plank that had the same shape and markings at the authentic version. The wooden plank and raffia-clothed 12" doll are replicas of the African men who dance in the *masquerade* performed throughout the villages in Burka Faso. The child could hold the smaller replica of the original artwork as he listened to the sounds from a nearby video showing the dancers performing in the villages carrying the heavy eight-foot masks for hours/days during the village celebrations.

The docent provided opportunities for discovery and critical thinking by providing a verbal description of the three ritual masks and by encouraging the child to play with and touch the tactile replica model. By touching the graphic objects and having a conversation about the experience with the docent, the child could construct his own meaning from the encounter with the replica. Children with low vision could interact with the same tactile aids such as the model; listen to the verbal description read by the docent, read the verbal description using braille or large-print copies that described the authentic artwork.

The use of the replicas and the touchable objects were incorporated based on Dewey's constructivist learning theory. Dewey (1916/1994) explained, "Education is the reconstruction or reorganization of experience which adds to the meaning of experience"

(p. 76). Shaffer (2015) explained that Dewey's concept of experience begins with an individual's interaction with the environment and response to that encounter through reflection that produces knowledge" (p. 53). Meaning is then created within the relationship between the viewer and the artwork. This museum experience was designed on the concept that through touch, the child could discover the flat planes, feel the deep gouges of the carver's knife, and discern the mask's form, scale, weight, and texture in ways that sight cannot provide. Through the dialogue with the docent, the child had a chance to construct meaning and connect the information discussed to his personal experiences. It was my aim that children with visual impairments, after the multisensory tour, would feel empowered to consider their own lives in relationship to the art. Dewey (1934) encouraged viewers to "see" art with an open mind. "The human child has a world, and she is together with the world. Her task is a meaning-giving, a sense-making world" (Dewey, as cited in Langeveld, 1944, p. 219).

Reflections of the Participants

The next section describes the participants' voices, including the docents' input as the pair explored each work of art. Sweeney (2009) suggested allowing participants the opportunity to share the experience of exploring art using senses other than sight (p. 235). Multisensory interactive participation and reflective dialogue allowed the participants without previous knowledge of the selected artworks to provide insight and a unique perspective on the artwork. The four children with visual impairments were invited to share their perceptions of their experiences.

Three specific works of art were selected from the High Museum's permanent collection especially for this study. The tactile aids used at each tour stop have been

described for each work of art and replica. The tour followed the path from the Yacuobe Bonde, *Nwantantay Masks* in the African Art collection to the folk art galleries where the next two works, Howard Finster's *Howard's Tools* sidewalk and the *Horse* by Gregory Warmack (Mr. Imagination) were located (see Appendix B for artwork images).

These three examples of the use of verbal descriptions on a tour with a child with visual impairment were somewhat different. Because of the visual acuity of the three children featured in this section: blind, legally blind but with near vision (20/80), and no central vision (20/800), the docents needed to change their approach with the method by which the verbal descriptions were presented. Charlie wanted to listen to the docent read the description as he read in braille. Greg wanted to listen to the docent read the description and discuss what he heard. David used his braille skills to read the description and then stopped and discussed different facts with the docent.

Charlie's mother discussed specific features of the tour after visiting all three artworks. She said, "I think you have to have the actual artwork accessible for the children. That includes braille descriptions accessible for each exhibit along with the history. I think that descriptions of each exhibit that we saw were very important. To give the background, and to give the items to touch (as on the replica), probably even—you guys did a great job of giving just good descriptions of the piece of art. Like saying to them that the bicycle was suspended above the sidewalk (*Howard's Tools*). I couldn't have said it any better. It was exactly what we were looking at!"

Mary, one of the museum educators, mentioned, "The researcher created carefully crafted verbal descriptions to help inform the students of the objects in the museums. The description provided contextual information as well as detailed information of the

appearance of the object." Mary suggested that the "docent take the opportunity to mention that the verbal descriptions were similar to the *wall texts labels* provided by the museum to identify each artwork."

Some suggestions about the use of the verbal descriptions from one of the docents included the following: "The braille was fantastic! He really wanted to read it himself. As a docent, I need to read and then look at the sample items on the legend board, perhaps even stopping between paragraphs. For another child, I had a hard time actually knowing what his sight limitations were. He didn't have any trouble travelling in the museum. It took me a while to realize I just needed to read orally and encourage him to follow along with the large-print version."

Interpretive Dialogue

Burnham and Kai-Kee (2011) noted, "Dialogue shares the open, improvisatory quality of conversation, but is imbued from the outset with a stronger sense of purpose and is tightly focused on the artworks" (p. 86). There are several types of dialogues that happen in art museums. Predetermined dialogue's goal is to focus on precise questions that are asked by the docent. Interpretive dialogue is not meant to answer predetermined questions, but to enable students to construct their own meaning in response to an artwork. Interpretive open dialogue demands the most time with each artwork and is possibly the most challenging to facilitate (Hubard, 2010, p. 44).

"Dialogue is guided by the spirit of discovery and the child's curiosity; its typical tone is exploratory" (Burnham & Kai-Kee, 2011, p. 87). The role of the docent is to listen attentively as the child brings ideas and reflects on the artwork. This process is one where the docent relinquishes control of themes and content of the artwork.

During the gallery tours with the children with visual impairments, the docents discovered it best to allow plenty of time for the child to examine the key/legend board to discover the various parts of the replica. Then with the verbal description presented in different reading media formats, the child began to make sense of the artwork. The core premise of Gadamer's (1985) hermeneutic theory is that "conversation and dialogue are the foundation of understanding and interpretation" (p. 250). By encouraging the child to engage in an open dialogue, the docent invites the child to discuss the artwork and express what he feels or what he is curious about. The child questions and listens to what the docent thinks, and the docent listens to the child. The docent gently guides the child to explore and provides an avenue to meaning making.

According to Hubard (2010), dialogues give children opportunities to make their own connections to works of art. Dialogue encourages the child to build an interpretation of the artwork with another person and empowers him to gain a new perspective that he might not have considered. "Dialogic looking requires active subjects and diverse voices, and it creates unified experiences in the museum" (McKay & Monteverde, 2003, p. 45).

Inquiry, Knowledge Constructivism, An *Experience*

"The word *inquiry* tells it all. It's about motion—probing, eliciting, pressing for, searching, seeking, and scrutinizing. It's an interactive, give-and-take way to pursue leaning with your students" (Schmidt, 2004, p. 93). Three basic ways museum docents can facilitate meaning making for children are: ask initiating questions, ask questions to respond and follow up, and insert information at key points. The docent uses questions to draw out evidence and explore implications or help children examine their assumptions, clarify their thoughts, and consider their own points of view.

In museums, the interpretive concept is embraced by constructivist theories of learning. *Constructivism* is a theory about knowledge and learning. In a constructivist approach the meaning of the objects is treated not as being inherent in them but as created when observers interact with them, generating and assigning meanings to them. Docents primarily ask "open-ended questions to encourage active thinking and participatory learning" (Gartenhaus, 1999, p. 2). "Questions *do* have a role in the process of interpretation, as they inevitably arise amid the exchange of thoughts and observations" (Burnham & Kai-Kee, 2011, p. 107, emphasis in original). It is important that "the docent invite responses to the questions and leave it up to the student to make connections and build on them, filling in information as necessary" (DiCindio, Lecture presented at the High Museum of Art docent training workshop, Atlanta, Georgia, March 27, 2017).

Hein (2012) contended that "Dewey's two broad concepts are crucial components of his view on education in museums: 1) visitors/students must be actively engaged (have experiences) in order to learn, and 2) the educational activity must be associated with experiences that enhance a capacity in the learner for living in harmony with an ever wider broader community" (p. 19). According to Dewey, "An experience has pattern and structure, because it is not just doing and undoing in alternation, but consists of them in relationship" (1934, pp. 45-46). He described experience as occurring continuously when we interact with our environment. However, not all interactions are conductive to interpretations by children with low vision. Without various aids and especially the presence of a docent, the children may have a hard time organizing their thoughts.

Yet with patience, they persevere and sometimes their interpretations are highly imaginative and insightful.

The context and practical aspects of how the dancer would be able to breathe and hold up the heavy wooden mask was interesting for David to question. The dialogue between the child and docent kept both parties alert and open to moments of understanding or interpretation without breaking their attention to the work of art. Every experience (Dewey, 1934/1980) that the child has is the result of interaction between the child and some aspect of the world in which he lives.

A child's experience may be intense, but because of lack of background from past experience, relations between the art object and the artist's intent/purpose, the experience may not have great depth (p. 46). Therefore, for true meaning making the importance of active dialogue and genuine engagement on the part of the child and docent with the work of art is essential. Dewey (1934/1980) wrote, "Nothing takes root in mind when there is no balance between doing and receiving" (p. 47). The interaction between the child and the work of art as well as his dialogue with the docent and then back and forth some more, allows for transformative moments as they both learn from each other in order to understand the piece.

Providing Tours and Considerations for Other Docents

The recommendations that follow are organized into two sections. The first section is for those persons interested in providing tours in an art museum setting with children with visual impairments. The second section refers to considerations based on what was learned that other docents would benefit from.

Those persons that are interested in providing tours for children with visual impairments-

1. Consider the creation of tactile replicas of original artworks to provide an image that the child with visual impairments can touch and investigate using all his/her senses. Children with low vision enjoy the opportunity to engage with the different parts of the replica to break up the larger image into smaller sections to understand the whole object.
2. Consider the development of rich verbal descriptions of the original artwork that can be read aloud, written in braille, or large print in order to provide various means for the child with visual impairment to learn about the historical facts about the work, the artist and materials that the artist used. The verbal descriptions are essential for those children that have severe visual impairment, since the details help with the development of meaning about the work. Allow a great deal of time for discussion with young children because the need more time to process what is being described and have a lot of questions.
3. Develop a rapport with the child with visual impairment and encourage any attempt to connect what is discussed from his personal interests or a prior experience. When the child is engaged with the replica or key/legend board of smaller items found in the original work of art answer his specific questions but actively guide the child to construct their own knowledge and understandings. Proponents of constructivism in the museum setting advocated active learning and making connections with prior knowledge (Hein, 1998c).

4. Consider the use of a dialogue from one of the Visual Thinking Strategies (Yenawine & Housen, 1999) to offer the child an opportunity to generate inquiry, which can lead to richer learning. "Multisensory interactive participation and reflective dialogue allows opportunities for participants without previous knowledge of art to participate equally with those who may" (Sweeney, 2009, p. 240). The most relevant use of dialogue with young children with visual impairments is the type called, *dialogic looking* (McKay & Monteverde, 2003) where the child consciously articulates his questions that arise while he explores the replica and key/legend board items.
5. Consider the inclusion of a parent on the tour with her child with visual impairments. Having the parent involved was another way to stimulate and enjoy a community activity with her child. "It is natural for parents to introduce three-dimensional art play to their children who are blind, with clay and dough. Many parents feel the art museum is closed because their child cannot see and would welcome learning that the avenue is indeed open" (Axel & Levent, 2003, p. 45-46).
6. Celebrate an attitude of mutual respect for the ideas and thoughts shared between the child and the docent. This respect empowers those children who do not feel that they have the background to understand art. Using authentic materials for the replicas shows an understanding of the needs of children with visual impairment to have something created that replicates the weight, texture, temperature, and size of the original work of art. The creation of a tour especially designed to

meet their needs is incredibly appreciated by those children with visual impairments.

The next section provides considerations about what was learned that other docents would benefit knowing about in order to conduct art museum tours for children with visual impairments.

What was learned that other docents would benefit from?

1. Consider the initial greeting of the child with visual impairment and his parent to the museum setting. Warmly welcoming the child and explaining what will happen on the tour throughout the museum will ease his concerns and promote a feeling of inclusivity. Help provide orientation to the museum galleries by way of 3D or raised-line maps of the museum's floors, noting elevators, food courts and restroom facilities. Take some time for the child to feel comfortable in the museum exhibit environment. Guided by the principles of universal design (ergonomics, accessibility, and inclusivity), exhibits provide opportunities for learning and enjoyments for all visitors, regardless of age, gender or ability (Hein, 1998c).
2. Consider docent-training sessions with local community centers for the visually impaired. Two training sessions at the museum would be ideal. A general Disabilities Awareness training and a Verbal Description and Multisensory Tools training session would be invaluable. This collaboration would enable the sharing of crucial information about helpful ways giving clues to the child with visual impairment while he engaged with the replicas. In addition, it would provide extra resources to use during the tour such as verbal descriptions written in braille.

Many centers for the visually impaired can provide "Vision Simulator" goggles that simulate certain types of vision impairments, such as: cataracts, macular degeneration, glaucoma, retinitis pigmentosa, and hemianopia. The simulated experience of walking around using the special goggles helps docents empathize with the issues their visitor may be facing. The center staff may provide for orientation and mobility hints to effectively guide the child with a cane throughout the galleries.

3. Consider the fact that children with low vision have different abilities to process what they are touching. They may have a lot of questions in order to understand what they are hearing in the verbal description and touching on the replica. Docents need to be extremely patient during the tour. Because the best ratio is one child to one docent, the length of the tour may be extended based on the needs of that particular child. Management of the amount of time needed for each tour stop and transitioning to the next stop for the duration of the tour is essential.
4. Consider that a younger child with severe vision loss or a child with few prior experiences in new environments may need extra time to process what is being presented. If a child has a slight vision loss and does not need the use of a cane, he may simply look at the original artwork and not need all of the multisensory aids that have been prepared. Flexibility of the part of the docent is crucial to be able to access what is needed for that child in order for him to ask his own questions and interpret the work of art on his own.
5. Consider that each tour needs to be limited in size and have a docent plus another individual to help with the supplies needed at each tour stop. The child with

visual impairment needs to have individual attention during the tour. However, if the group size is limited to two children, the assistant could be able to take one of the children to the restroom and the docent could continue the dialogue with the other child. These types of tours deserve that personalized attention. If there are two children with visual impairments on a small group tour, pair them with by age or visual acuity. For example a good pairing would be to organize a group of two, 7-year old children, one with 20/800 and one with retinal detachments in both eyes. The children help each other by answering each other's questions, discussing among themselves what they think the object looks like, and inquiring what the artist meant by creating the work of art.

6. Consider that the replicas created need to contain similar materials as the original works of art. For example, if the mask is made of wood, the replica needs to be made of wood. Having the replica created in the same material allows the child to conceptualize the weight, texture, and approximate size of the original artwork. In some instances, a scaled-down version of the original can be used if the materials are the same. If its creator makes any modifications on the replica, the docent needs to note that in the verbal description either before or after the description is shared.
7. Provide the children with visual impairments an art activity after the tour that would give them an opportunity to create a work of art similar to one they learned about in the gallery. For example, one of the teaching artists in the museum could provide an opportunity to create their own model of Howard Finster's, *Howard's Tools.* By using small rectangular containers of premixed cement and other

materials (shards, small tools, bolts, mirrors, marbles, and rocks) to depict the slab of sidewalk where Mr. Finster embedded numerous found items, the children could replicate the work of art that they explored in the gallery.

CHAPTER 5

CONCLUSIONS, RECOMMENDATIONS, AND FINAL REFLECTIONS

This study's research questions guided the structure and analysis of the collected data. Through interpretive analysis a search for those aspects that caught my attention called for a deconstruction of their meanings. However, the goal was not to merely construct categories and themes from the initial codes gleaned from the interviews, field notes, and dialogue texts. That process helped me organize the material and eventual emergent interpretations. These themes helped me identify the differences and similarities between and among the participants, not only the children with visual impairments but the docents and museum educators as well.

The purpose of the following information found in chart, *The Three Iteration Levels of Data Analysis* (see Appendix M) is to present the data collected during and after the student tours. I reviewed the relationships (similarities) and other common features from within the heart of the recorded dialogue texts, direct observation field notes and memos, interviews, and participant suggestions for tour improvement.

The chart is divided into three pages designed to bring order and structure for interpretations of the three research questions. The pages of the chart have been divided into three columns. The first iteration shows the beginning level of the data's categories based on the participants' statements, actions, and descriptions of their concepts and beliefs. The research questions that pertain to the chart, the summary of the three columns in the particular table, and the overarching themes are listed under each chart.

The overarching themes for the three research questions are: 1. Finding responsive connections between the docents and children with visual impairments in an art museum setting, 2. Finding individualized tactile procedures for children with visual impairments, and 3. Collaboration of the child's/docent's experiences to formulate a model program for other children with visual impairments.

Recommendations for Improvement

The docents and museum educators were committed to the study as evidenced by observation of how the children interacted. Always noticing small details, the educators focused their attention on instances where the overall tour could have been improved. After each tour, the docents provided immediate feedback, which strengthened the research. I labeled all the memo notes created and attached them to the field notes written by the parents, museum educators, and volunteer aides. An individual folder for each child's tour was created. I reviewed these field texts over and over and discussed them with each docent. Several points that could be improved were discussed at length.

The following five ideas for modifications to the routine docent-led tours provide the general areas that were recommended for improvement: Child-Docent Connections, Gallery Accessibility Issues, Assistive Technology, Authentic Museum Experience, and Universal Design in an Art Museum.

Child-Docent Connections

"The theory, research, and philosophy of development in the early childhood years provides a deeper understanding of young children, the way they construct knowledge about their world and the ways through which they most effectively learn" (Edwards, 2002, p. 22). The 19th century philosophies of Rousseau and Pestalozzi

included the view that early education should be child-centered (Essa, 1999; Morrison, 2001). In contrast to a traditional didactic approach to pedagogy, a child-centered approach stresses the child's autonomy and ability to construct knowledge rather than knowledge as something imparted by the teacher as authority (Morrison, 2001). Child-centered pedagogy focuses on children's needs and interests. The desire for choice and control reiterates conclusions reached by Dewey (1938/1970) and Falk and Dierking (2000). Dewey understood the need to reject external control of the learning experience in favor of allowing the child to be in charge of his own experiences. For example, one recommendation suggested by the children with visual impairments in this study was to ask the child if he prefers to listen to a verbal description, read braille, or a large-print copy before beginning the tour. This interaction was crucial and helped the docent understand that his individuality should be respected.

Hein (1996) views learners as active participants in the experience of learning, where the material, the personal, and the social contexts in which learning takes place play a crucial role in the construction of knowledge. Constructivism claims learning to be a social activity that happens with others. To have success communicating with children and by listening to the terminology the children use, docents can repeat those same terms to relate to what the child knows about the artwork.

Hein (1996) claimed that thought and experience are grounded in multisensory participation. For a change of pace, the docent can provide the child with a match game by using the items on the key/legend board to find a match of a similar item on the replica. In one gallery of the study's tour, the artist, Gregory Warmack, created a work of art called, *Horse*. One of the activities provided were bottle caps, which were loosely

strung together on a wire. The children had an opportunity to shake the bottle caps to make a sound that resembled a tambourine or maraca. Touch and hearing are untapped ways of shaping rich experiences for the child with visual impairment.

Docents are considerate when they include children in the back-and-forth exchange of ideas by asking them if they have any further comments or are confused about something concerning the artwork. Mayer (2007) writes about conversations in art museums as an approach that respects the visitor and encourages informal conversation leading to exploration, questioning, and meaning making. She advocates building relationships of trust and mutual respect between docents and visitors to nurture learning and delight in the artworks.

"The relationships growing between ourselves and the visitors stand in for the connections we want to facilitate for visitors with the art objects" (Mayer, p. 190). Constantly checking for the child's opinion builds trust and provides time for bonding. Focusing on nurturing a caring relationship with the child is paramount. The strength of the child-docent connections has to do with the docent's attitudes toward the children, even the younger ones, as knowledgeable interpreters of their world and experience.

Gallery Accessibility Issues

Because the light can be dim in certain areas of the museum for conservation of artwork purposes, some children with low vision will require more light to see the items on the key/legend boards. Small flashlights or headlamps may be able to provide an individualized, focused light source for certain children. The maps could be larger and have the touring lines even thicker. In this study, the child who was totally blind was especially interested in using the maps. He could only feel the orange lines for the

elevator and walking paths. He did not have a feeling for the outside walls or gallery dividers. Many museums have access to creative art production departments that may be able to create a large tactile map of the museum that can be available to all visitors.

Providing 3"x 5" cards labeled with large-print letters indicating the names of items on the key/legend board was suggested. To allow for greater access and to help solve the issue of time constraints, each tactile aid should be laid out at the tour stop before the child and docent arrive. Using small signs around the objects so that other students or adult visitors will respect the replicas and tactile items was also suggested. To navigate the museum more easily, the children thought an audiotape describing the same path of the tour would help other children who are blind or have low vision orient them as they travel on elevators, through different galleries, and across the skyway bridge. All visitors to the museum could benefit from free audio orientation devices.

Assistive Technology

Some children with visual impairments have access to tablets and smartphones that have assistive tools for blind individuals and people with low vision. For example, besides raised-line, hand-drawn floor plans of the museum, docents can provide tactile maps of the museum using the *VoiceOver* app on any Apple device. The High Museum has an app called *ArtClix* that can be used by anyone in the museum. A digital marker indicated on the wall text of selected artworks gives valuable information about the title, artist, and medium of the piece. This information allows for greater access and an entry point for a child and his parent as they tour the galleries.

Cell phones used for the purpose of playing 20 seconds of appropriate music related to the history or artist's style could be distracting if the child is trying to listen to

the docent describe the work of art. It was recommended to have a moment to listen to the music. After the time spent listening to the music, then ask questions about the music selection regarding how it might connect to the work of art.

Authentic Museum Experience

Tours designed for children with visual impairments may take place on a particularly crowded day in the museum. This may or may not be problematic. Providing a true representation of a museum experience- such as noisy galleries or other visitors showing interest in the tour and joining in- can be distracting to the child who is concentrating hard to hear the docent and have a meaningful dialogue. Visiting art museums with other students with sight can provide an authentic experience and a sense of inclusion. In addition, it may build the confidence of the child with visual impairment.

Accessibility with general populations of students during the day is paramount for a child with visual impairment. Student tours held during school hours afford the children with visual impairments the chance to be in the museum at the same time as other sighted students. To allow visitors the opportunity to share the experience of exploring art using senses other than sight is simple. Sweeney (2009) notes that, "multisensory interactive participation and reflective dialogue allows opportunities for participants without previous knowledge of art to participate equally with those who may" (p. 240).

Universal Design in the Art Museum

Although observation and interpretation of static exhibits are vital parts of young children's learning in art museums, an interactive component is considered highly desirable (Piscitelli, McArdle & Weier, 1999). The term, *interactive*, is the child's first-

hand experience in combination with opportunities for reflection and interpretation (Rennie & McClafferty, 1996). The value of interactive hands-on activities while investigating objects in an art museum provide the process by which children interpret and make sense of their experiences (Eisner, 1990). Smith (1993) states that initial exploratory experiences with open-ended materials lead to explorations of ever increasing complexity and a greater knowledge of art media, techniques and practices. Providing hands-on materials to students with visual impairments while on a tour through an art gallery will provide much needed authentic, interactive experiences.

Actually, guided by principles of universal design (accessibility and inclusivity) multimodal exhibits provide opportunities for learning and enjoyment for all visitors, regardless of age, gender, ability and educational background (Hein. 1998). Children's engagement with art objects is heightened when the art object is presented in open-ended, motivating ways (Falk & Dierking, 1992). Important factors include arousal of curiosity, challenge, provision for multisensory learning, and scope for a variety of ways of responding to allow success for all visitors (Piscitelli, McArdle & Weier, 1999).

High Museum Response to the Inclusive Tour

Since the 1970s, numerous museums across the country have initiated efforts to improve the accessibility of their buildings and programs for visitors with disabilities. Some of the innovations were to remove barriers from their facilities, design accessible exhibitions, and provide effective communication for their programs to potentially attract to their doors more than 54 million Americans with disabilities, more than 20 million families with members who have disabilities, and millions of graying Baby Boomers. For many children, the kinds of disabilities they experience may require special approaches to

providing education or other accommodations in art museums. Elements such as entrances without stairs, exhibit labels that can be read by visitors who are seated or standing, large-print exhibition brochures, tactile museum maps, and audio tours help museums reach this huge and growing audience.

The High Museum's education staff made a commitment to train docents and provide rich programs that are inclusive of all children who come to the museum on student tours or with their families. The following comments were made during individual interviews with museum educators. Anne said, "I would love for us at the High to embrace this program for children with visual impairments and do more multisensory stops for more works of art." Mary would "like the museum to collaborate with the Center for the Visually Impaired STARS program (i.e., the Social, Therapeutic, Academic, and Recreational Services). She would like to eventually extend collaborations to work with vision programs in local public schools.

Training of the High Museum's docents is a top priority to ensure consistent touring methods and strategies to be used by docents for visitors to have a chance to find meaning in the artworks of the various exhibits. Mary shared that "it would be great for all docents to receive training on verbal descriptions in the event that there is a student with a visual impairment in a school group. Anne felt that "training for docents in accessible touring strategies would be valuable." In her assessment, she stated, "From the part of the tour that I observed, it seemed like the students with visual impairments were more engaged with the works of art than I usually see with sighted children. I think that has to do with having something they could touch and be fully engaged with-something that we could try with sighted children."

In the docent training session for the study's docents, two individuals from the Center for Visual Impairment in Georgia (CVIGA) came to the museum to share their expertise about working with individuals from birth to adulthood at the Center. They also demonstrated different "walking techniques" for use with children with visual impairments in the art museum and galleries. The education team promoted a tour for the elementary STARS students who attend their after-school program located at their Midtown Atlanta facility. On November 11, 2016, 29 guests (seven students and their families) were invited to participate in a docent-led tour. They engaged with the three artworks (the same ones used for the present study) and participated in a related art studio lab activity of creating their version of *Bwa* masks.

Training on mobility and museum orientation was provided through the collaboration of the CVIGA staff with four veteran docent-educators. The CVIGA had a waiting list of families who wanted to bring their families to the museum to support their children with visual impairments. In the spring, a similar tour for the CVIGA's STARS program involving elementary school children and their families was conducted on April 14, 2017. Three families came to the museum to participate in the same tour presented in the fall to support their children with visual impairments. The High Museum's educational staff has committed to continue to develop tools for this audience regardless of whether they are attending as individuals or as a group (e.g., directional maps, accessible website, or, perhaps, a bag of tactile materials that could be checked out). Anne said, "I am excited for our next steps as an institution."

Pedagogical Benefits of the Study

The results of this research may benefit art educators and museum tour guides as they develop tours for children with visual impairments. It is important for art educators to remember that students with very limited vision have difficulty with concept development. More abstract concepts, such as expression of feelings in a work of art, may need instruction through other means such as tactically different materials (Shih & Chao, 2010). Developing tours that consist of using tactile models and aids created to resemble actual works of art will help to provide sensory enjoyment for children.

The expected benefits of this study are to find new ways to make art museum tours accessible for all children, including those with low vision. Using tactile materials may supplement or supplant visual perception and create meaningful connections for students with severe vision losses (Heller, Brackett, Scroggs, Allen & Green, 2001). Listening to the voices of children with visual impairments when they make suggestions for tours based on their lived experiences in art museums may lead to the development of more meaningful and appropriate tour designs.

By focusing on the needs of the child with visual impairment and listening to his voice, museum educators may find value and think about creative ways in which to incorporate the child's perspectives. To make that happen, museums need to "optimize" (Lankford, 2002, p. 152) their visitors' experiences, and no longer be content to assume the role of cultural expert passing on its expertise to an appreciative, yet passive public.

Art museums can be made more accessible to different groups of people to further enrich their experiences, interactions, and conversations with others about art objects. According to Sweeney (2009), "more and more gallery visitors are not only

looking for new ways to engage with the museum and art, but with each other" (p. 241). Through the creation of specifically designed guided tours in art museum galleries, children with visual impairments and their families may be able to have authentic, real-world experiences with art. "The more opportunites that they are given to have interactive experiences using multisensory aids, the more likely they are to learn and remember their experience" (p. 241). Under these conditions, children with visual impairments will be able to recognize art in their environment and engage in art which may lead to a deeper understanding of self, others, the natural world, and constructed environments. It may help them feel more independent and confident.

Reflection on the Experiences of the Student Participants

"Studies of children have always been guided by tenets of good observation and explanation, but the new thrust in research emphasizes analyses of the contexts as more than background variables" (Paris, 2002, p. 51). Informal learning practices such as in museums can shape interactions with objects (artwork) and help structure social dynamics between a child and the docent. These contexts provide incredibly rich and diverse opportunities for learning and are meaningful in the life of the child. Experience in museums incorporates more than physical engagement with the environment. Dewey's (1934/1989) definition includes the understanding of experience and contends that an actual experience is not only the " doing" but referring to the consequences of actions and the reflection on what was experienced.

In order to reflect on what I learned from the case studies in the literature review about visitor experience and its relevance for this study, I will revisit the following issues: a) In what ways can the child's experience contribute to the creation of other

tactile aids for a tour? b) In what ways does the child construct meaning through engagement with the tactile aids? And c) In what ways can an art museum tour relate to the life experiences of a child with visual impairments? The literature review helped answer these questions.

The Museum Accessibility Research and Development Project focused on the experiences of three museums, the Buffalo Center of the West, The Mattress Factory, and the Mini Time Machine Museum of Miniatures. In 2011, there were 16 art museums of various sizes to conduct focus groups and pilot a program for visitors who are blind or have low vision. They shared one common goal: their commitment to providing tactile tour approaches for visitors who are blind or have low vision.

I learned from the focus group participants at the Buffalo Bill Center that they needed more hands-on objects in the exhibit areas, highly descriptive narrations of the artworks included in a guided tour, larger signage, and attention to their orientation needs. After his tour, Greg expressed similar needs since he liked to feel the various parts of the replicas in order to construct meaning. He enjoyed the sensation of touching the different tools, tiles and pebbles that were embedded in the cement slab at *Howard's Tools.* The tiny metal bicycle object helped him understand what the artist was trying to express with the artwork. Since he was curious about anything mechanical, Greg loved how the bike moved. It was an object that was familiar to him. Greg cited that the verbal description about the *Horse* was essential for interpretation purposes. One concern Greg had throughout the tour was that the tiny print on the braille strip was very hard to decipher and impossible for him to read. Another suggestion that Greg shared was the

need for a larger floor map (with raised lines) that provided orientation information about the different galleries in the museum.

The contemporary art museum called, The Mattress Factory, looked for ways to develop educational programs and invite feedback from visitors with low vision. They wanted to learn more about the experiences and opinion concerning the needs of the community of visitors who are blind or have low vision. The focus group shared the importance of describing a piece of art without a philosophical or conceptual critique, having trained guides for tours, and a designated staff member to help with orientation in the museum. Charlie shared that he likes to listen to the verbal description in order to get a mental picture of what the original art looks like. He then needs to read the braille version of the verbal description to pick up historical information about the art and life of the artist. He learned about the different folk artists while visiting the artwork of Gregory Warmack (*Horse*) and Rev. Howard Finster, (*Howard's Tools*). Always concerned about mobility and safety issues in the museum, Charlie was aware that children with low vision needed a parent to help navigate through the galleries while using a long cane. His curiosity and constant questioning about the artwork helped him to understand the significance about what he was touching. The joy of being in an authentic museum with other children afforded Charlie with an eagerness to help other children with low vision have a similar experience. He knew his opinion mattered in the development of similar tours.

The focus group from the Mini Time Machine of Miniatures noted that the museum had already been providing accessibility tools for visitors with low vision. Items included were flashlights for dim galleries and large-print exhibition guides. The

museum also had a hands-on gallery, which showcased different themes represented in the permanent collection. The focus group of persons with low vision wanted to develop an inclusive tactile and interactive tour program to meet their needs. Since the collection of items in the art museum are miniatures, the plan was to design a small house where visitors could place miniature home furnishings within the small home, inviting engaging discussions of history and utility in the home.

When Edward visited the *Horse*, he studied the image with great care to try and figure out why and how the creature was created. He was thrilled to play with the replica and tried imagining different ways it could move. Both David and Greg would recommend that for older children with low vision, the tour design could include more control of what artwork they could visit. For Greg and Edward, whose vision was not as severe, they enjoyed walking through the different galleries on route to the next tour stop. Their docent was able to discuss the current works on display and engage in rich dialogue about the images.

Edward and Charlie were interested in providing other children with games that they could play to investigate the art. For example, they suggested that the docent could introduce an item on the key/ legend board for the child to feel and then the child would have to go to the replica and try to find something that resembled what they just felt. It would be kind of "search and find" game. Charlie recommended that an audio-tape made of the different artwork could be played during the transition from one gallery to another explaining what would be introduced next to prepare the child ahead of time. Included in these focus group recommendations were ideas about other needs such as docent/ educator training and the formation of community groups to provide direct feedback and

other outreach services for the museum. These suggestions helped when planning for our docent training sessions, which involved the expertise from the staff at the Center for Visually Impaired in Georgia. Forming these partnerships have been invaluable for the High Museum.

Other research focused on studies done at the Art Institute of Chicago and two international museums in Spain and Slovenia. These studies looked for ways to ascertain practical ideas to offer a quality experience for visitors with low vision. Through the feedback of the focus groups, they found that the respondents enjoyed the tactile exploration of originals and replicas. The evaluations of the tactile explorations appear as the most highly rated resource, but provided by museums the least. Interest in bronze sculptures and touchable paintings encouraged creative endeavors on the part of the educational staff to develop one-of-a-kind permanent raised image for visitors that helped improve their understanding of the visual world.

For a museum educator, these suggestions helped me examine the consequences of a visitor's museum experience and as a researcher, understand the long-term impact of museum visits. These ideas helped me think of future possibilities in the creation of tactile aids to enhance the "haptical" experiences of all visitors on future tours.

The experiences of the four participants in this study helped me understand how though the activities they encountered; they were able to construct meaning about the art. A fundamental attribute for construction to occur is the ability to associate an educational situation with what is already known. All the ideas and concepts that the child brings to the situation, is a major factor mediating any learning that can take place. For example, when David was discussing the different feature on the *Bwa* mask replica, he was most

curious about the zigzag lines on the body of the mask. He also learned about one other feature- the middle eye on top of the mouth area. When the docent explained that in the culture of the *Bwa* community, these masks were used to celebrate ancestral heritage. David interpreted the zigzag lines to be the "ups and downs" in the battle for life based on the struggles faced by the person's ancestors. The "middle eye" was understood to be the values that the ancestors passed on to the person wearing the mask. Another connection with the familiar was made when the docent asked David if he would enjoy wearing around the heavy mask. Since he is physically active in sports and enjoys wrestling, David answered that if the person would work out he could probably carry the 30-pound weight easily. He would have to practice wearing it for long periods of time.

Edward made a comment that the *Bwa* mask was "surprising." He did not anticipate it being so large and heavy. He related a familiar narrative about the time he visited Mexico and Cozumel with his family. At that time, he encountered several men wearing large colorful masks. They surprised him by being perfectly still. Only when one of the men dressed in a pirate's mask jumped toward him, did he scream. Edward said that very scary. In order to remember an experience it needs to have a surprise or novelty factor. The ability to make connections with prior experiences helps form knowledge. Within a constructivist framework, and the knowledge that David and Edward developed in the process, helped make rich comparisons and connections, and construct complex interpretations. Encoding an experience through the activation of multiple senses can produce richer memory because the event results in more meaningful stimuli as something surprising or unanticipated by the learner.

For example, Edward reacted in shock to see the strange image when he first walked into the gallery where the *Horse* was placed. He called it "his worst nightmare." Then when he realized that there was a smaller replica for him to touch and interact with, which he called that object "a creepy baby horse." Even though that was Edwards first encounter with something so strange it captivated his curiosity and he wanted a lot of time to explore the artwork and learn about the artist.

However, David found the *Horse* artwork to be the most positive on the entire tour. This image captivated his attention because of the material choices that the artist decided to use. David was encouraged to take his time to look at the components of the velvet for the saddle, bottle caps to represent the *Horse's* skin and bottle caps threaded on wire to resemble the *Horse's* mane. A sparkle came into David's eyes when he realized that this was a self-portrait of the artist since the face of the *Horse* was actually a face of a man and the hair looked like dreadlocks. By having the time he said he had time to explore, revisit his ideas, and consider a different perspective.

Since one aspect of a personally transformative experience is that the experience radically changes your point of view and fundamentally changes your sense of self and how you experience life. Previously, David had the opportunity to visit the Salvador Dali exhibit when it came to the High Museum. He was unimpressed with the works on display since no one could accurately describe what they were seeing. All that he remembered was the sounds of delight in their voices. He was genuinely grateful for the tour he was on during the study. He had some experiences in the visual arts museum and going to plays at the theater section of the arts complex. In few experiences people cannot have any knowledge of the experience, prior to having the experience itself. For

an "aesthetic" experience to occur, a person has to have no prior knowledge of having that experience in the past. For example, if you never had a baby before, you may have seen how other people react at the birth of a child, but they do not really have knowledge of the experience itself. David was realized that he was able to make a genuine discovery for himself; it brought much pleasure and significant boost to his self-confidence.

Gadamer (1986) understood that art could make us feel whole. "Artist feel the need to use their art as the universal communicative element for the viewer" (p. 93). Dewey (1934/1980) stated, "Experiences with art may be marked off from ordinary experience by a sense of wholeness and unity. It is characterized at their close by feelings of enjoyment and fulfillment" (p. 34). David's dialogic experience that occurred with the work of art and his knowledge about himself was meaningful. He was able to see himself in the encounter. I learned from observing David's encounter with the *Horse,* that the researcher can express appreciation for his insight, or press him to open up about his thinking or let him remain with his own thoughts. I chose to remain silent.

Reflection on Accessibility for Visitors with Visual Impairments

Accessibility enables all visitors to participate in an enriched museum experience. How is the museum designed to be accessible (intellectually, physically, and socially) to the visitor with low vision? What do children with low vision think about them? The studies in the literature review provided insight on the power on the power of the visitor's voice to enact inclusivity. The multi-museum study conducted by the Museum of Science, Boston and Art Beyond Sight, New York, set out to develop a museum professional devlopment approach to train docents by learning from the suggestions of visitors with low vision.

Two docent training sessions were conducted, one with verbal description devlopment and practice and the second one discussed the use of multisensory tools. The training sessions were based on positive experiences at the museum that offer accessible programming. Visitors often feel unwelcome or unsafe in the museum. They enjoyed meaningful gallery tours and opprtunities for dialogue with a docent. In reflection, I based my training session agenda on the same activities. I included a collaboration with the Center for the Visually Impaired to help lead the docent training session. It was well received by the docents that volunteered to conduct student tours for this research.

Lowenfeld's (1945) study concluded that people fit into two categories: visual learners or "haptical learners, those who need stimulus from touch or kinesthetic activities to effectively function in the world. The collection of several studies in the literature review suggested that "visitors drawn into an experience through their senses make deeper connections, leading to the possibility that greater learning could ensue. With this knowledge, with I provided as many sensory activities in the tour's design to provide a variety of ways that the child could engage with the selected artworks. Edward and Charlie enjoyed the music selections that played softly in the background during each tour stop especially banjo music for Howard Finster's, *Howard's Tools* and carousel music at the Gregory Warmack's, *Horse.*

The J. Paul Getty Museum Access Consultant described the findings from the evaluations of two exhibits with touchable access. It was concluded that touching certain kinds of objects answer to the need of curious children with low vision to find out what something does or what it is for to make meaning out of the experience. This brings to mind how often Charlie would lie on the ground next to the replicas of each artwork and

carefully feel every part of the replica to find out what the origianl looked like. He wanted to know how all the parts fit together. Through dialogue with the docent, Charlie's behavior showed how important making the tour a kinesthetic experince it was for him.

Open to New Experiences

Longhenry (2007) noted, "By its nature, art museum learning takes place in a specific, unique environment that has been set aside as a space in which individuals and works of art come together" (p. 185). Both the child and the docent learn from each other through the experience on a tour. Similar to other modes of inquiry, interpretive inquiry involves questioning, observation, association, speculation, evidential reasoning, and conclusion forming. It is necessary to encourage students to engage in these processes. To provide for the chance of a transformative experience for the child with visual impairment is not the overall goal. "What anyone will make of a work of art is likewise unknowable in advance and any outcome comes out of a period of uncertainty in which impressions, experiences, opinions, viewpoints are given free play" (Moules, McCaffrey, Field, & Laing, 2015, p. 43). During the current study, the play between the participants and works of art was at the heart of the research.

Dewey (1934/1989) described the learning experience as an interplay of objective and internal conditions. According to Dewey, "An experience is always what it is because of a transaction taking place between an individual and what, at the time, constitutes his environment…" (p. 43). The museum environment enabled all of the participants an opportunity to have *an experience*. I understood. Doing the research changes the researcher. My experiences (reading, creating the tactile replicas and aids,

designing the tours, interviewing participants, reviewing transcripts, and having conversations about the tours) altered my understanding of the dilemma of museum inclusivity of children with visual impairments. I was open to the experience of revealing new possibilities to solve the issue by listening to the voices of the children. They knew best what their needs were and were not afraid to share their thoughts with the docents and museum educators. The children persevered with humility to go through the tours in hopes of being able to relate what components of the tactile aids were most beneficial for other children who are blind or have low vision.

Davey (2006) noted, "cultivation takes place within a context" (p. 38). "The process of "becoming cultured" does not involve the acquisition of predictable responses to known problems but the accumulation of sufficient practical experience within a discipline so as to offer a spontaneous and informed response to a question" (p. 39). This philosophy includes the *event* of understanding by the transformation of awareness and attitude. "Interpretive research demands the ability to find a culturally lively subject matter to start with, and then to follow where it leads" (p. 47). The High Museum's education department provided the place and context to conduct the present research.

Museum educators created opportunities in the High Museum's galleries for discovery and critical thinking via verbal descriptions of art objects and encouraged children to interact with replicas of the artwork and key/legend boards containing objects found in the replica, and to discuss the historical aspect of the art through constant dialogue with trained docents. By touching the tactile objects and having a conversation about the experience, each child had opportunities to make his own meaning from the encounter.

This viewpoint is articulated in interpretivist learning theory (Prasad, 2005). Meaning can be created within the relationship between the viewer and the artwork as well as the viewer and the docent in dialogue about the artwork. Through touch, the child discovered the flat planes and the deep gouges of the carver's knife, and discerned the mask's form, scale, weight, and texture in ways that sight alone cannot provide. Through the modified VTS conversation, the child had a chance to construct meaning and connect the information to his personal experiences.

This study's goal was that children with visual impairments, after the multisensory tour, would feel empowered to consider art in relationship to their own lives. Having a transformative experience teaches a person something new. It gives you access to new information and the capacity to exercise cognitive abilities that you could not have otherwise accessed. The new experience fundamentally changes your subjective point of view and your sense of self is radically revised, including changes in your emotions. Dewey (1934/1989) encouraged viewers to "see" art with an open mind. As one of the study's participants commented (Charlie, lines 147-150), "The *Horse* replica was mostly made of bottle caps. There were bottle caps everywhere! I could feel the bottle caps and other stuff. I could *feel* instead of *see*!"

REFERENCES

Allen, C. (2004). Bourdieu's habitus, social class and the spatial worlds of visually impaired children. *Urban Studies, 41,* 487-506.

Alvarez, A. (2005, June). *Please touch: The use of tactile learning in art exhibits.* Paper presented at the J. Paul Getty Museum Symposium, "From Content to Play: Family-Oriented Interactive Spaces in Art and History Museums," Los Angeles, CA.

American Association of Museums. (1992). *Excellent and equity: Education and the public dimension of museums*. Washington, DC: American Association of Museums.

Anfara, V. A., Brown, K. M., & Mangione, T. L. (202). Qualitative analysis on stage: Making the research process more public. *Educational Researcher, 31*(7), 28-38.

Axel, E., & Levent, N. (2003). *Art Beyond Sight: A resource guide to art, creativity, and visual impairment.* New York, NY: Art Education for the Blind, Inc., AFB Press.

Beane, D., & Pope, M. (2002). Leveling the playing field through object-based service learning. In S. Paris (Ed.), *Perspectives on object-centered learning in museums* (pp. 325-349). London, England: Lawrence Erlbaum Associates.

Braille Authority of North America. (2012). *Guideline and standards for tactile graphics.* Retrieved from http://www.brailleauthority.org/tg/web-manual/index.html

Brenneman, D. (2005). *High Museum of Art: Selected works from the collection.* Seattle, WA: Marquand Books.Bromley, D. B. (1986). *The case-study method in psychology and related disciplines.*New York, NY: Wiley.

Buffington, M. L., & McKay, S. (2013). *Practice theory: Seeing the power of art teacher researchers*. Reston, VA: National Art Education Association.

Burnham, R., & Kai-Kee, E. (2011). *Teaching in the art museum: Interpretation as experience.* Los Angeles, CA: J. Paul Getty Museum.

Butler-Kisber, L. (2010). *Qualitative inquiry: Thematic, narrative, and arts-informed perspectives*. Thousand Oaks, CA: Sage.

Candlin, F. (2003). Blindness, art and exclusion in museums and galleries. *International Journal of Art & Design Education, 22*(1), 100-110. doi: 10.1111/1468 5949.00343.

Candlin, F. (2004). Don't touch! Hands off! Art, blindness, and the conservation of expertise. *Body & Society, 10*(1), 71-90.

Cassim, J. (1997, June 15). Tactile landscapes of the soul. *The Japan Times*, p. 15.

Center for Universal Design. (2008). *About UD.* Retrieved from http://www.design.ncsu.edu/cud/about_ud/about_ud.htm

Cole. P. R. (1985). Dewey and the galleries: Educational theorists talk to museum educators, *The Museologist, 48*(Spring), 12-14.

Cork, R. (2003). *Everything seemed possible: Art in the 1970's.* In S. Khayami (Ed.), *Touching art, touching you: Blindart, sense & sensuality* (pp. 183-190). London, England: Yale University.

Creswell, J. (1998). *Qualitative inquiry and research design: Choosing among five approaches.* Thousand Oaks, CA: Sage.

Creswell, J. (2002). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Prentice Hall.

Creswell, J. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage.

Czajkowsk, J. W., & Hill, S. H. (2008). Transformation and interpretation: What is the museum educator's role? *The Journal of Museum Education, 33*(3), 255-263.

Dahlberg, K., Dahlberg, H., & Nystrom, M. (2008). *Reflective lifeworld research*. Lund, Sweden: Studentlitteratur.

Darke, P. (2003). Now I know why disability art is drowning in the River Lethe (thanks to Pierre Bourdieu). In S. Riddell and N. Watson (Eds.), *Disability, culture and identity* (pp. 131-142). London, England: Pearson.

Davey, N. (2006). *Unquiet understanding: Gadamer's philosophical hermeneutics.* Albany, NY: State University of New York Press.

Davidson, B., Heald, C. L., & Hein, G. (1991). Increased exhibit accessibility through multisensory interaction. *Curator, 34*(4), 273-290.

Davidson, B., Heald, C., & Hein, G. (1999). Increased exhibit accessibility through multisensory interaction. In E. Hooper-Greenhill (Ed.), *The educational role of the museum* (2nd ed.), (pp. 223-238). London, England: Routledge.

Dewey, J. (1916/1994). *Democracy and education: An introduction to the philosophy of education.* New York, NY: The Free Press.

Dewey, J. (1934/1989). *Art as experience.* New York, NY: Penguin Group.

DiCindio, C. (2012). Dialogue and silence in interpretation: Incorporating hermeneutics into museum education through the works of Gadamer and Buber. *Bulletin 23*, 9-22. Athens, GA: Georgia Museum of Art, University of Georgia.

Dodek, W. (2012). Bringing art to life through multi-sensory tours. *Journal of Museum Education, 37*(1), 115-124.

Edwards, L. C. (2002). *The creative arts: A process approach for teachers and children.* (3rd ed.), Upper Saddle River, NJ: Prentice-Hall, Inc.

Eisner, E. W. (1990). The role of art and play in children's cognitive development. In E. Klugman & Smilansky (Eds.), *Children's play and learning* (pp. 43-56). NewYork, NY: Teachers College Press.

Eisner, E. W. (2002). *The art and the creation of mind.* New Haven, CT: Yale University Press.

Essa, E. L. (1999). *Introduction to early childhood education.* (3rd ed.). Albany, NY: Delmar.

Falk, J. H. (2006). The impact of motivation on learning: Using identity as a construct to understand the visitor experience. *Curator, 49*(2), 151-166.

Falk, J., & Dierking, L. (1992). *The museum experience.* Washington, DC: Whalesback Books.

Falk, J., & Dierking, L. (2000). *Learning from museums: Visitor experiences and the making of meaning*. Walnut Creek, CA: AltaMira Press.

Falk, J. H., & Dierking., L. (2013). *The museum experience revisited*. Walnut Creek, CA: Left Coast Press, Inc.

Falk, J. H., & Sheppard, B. K. (2006). *Thriving in the knowledge age: New business models for museums and other cultural organizations*. Walnut Creek, CA: AltaMira Press.

Falk, J. H., Dierking, L., & Foutz, S. (Eds.). (2007). *In principle—in practice: Museums as learning institutions*. Landam, MD: AltaMira Press.

Freeman, M. (2008). Hermeneutics. In L. Given (Ed.), The Sage encyclopedia of qualitative research methods (Vol. 1, pp. 385-388). Los Angeles, London, New Delhi, & Singapore: Sage.

Freeman, M., & Mathison, S. (2009). *Researching children's experiences.* New York, NY: The Guilford Press.

Gadamer, H-G. (1985). Philosophy and Literature. *In Man and World: An International Review, 18,* 250, quoted in David Vessey, Gadamer and the body across dialogical contexts, *Philosophy Today, 44*, Supplement (2000), 70-77.

Gadamer, H-G. (1986). *The relevance of the beautiful and other essays.* (R. Bernasconi, Ed.; N. Walker, Trans.). Cambridge: Cambridge University Press. (Original work published in 1980).

Gadamer, H-G. (1975/1989/2004). *Truth and method.* (2nd Rev. ed.). (J. Weinsheimer & D. G. Marshall, Trans). New York, NY: Continuum. (Original work published in 1975).

Gartenhaus, A. (1999, Autumn). Subjectivity. *The Docent Educator 1*(1), 2.

Garvis, S. (2015). *Narrative constellations: Exploring lived experience in education.* Rotterdam, Netherlands: Sense Publications.

Gibson, J. J. (1962). Observations on active touch. *Psychological Review*, *69,* 477-491.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research.* New York, NY: Aldine de Gruyter.

Gleeson, B. (1999). *Geographies of disability.* London, England: Routledge.

Griffin, J. (2004). Research on students and museums: Looking more closely at the students in school groups. *Science Education, 88*(suppl 1), S59-70.

Hatlen, P., & Curry, S. (1987). In support of specialized programs for blind and visually impaired children: The impact of vision loss and learning. *Journal of Visual Impairments and Blindness, 81*, 7-13.

Hayhoe, S. (2003). The development of research into the psychology of visual impairment in the visual arts. In E. Axel & N. Levent, (Eds.), *Art beyond sight: A resource guide to art, creativity, and visual impairment* (pp. 84-95). New York, NY: Art Education for the Blind, Inc., AFB Press.

Heath, C., Hindmarsh, J., & Luft, P. (2010). *Video in qualitative research: Analyzing social interaction in everyday life.* London, England: Sage.

Hein, G. E. (1996). *Constructivist learning theory*. In G. Durbin (Ed.), Developing museum exhibitions for lifelong leaning (pp. 30-34). London: The Stationery Office.

Hein, G. E. (1998a). Introduction and a brief history of museum education. In G. E. Hein (Ed.), *Learning in the museum* (pp. 2-11). New York, NY: Routledge.

Hein, G. E. (1998b). The constructivist museum. In G. E. Hein (Ed.), *Learning in the museum* (pp. 155-179). New York, NY: Routledge.

Hein, G. E. (1998c). *Learning in the museum.* London, England: Routledge.

Hein, G. E. (2012). *Progressive museum practice: John Dewey and democracy*. Walnut Creek, CA: Left Coast Press, Inc.

Heller, M. A., Brackett, D. D., Scroggs, E., Allen, A. E., & Green, S. (2001). Haptic perception of the horizontal by blind and low vision individuals. *Perception, 30*, 601-610.

Heller, M. A. (2003). How do people who are blind perceive and draw pictures? In E. Axel & N. Levent (Eds.), *Art Beyond Sight: A resource guide to art, creativity, and visual impairment* (pp. 136-145). New York, NY: Art Education for the Blind, Inc., AFB Press.

Henrich, G., Cleveland, F., & Wolverton, E. (2014). Case studies from three museums in Art Beyond Sight's multi-site museum accessibility study. *Museums and Social Issues, 9*(2), 124-143.

Hetherington, K. (2002). The unsightly: Touching the Parthenon frieze. *Theory, Culture, and Society, 19*(5/6), 187-205.

Hooper-Greenhill, E. (1991). *Museum and gallery education.* Leicester, London, England and New York, NY: Leicester University Press.

Hooper-Greenhill, E. (1994a). *Museums and their visitors.* London, England: Routledge.

Hooper-Greenhill, E. (1994b). *The educational role of the museum.* New York, NY: Routledge.

Housen, A., & Yenawine, P. (1999). *Visual thinking strategies.* Retrieved from http://www.vue.org/documents/vtsIntro.html

Hudson, K. (1998). The museum refuses to stand still. *Museum International, 50*(1), 43-50.

Hubard, O. (2010). Three modes of dialogue about works of art. *Art Education, 5,* 41-45.

Institutional Review Board, The Office of Human Research Protection. (2014). *Institutional Review Board Guidebook. Chapter 3, Section A: Risk/Benefit Analysis.* (pp. 1-10). Retrieved from http://research.uga.edu/hso/irb/

Jansson, G. (1999). Can a haptic display rendering virtual 3D objects be useful for people with visual impairment? *Journal of Visual Impairment and Blindness, 93,* 426-429.

Jonas, H. (1982). *The phenomenon of life.* Chicago, IL: University of Chicago Press.

Kafle, N. P. (2011). Hermeneutic phenomenological research method simplified. *Bodhi: An Interdisciplinary Journal, 5*(1), 181-200.

Kelly, P., Sanspree, M., & Davidson, R. (2000). Vision impairment in children and youth. In B. Silverstone, M. Lang, B. Rosenthal, & E. Faye (Eds.) *The Lighthouse handbook on vision impairment and vision rehabilitation* (pp. 1137-1151). New York, NY: Oxford University Press.

Kennedy, J. M. (2003). Drawings from Gaia, a blind girl. *Perception*, *32*(3), 321-340.

Kennedy, R. (2015, July 29). Atlanta's High Museum names new director: Randall Suffolk. *New York Times*, p. 3.

Langdridge, D. (2006). *Phenomenological psychology: Theory, research and method.* Harlow, England: Pearson.

Langdridge, D. (2007). *Phenomenological psychology: Theory, research and methods.* London, England: Pearson.

Langeveld, M. J. (1944). How does the child experience the world of things? *Phenomenology+ Pedagogy*, *2*(3), 215-223.

Lankford, E. L. (2002). Aesthetic experience in constructivist museums. *Journal of Aesthetic Education*, *36*(2), 140-153.

Levent, N., & Reich, C. (2013). Museum accessibility: Combining audience research and staff training. *Journal of Museum Education, 38*(2), 218-226.

Lindgren-Streicher, A., & Mesiti, L. A. (2012). *Art Beyond Sight's multi-site museum programmatic accessibility project: Formative evaluation*. (Report No. 2012-2013). Boston, MA: Museum of Science.

Longhenry, S. (2007). Reconsidering learning: The art museum experience. In P. Villeneuve (Ed.), *From periphery to center: Art museum education in the 21st century* (pp. 180-187). Reston, VA: National Art Education Association.

Lopes, D. (2003). Are pictures visual? A brief history of an idea. In E. Axel & N. Levent (Eds.), *Art Beyond Sight: A resource guide to art, creativity, and visual impairment* (p. 184). New York, NY: Art Education for the Blind, Inc., AFB.

Lowenfeld, V. (1945). Tests for visual and haptical aptitudes. *American Journal of Psychology, 58*(1), 110-111.

Madison, G. B. (1988). *The hermeneutics of postmodernity: Figures and themes.* Bloomington, IN: Indiana University Press.

Majnarić, I., Germadnik, R., Golob, G., Krivec, T., & Muck, T. (2014). Adapting artworks for people who are blind or visually impaired using raised printing. *Journal of Visual Impairment & Blindness*, *108*(1), 68-76.

Maxwell, J. (2015). *Qualitative research design: An interactive approach* (2nd ed.). Thousand Oaks, CA: Sage.

Maxwell, J. (2013). *Qualitative research design: An interactive approach* (3rd ed.). Thousand Oaks, CA: Sage.

Mayer, M. (2007). Scintillating conversations in art museums. In P. Villeneuve (Ed.), *From periphery to center: Art museum education in the 21st century* (pp. 188-193). Reston, VA: National Art Education Association.

McKay, S. W., & Monteverde, S. R. (2003). Dialogic looking: Beyond the mediated experience, *Art Education, 56*(1), 40.

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation.* San Francisco, CA: Jossey-Bass.

Merrill, L. (2005). *High Museum of Art: Selected works from the collection.* Seattle, WA: Marquand Books.

Mertens, D. (2011). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods* (3rd ed.). Thousand Oaks, CA: Sage.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: A sourcebook of new methods* (2nd ed.). Thousand Oaks, CA: Sage.

Minder, R. (2015). *Blind visitors can touch masterpieces.* Museo Nacional Del Prado, Madrid, Spain: Getty Images.

Morrison, G. S. (2001). *Early childhood education today*. (Revised ed.). Upper Saddle River, NJ: Merrill/Prentice Hall.

Moules, N. J., McCaffrey, G., Field, J. C., & Laing, C. M. (2015). *Conducting hermeneutic research: From philosophy to practice.* New York, NY: Peter Lang.

O'Neil, M. (2008). Advancing museum practice. In J. Dodd, & R. Sandell (Eds.), *Rethinking disability representation in museums and galleries* (p. 29). Leicester, England: University of Leicester.

Paris, S. G. (2002). *Perspectives on object-centered learning in museums.* (Ed.) Mahwah, NJ: Lawrence Erlbaum Associates.

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.

Pearson, A. (2003). A museum professional: Personal perspectives. In E. Axel & N. Levent, (Eds.), *Art Beyond Sight: A resource guide to art, creativity, and visual impairment* (pp. 39-42). New York, NY: Art Education for the Blind, Inc., AFB Press.

Pfeiler-Wunder, A., Buffington, M. L., Rao, S., & Sutters, J. (2017). Research is… Results from a national survey. *Art Education*, *70*(2), 8-15.

Piscitelli, B., & Anderson, D. (2001). Young children's perspectives of museum settings and experiences. *Museum Management and Curatorship, 19*(3), 269-282.

Piscitelli, B., McArdle, F., & Weier, K. (19990. *Beyond "look and learn": Investigating implementing and evaluating interactive learning strategies for young children in museums.* Final Report, QUT-Industry Collaborative Research Project. Brisbane, Australia: Centre for Applied Studies in Early Childhood, Queensland University of Technology.

Prasad, P. (2005). *Crafting qualitative research: Working in the postpositivist traditions*. Armonk, NY: M. E. Sharpe.

Prevent Blindness America. (1994). *Vision problems in the U.S.* Chicago, IL. Retrieved from www.preventblindness.org

Prytherch, D., & Jefsioutine, M. (2007). Touching ghosts: Haptic technologies in museums. In E. Pye (Ed.), *The power of touch: Handling objects in museums and heritage contexts* (pp. 223-240). Walnut Creek, CA: Left Coast Press.

Pye, E. (2007). *The power of touch: Handling objects in museum and heritage contexts.* Walnut Creek, CA: Left Coast Press.

Recchia, S. (1997). Play and concept development in infants and young children with severe visual impairments: A constructivist view. *Journal of Visual Impairment and Blindness, 91*(4), 401.

Rennie, L. J., & McClafferty, T. P. (1996). Science centers and science learning, *Studies in Science Education, 27*, 53-98.

Rennie, L. J., Feher, E., Dierking, L. D., & Falk, J. H. (2003). Toward an agenda for advancing research on science learning in out-of-school setting. *Journal of Research in Science Teaching, 40*, 112-120.

Robson, C. (2011). *Real world research* (3rd ed.). Oxford, England: Blackwell.

Sachatello-Sawyer, B., Fellenz, R., Burton, H., Gittings-Carlson, L., Lewis-Mahony, J., & Woolbaugh, W. (2002). *Adult museums programs: Designing meaningful experiences.* Walnut Creek, CA: AltaMira Press.

Saldana, J. (2013). *The coding manual for qualitative researchers* (2nd ed.). Thousand Oaks, CA: Sage.

Sandelowski, M. (1986). The problem of rigor in qualitative research. *Advances in Nursing Science, 8*(3), 27-37.

Schmidt, L. (2004). *Classroom confidential: The twelve secrets of great teachers.* Portsmouth, NH: Heinemann.

Schleuning, S. (2017). Technicolor. *High Life Member Magazine,* March, April, & May, 15.

Schwandt, T. (2007). *The SAGE dictionary of qualitative inquiry* (3rd ed.). Thousand Oaks, CA: Sage.

Seidman, K. (2003). Understanding visual impairments. In E. Axel & N. Levent, (Eds.). *Art Beyond Sight: A resource guide to art, creativity, and visual impairment* (pp. 50-57). New York, NY: Art Education for the Blind, Inc., AFB Press.

Shaffer, S. (2015). *Engaging young children in museums.* Walnut Creek, CA: Left Coast Press.

Shapiro, M. E. (2005). *High Museum of Art: Selected works from the collection.* Seattle, WA: Marquand Books.

Shearer, V. (2017). Academic affiliates. *High Life Member Magazine,* March, April, & May, 15.Sheffield, R. (2015, March). *Statistical snapshots from the American Foundation for the Blind*. Retrieved from http://www.afb.org/info/blindnessstatistics/2

Shih, C., & Chao, H. (2010). Ink and wash painting for children with visual impairment. *British Journal of Visual Impairment, 28*(2), 157-163.

Smith, N. R. (1993). Experience and art: Teaching children to paint (2nd ed.). New York, NY: Teachers College Press.

Sonneveld, M. (2004). Dreamy hands: Exploring tactile aesthetics in design. In D. McDonagh, P. Hekkert, J. van Erp, & D. Gyi (Eds.), *Design and emotion:*

The experience of everyday things (pp. 228-232). London, England: Taylor & Francis.

Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.

Stake, R. E. (2006). *Multiple case study analysis.* New York, NY: The Guilford Press.

Sternberg, S. (1989). The art of participation. In N. Berry & S. Mayer (Eds.), *Museum education: History, theory, and practice* (pp. 1554-1571). Reston, VA: National Education Association.

Sweeney, E. (2009). Meaningful museum experiences with participatory art for visitors with and without visual impairments. *Journal of Museum Education, 34*(3). 235-248.

Tishman, S. (2004-2006). *Artful thinking routines*. Retrieved from http://www.pz.harvard.edu/projects/artful-thinking

Tishman, S., McKinney, A., & Straughn, C. (2007). *Study center learning: An investigation of the educational power and potential of the Harvard University Art Museums Study Centers.* Harvard University and Harvard Project Zero.

United Nations. (2012). *The universal declaration of human rights.* Retrieved from http://un.org/en/documents/udhr/index.shtml#a27

van Manen, M. (1990). *Researching lived experiences: Human science for an action sensitive pedagogy.* Albany, NY: State University of New York Press.

van Manen, M. (2014). *Phenomenology of practice: Meaning-giving methods in phenomenological research and writing*. Walnut Creek, CA: Left Coast Press.

vom Lehn, D., Heath, C., & Knoblauch, H. (2001). Configuring exhibits: The interactional production of experience in museums and galleries. In H.

Knoblauch & H. Kothoff, (Eds.), *Verbal art across culture: The aesthetics and proto-aesthetics of communication* (pp. 281-297). Tubingen, Germany: Gunter Narr Verlag.

Walsh, D. J., Bakin, N., Lee, T. B., Chung, Y., & Chung, K. (2007). Using digital video in field-based research with children: A primer. In J. A. Hatch (Ed.), *Early childhood qualitative research* (pp. 43-62). New York, NY: Routledge.

Webster's Third International Dictionary. (1996). Springfield, MA: Merriam-Webster.

Weil, S. E. (1999). Introduction. In W. Peniston, (Ed.), *The new museum: Selected writings of John Cotton Dan* (pp. 13-17). Washington, DC: American Association of Museums.

Weil, S. E. (2002). *Making museums matter.* Washington, DC: Smithsonian Institution.

Weil, S. F. (2005). A success/failure matrix for museums. *Museum News,* January/February, 36-40.

Wisker, C. (1993). Reaching all of your audiences. *The Docent Educator*, *2*(4), 4-6.

World Health Organization Program for the Prevention of Blindness and Deafness. (1997). *Global initiative for the elimination of avoidable blindness*. Geneva, Switzerland: World Health Organization.

Xicola-Tugas, H. (2012). Heritage access for the visually impaired: An analysis and assessment of museum adaptations in Catalonia. *The International Journal of the Inclusive Museum, 4*(4). Retrieved from http://museum-journal.com/, ISSN 1835-2014.

Yenawine, P., & Housen, A. (1999). *Visual thinking strategies.* Retrieved from http://www.vue.org/documents/vtsIntro.html

Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.). Thousand Oaks, CA: Sage.

APPENDIX A

WORKS OF ART INCLUDED IN THE DOCENT-LED TOURS



A.1 Yacoube Bonde, Boni (Burkina Faso, Born 1963)

*Three Nwantantay Masks***,** 1986-1987

Black, red, and white pigment on wood

High Museum of Art, a division of the Woodruff Arts Center



A.2 Howard Finster (American, 1916-2001)
Howard's Tools After Joining Artists' World Discarded
Concrete embedded with rocks, glass, marbles, ceramic, and discarded bicycle tools
Purchase with funds from the Cousins Foundation, Inc., and donors of the Paradise Garden Project Campaign, 1994.217
High Museum of Art, a division of the Woodruff Center



A.3 Gregory Warmack (Mr. Imgaination), (American, 1948-2012)
Horse, 2009
Bottle caps, velvet, stones, buttons, painted wood, cords, and coins
Purchased with Folk Art Acquisition Funds, 2011,120.
High Museum of Art, a division of the Woodruff Arts Center

APPENDIX B

PARENT/GUARDIAN PERMISSION LETTER

Parent/Guardian Permission and Informed Consent Form
***An Exploration of the Lived Experiences of Children with Visual Impairments Visiting an Art Museum*.**

Researcher's Statement

We are asking your child to take part in a research study. Before you decide to allow your child to participate in this study, it is important that you understand why the research is being done and what it will involve. This form is designed to give you the information about the study so you can decide whether to allow your child to be in the study or not. Please take the time to read the following information carefully. Please ask the researcher if there is anything that is not clear or if you need more information. When all your questions have been answered, you can decide if you want your child to be in the study or not. This process is called "informed consent." A copy of this form will be given to you.

Co-Principal Investigator (Co-PI): Pamela B. Kelsey
Lamar Dodd School of Art
University of Georgia
bonnabel@uga.edu

Purpose of the Study:

Your child is invited to participate in a research study titled, ***An Exploration of the Lived Experiences of Children with Visual Impairments Visiting an Art Museum***.
The purpose of the study is to investigate if utilizing tactile interpretive models in an art museum with children with visual impairments facilitates their meaning making experiences.

1. **Study Procedures:** If your child participates in the study, you will be able to bring your child to the High Museum where your child will be able to go on tour guides with a trained docent and play with 3D objects or tactile models that look like actual artwork in the museum.
2. The tour guide will ask your child about the tactile model. Some questions she will ask are," What does the model feel like? Have you ever felt something like that before? What do you think about that? Can you tell me more about the tactile model?
3. There will be photographs, audio and video recordings taken of your child during the guided discussion of the artwork and while your child is playing with the tactile models.
4. The research study will last three months. During that time there will be three tours, which will last for thirty minutes each. The same tour guide will work with your child for each tour given.

Risks and Discomforts
We do not anticipate any risks or discomforts for your child by participating in this research study.
Benefits
Your child may enjoy participating in this research. He/she may learn how to appreciate artwork and find mind meaning through the use of tactile interpretive models. Allowing your child to participate in this study may benefit art educators and museum tour guides as they develop tours for children with visual impairments. The expected benefits of this study are to find new ways to make art museum tours accessible for all children as well as persons with low vision.
Photographs and Audio/Video Recording
There will be photographs, audio and video recordings taken of your child during the guided discussion of the artwork and while your child is playing with the tactile interpretive models.

Please provide initials below if you agree to have the tours and interviews recorded or not. Your child may still participate in this study even if you are not willing to have his/her participation recorded or photographed.

_____I do not want to have my child audio/video recorded or photographed.
_____I am willing to have my child audio/video recorded and photographed.

We are also asking your permission to use your child's unaltered photographs and audio/video recordings in presentations that we share with others. Your child would not be named directly, but may be identified if someone recognized his/her image or voice. Your child may still participate in this study even if you are not willing to the additional use of his/her identifiable information. Please provide your initials below if you agree to the following uses of your child's unaltered photographs and recordings:

_____I am willing to have my child's unaltered photographs, audio recordings, and video recordings shared with others for **educational purposes including classroom presentations and training materials.**
_____I do not want my child's unaltered photographs, audio recordings, and video recordings shared with others for **educational purposes including classroom presentations and training materials.**

_____I am willing to have my child's unaltered photographs, audio recordings, and video recordings shared with others for **research purposes including research presentations and publications.**
_____I do not want my child's unaltered photographs, audio recordings, and video recordings shared with others for **research purposes including research presentations and publications.**

If you agree to allow the researchers to use/share your child's images of his/her face and sounds of his/her voice, the researchers will delete/destroy the recordings 5 years after all

data collection has been completed or before your child reaches his/her 18th birthday (whichever comes first). If you do not agree to the additional use of information, the researchers will alter the photographs so that your child is no longer identifiable and delete/destroy the audio and video recordings after they have been transcribed.

Privacy/Confidentiality
Researchers will not release identifiable results of the study to anyone other than individuals working on the project without your written permission unless required by law. All information that can be used to identify participants will be kept in and stored on secured servers and in locked file cabinets. After all data collection, all individually identifiable information will be deleted/destroyed from the written records. Only members of the research team will have access to this information.

Taking part is voluntary
Your child's involvement in the research study is voluntary, and you may choose not to have your child participate or to stop at any time without penalty or loss of benefits to which your child is otherwise entitled. If your child decides to withdraw from the study, the information that can be identified as your child will be kept as part of the study and may continue to be analyzed, unless you make a written request to remove, return, or destroy the information. Your child's grades in school will not be affected whether he/she participates in the research study or not.

If You Have Questions
The Co-Principal Investigator conducting this study is Pamela B. Kelsey, a graduate student at the University of Georgia. Please ask any questions you have now. If you have questions later, you may contact Pamela B. Kelsey at bonnabel@uga.edu. You may also contact the Principal Investigator supervising the research study (PI), Dr. Carole Henry at ckhenry@uga.edu. If you have any questions or concerns regarding rights as a research participant in this study, you may contact the Institutional Review Board (IRB) Chairperson at 706.542.3199 or irb@uga.edu.

Parental Permission for Child to Participate in Research:
To voluntarily allow your child to take part in this study, you must sign on the line below. Your signature below indicates that you have read or had read to you this entire Parental Permission Consent Form, and have had all of your questions answered.

Your Child's Name: _____

Your Signature: _____ Date _____

Your Printed Name: _____

Signature of Researcher: _____ Date _____

Printed Name of Researcher: _____

Parent's Consent to Participate in the Research:

You are also being asked to participate in the research project described in detail above. Your participation would include participating in three semi-structured audio-recorded interviews about how your child makes meaning using tactile objects in an art museum. Each interview will last approximately 30 minutes and will take place after your child's guided tour in the art museum.

Your participation in this study is voluntary. You do not have to be in this study if you do not want to. You can refuse to participate or stop taking part at any time without giving any reason. If you decide to withdraw from the study, the information that can be identified as yours will be kept as part of the study and may continue to be analyzed, unless you make a written request to remove, return, or destroy the information. If you do not agree to participate, your child will still be able to participate in the research project.

You will not receive any direct benefits for participating in this study. There are no foreseeable risks or discomforts associated with your participation in the study. As described above, the researchers will not release identifiable results of the study to anyone other than individuals working on the project without your written permission required by law.
Please provide your initials below if you agree to have the interviews (audio) recorded and image photographed or not. You may still participate in this study even if you are not willing to be recorded or photographed.

_____I do not want to be audio recorded or photographed.
_____I am willing to be audio recorded and photographed.

We are also asking your permission to use your unaltered photographs and audio recordings in presentations that we share with others. You would not be named directly, but may be identified if someone recognized your image or voice. You may still participate in this study even if you are not willing to the additional use of identifiable information. Please provide your initials below if you agree to the following uses of your unaltered photographs and recordings:

_____I am willing to have my unaltered photographs and audio-recordings shared with others for **educational purposes including classroom presentations and training materials.**
_____I do not want my unaltered photographs and audio-recordings shared with others for **educational purposes including classroom presentations and training materials.**

_____I am willing to have my unaltered photographs and audio-recordings shared with others for **research purposes including research presentations and publications.**
_____I do not want my unaltered photographs and audio-recordings shared with others for **research purposes including research presentations and publications.**

If you agree to allow the researchers to use/share images of your face and sounds of your voice, the researchers will delete/destroy the recordings 5 years after all data collection has been completed. If you do not agree to the additional use of information, the researchers will alter the photographs so that you are no longer identifiable and delete/destroy the recordings after they have been transcribed.

To voluntarily agree to take part in this study, you must sign on the line below. Your signature below indicates that you have read of had read to you this entire Parental Permission Consent Form, and have had all of your questions answered.

Name of Researcher _____

Signature_____Date_____

Name of Participant _____

Signature_____Date_____

Please sign both copies, keep one and return one to the researcher.

APPENDIX C

PARENTAL CONSENT FOR CHILD TO PARTICIPATE IN THE RESEARCH

Parental Consent for Child to Participate in the Research

Researcher's Statement

We are asking your child to take part in a research study. Before you decide to allow your child to participate in this study, it is important that you understand why the research is being done and what it will involve. This form is designed to give you the information about the study so you can decide whether to allow your child to be in the study or not. Please take the time to read the following information carefully. Please ask the researcher if there is anything that is not clear or if you need more information. When all your questions have been answered, you can decide if you want your child to be in the study or not. This process is called "informed consent." A copy of this form will be given to you.

Co-Principal Investigator (Co-PI):

Pamela B. Kelsey
Lamar Dodd School of Art
University of Georgia
bonnabel@uga.edu

Purpose of the Study:

Your child is invited to participate in a research study titled, ***An Exploration of the Lived Experiences of Children with Visual Impairments Visiting an Art Museum***. The purpose of the study is to examine what it is like for children with visual impairments to experience an art museum setting involving multisensory tools.

Study Procedures:

- In an art museum, you and your child will go through galleries with a trained tour guide.
- During the tour, your child will interact with a small tactile model that looks like an actual artwork in the museum.
- The tour guide will ask your child about the tactile model. Some questions she will ask are, "What does the model feel like? Have you ever felt something like that before? What do you think about it? Can you tell me more about the tactile model?"
- There will be photographs, and audio and video recordings taken of your child during the guided discussion of the artwork and while your child is interacting with the tactile model.

- Your child will go on one tour, which will last for 30 minutes. Then the researcher will ask your child several questions about the tour to get feedback about how he or she thought the tour went.

Risks and Discomforts
We do not anticipate any risks or discomforts for your child by participating in this research study.
Benefits
Allowing your child to participate in this study may benefit art educators and museum tour guides as they develop tours for children with visual impairments. These tours would consist of using tactile interpretive models in order for children to develop meaning making and provide sensory enjoyment. The expected benefits of this study are to find new ways to make art museum tours accessible for all children as well as persons with low vision.
Photographs and Audio Recording
There will be photographs, audio and video recordings taken of your child during the guided discussion of the artwork and while your child is playing with the tactile interpretive models.

Please provide initials below if you agree to have the tour and interview recorded or not. Your child may still participate in this study even if you are not willing to have his/her participation recorded or photographed.

_____I am willing to have my child audio/video recorded and photographed.
_____I do not want to have my child audio/video recorded or photographed.

We are also asking your permission to use your child's unaltered photographs and audio/video recordings in presentations that we share with others. Your child would not be named directly, but he/she may be identified if someone recognized his/her image or voice. Your child may still participate in this study even if you are not willing to the additional use of his/her identifiable information. Please provide your initials below if you agree to the following uses of your child's unaltered photographs and recordings:

_____I am willing to have my child's unaltered photographs, audio recordings, and video recordings shared with others for **educational purposes including classroom presentations and training materials**.
_____I do not want my child's unaltered photographs, audio recordings, and video recordings shared with others for **educational purposes including classroom presentations and training materials**.

_____ I am willing to have my child's unaltered photographs, audio recordings, and video recordings shared with others for **research purposes including research presentations and publications**.

_____ I do not want my child's unaltered photographs, audio recordings, and video recordings shared with other for **research purposes including research presentations and publications**.

- If you agree to allow the researchers to use/share your child's unaltered photographs, video recordings, and audio recordings, the researchers will alter the photographs so all individually identifiable information (e.g., names, images of face/voice on the recordings) will be removed or destroyed from the research record before participants reach their 18th birthday.
- If you do not agree to the additional use of information, the researchers will alter the photographs so that your child is no longer identifiable and destroy the audio and video recordings after they have been transcribed.

Privacy/Confidentiality

Researchers will not release identifiable results of the study to anyone other than individuals working on the project without your written permission unless required by law. All information that can be used to identify participants will be kept in and stored on secured servers and in locked file cabinets. After all data collection, all individually identifiable information will be deleted/destroyed. Only members of the research team will have access to this information. Individual participant responses and feedback may be made available to the participant.

Taking part is voluntary

Your child's involvement in the research study is voluntary, and you may choose not to have your child participate or to stop at any time without penalty or loss of benefits to which your child is otherwise entitled. If your child decides to withdraw from the study, the information that can be identified as your child will be kept as part of the study and may continue to be analyzed, unless you make a written request to remove, return, or destroy the information. Your child's grades in school will not be affected whether he/she participates in the research study or not.

If you have questions

The Co-Principal Investigator conducting this study is Pamela B. Kelsey, a graduate student at the University of Georgia. Please ask any questions you have now. If you have questions later, you may contact Pamela B. Kelsey at bonnabel@uga.edu. You may also contact the Principal Investigator supervising the research study (PI), Dr. Carole Henry at ckhenry@uga.edu. If you have any questions or concerns regarding rights as a research participant in this study, you may contact the Institutional Review Board (IRB) Chairperson at 706.542.3199 or irb@uga.edu.

Parental Consent for Child to Participate in Research:

To voluntarily allow your child to take part in this study, you must sign on the line below. Your signature below indicates that you have read or had read to you this entire Parental Consent Form, and have had all of your questions answered.

Your Child's Name: _____

Your Signature: _____ Date _____

Signature of Researcher: _____ Date _____

APPENDIX D

STUDENT ASSENT FORM FOR PARTICIPATION IN RESEARCH

An Exploration of the Lived Experiences of Children with Visual Impairments Visiting an Art Museum

You are invited!

- Would you like to come to an art museum and take a tour as part of a research study?
- You get to go around the museum with your parent or guardian to help you.
- I have some special tactile objects that you can play with.
- These tactile objects look exactly like the sculptures and paintings in the museum, except they are much smaller.

What will happen?

- There will be a helpful tour guide to go with you around the museum.
- You will stop at a work of art and then get to play with the special object that I made just for you.
- The tour will last about 30 mins. Afterwards, I will ask you what you thought of the tour.

What will happen next?

- You can talk to the tour guide about what you are thinking.
- You will be asked a few questions, but it is different from school because there are no right or wrong answers. Your grades in school won't change whether you say "yes" or "no."
- I will take some pictures of you in the museum.

How can I volunteer?

- You don't have to say 'yes' if you don't want to, but if you do, I need to ask your parent or guardian first. No one will be mad at you if you don't want to take part in the research study.
- You can stop the tour and the tour guide's questions at any time you want.
- If you have any other questions about the study, you can ask me about it.

How can I sign up?

- If you would like to take part in this research study please say 'yes';
  or 'no' if you do not want to take part in the research study.

****

Name of Child: _____

Parental Permission on File: ☐ Yes ☐ No

(For Verbal Assent) **Indicate Child's Voluntary Response to Participation:** ☐ Yes ☐ No

Signature of Researcher: _____ **Date:** _____

APPENDIX E

DOCENT RECRUITMENT FORM

Docent Recruitment Information

To Whom It May Concern:

My name is Pamela Kelsey, a PhD candidate under the direction of Dr. Carole Henry in the Lamar Dodd School of Art at The University of Georgia. I am interested in conducting a research study entitled, ***An Exploration of the Lived Experiences of Children with Visual Impairments Visiting an Art Museum***. The purpose of this research study is to investigate if utilizing tactile interpretive models in an art museum with visually impaired children facilitates their meaning-making experiences.

I am inviting you to participate in this study, which would include taking part in three, 30-minute tours with a child with visual impairments and three 30-minute interviews about providing authentic sensorial experiences in an art museum in order to enrich curriculum for children with visual impairments.

If you have any questions about this research study, please feel free to send an email to bonnabel@uga.edu or contact Dr. Carole Henry at ckhenry@uga.edu. Thank you for your consideration to participate in this research study.

Sincerely,

Pamela Kelsey

Co-Principal Investigator (Co-PI)

Lamar Dodd School of Art, University of Georgia

APPENDIX F

DOCENT INFORMED CONSENT FORM FOR PARTICIPATION IN RESEARCH

UNIVERSITY OF GEORGIA
DOCENT INFORMED CONSENT FORM

An Exploration of the Lived Experiences of Children with Visual Impairments Visiting an Art Museum

Researcher's Statement

We are asking you to take part in a research study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. This form is designed to give you the information about the study so you can decide whether to be in the study or not. Please take the time to read the following information carefully. Please ask the researcher if there is anything that is not clear or if you need more information. When all your questions have been answered, you can decide if you want to be in the study or not. This process is called "informed consent." A copy of this form will be given to you.

Co-Principal Investigator (Co-PI):

Pamela B. Kelsey
Lamar Dodd School of Art
University of Georgia
bonnabel@uga.edu

Purpose of the Study:

You are invited to participate in a research study titled, ***An Exploration of the Lived Experiences of Children with Visual Impairments Visiting an Art Museum.*** The purpose of the study is to examine what it is like for children with visual impairments to experience an art museum setting involving multisensory tools.

Research Study Procedures: Docent Consent Form:

- In a museum setting you will be asked to interact with children as they investigate an artist's work, discuss the artwork using Visual Thinking Skills Strategies/Routines, and engage with a specially designed tactile interpretive replica, which resembles the artist's work. These have been created by the Co-PI.
- Your time commitment for the interaction with a child in the museum setting will be one time for the duration of 45 minutes. You will be asked to conduct a guided discussion with a child using the Visual Thinking Skills Strategies/Routines (Housen & Yenawine, 2000). You will be asked to participate in a 10-min interview with the co-principal researcher (Co-PI) after the guided tour you conduct.

- Informed consent forms will be gathered from the child and child's parent and written permission from the Museum Educator at the High Museum of Art, Atlanta Georgia. Through email, museum participants, as well as the children and their parents will receive further explanation of how and where the observations and interviews will be conducted.
- An example of an interview question is: Does the providing of the tactile replicas, verbal descriptions, and touchable tactile graphics facilitate the participant's meaning- making experience?
- Data will be collected and/or generated through participant observations of the children discussing the artist's work and interacting with the tactile interpretive tools. These procedures are considered regular educational practice/intervention.
- There will be photographs, audio and video recordings taken of you and the child during the guided discussion of the artwork and while the child is interacting with the replicas of the artwork and tactile graphic pieces.

Risks and discomforts

We do not anticipate any risks from participating in this research study.

Benefits

The research information will benefit art educators and museum educators as they develop guides for children with visual impairments, which consist of tactile interpretive replicas in order to develop aesthetic knowledge and meaning making. The expected benefits to humankind of this study are to find new teaching methods to.

Incentives for participation

None

Audio/Video Recording

The researcher will video tape and take field notes of children in the museum setting viewing the artworks and using Visual Thinking Skills Strategies/Routines under the guidance of the museum docent. Video and audiotapes including the interviews will be transcribed and analyzed by the Co-PI.

Please provide initials below if you agree to have this interview (audio) recorded or not. You may still participate in this study even if you are not willing to have the interview recorded.

_____I am willing to have this interview recorded.
_____I do not want to have this interview recorded.

Please provide initials below if you agree to have your photograph, audio and video recordings used for activities beyond research analysis such as in publications or presentations. You may still participate in this study even if you are not willing to have your photograph, audio and video recorded for activities beyond research analysis.

_____I am willing to have my photograph, audio and video recorded.
_____I do not want to have my photograph, audio and video recorded.

Privacy/Confidentiality

All participant responses (interview recordings and transcripts) will be kept in and stored on secured servers and in locked file cabinets until the study's conclusion, when all individually identifiable participant responses will be deleted/destroyed. Only members of the research team will have access to this information. Individual participant responses and feedback may be made available to the participant.

Taking part is voluntary

Your involvement in the research study is voluntary, and you may choose not to participate or to stop at any time without penalty or loss of benefits to which you are otherwise entitled. If you decide to withdraw from the study, the information that can be identified as yours will be kept as part of the study and may continue to be analyzed, unless you make a written request to remove, return, or destroy the information.

If you have questions

The Co-Principal Investigator conducting this study is Pamela B. Kelsey, a graduate student at the University of Georgia. Please ask any questions you have now. If you have questions later, you may contact Pamela B. Kelsey at bonnabel@uga.edu. You may also contact the Professor supervising the research study (PI), Dr. Carole Henry at ckhenry@uga.edu. If you have any questions or concerns regarding your rights as a research participant in this study, you may contact the Institutional Review Board (IRB) Chairperson at 706.542.3199 or irb@uga.edu.

Research Subject's Consent to Participate in Research:

To voluntarily agree to take part in this study, you must sign on the line below. Your signature below indicates that you have read or had read to you this entire consent form, and have had all of your questions answered.

_____

_Name of Researcher Signature Date

_____

_Name of Participant Signature Date

APPENDIX G

MUSEUM EDUCATOR CONSENT FORM

UNIVERSITY OF GEORGIA MUSEUM EDUCATORS CONSENT FORM

An Exploration of the Lived Experiences of Children with Visual Impairments Visiting an Art Museum

Researcher's Statement

We are asking you to take part in a research study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. This form is designed to give you the information about the study so you can decide whether to be in the study or not. Please read the following information carefully and contact me if there is anything that is not clear or if you need more information. When all your questions have been answered, you can decide if you want to be in the study or not. This process is called "informed consent." A copy of this form will be given to you.

Co-Principal Investigator (Co-PI):

Pamela B. Kelsey
Lamar Dodd School of Art
University of Georgia
bonnabel@uga.edu

Purpose of the Study:

You are invited to participate in a research study titled, ***An Exploration of the Lived Experiences of Children with Visual Impairments Visiting an Art Museum***. The purpose of the study is to examine what it is like for children with visual impairments to experience an art museum setting involving multisensory tools.

Study Procedures:

If you agree to participate,

- **School Personnel-** As part of the research study, you will be asked to take part in one, 30-minute interview conducted by the researcher about how children with visual impairments experience artwork in museums. The elementary school principal and county administrators will receive a copy of all completed research findings in summary form.
- **Museum Educators**- As part of this research study, you will be asked to take part in one, 30-minute interview conducted by the researcher to discuss the

affordances and constraints for museums to create environments and installations for children with visual impairments.

Risks and discomforts

We do not anticipate any risks or discomforts from participating in this research study.

Benefits:

The research information gathered by your participation will benefit art educators and museum docents as they develop guides for children with visually impairments that consist of tactile interpretive models in order to develop aesthetic knowledge and meaning making. The expected benefits to humankind of this study are to find new ways to make art museum tours accessible for all children as well as persons with low vision.

Audio Recording

Audiotapes including the interviews will be transcribed and analyzed by the Co-PI.

Please provide initials below if you agree to have your interview (audio) recorded or not. You may still participate in this study even if you are not willing to have the interview recorded for research analysis.

_____I am willing to have my interview recorded.

_____I do not want to have my interview recorded.

Privacy/Confidentiality

Researchers will not release identifiable results of the study to anyone other than individuals working on the project without your written permission unless required by law. All information that can be used to identify participants will be kept in and stored on secured servers and in locked file cabinets until the study's conclusion. After all data collection, all individually identifiable participant responses will be deleted/destroyed. Only members of the research team will have access to this information. Individual participant responses and feedback may be made available to the participant. The results of the research study will be shared with the external sites, but your name or any identifying information will not be used. In fact, the published results will be presented in summary form only. At the end of the research study, you may have a copy of the study's summary and your interviews.

Taking part is voluntary

Your involvement in the research study is voluntary, and you may choose not to participate or to stop at any time without penalty or loss of benefits to which you are otherwise entitled. If you decide to withdraw from the study, the information that can be identified as yours will be kept as part of the study and may continue to be analyzed, unless you make a written request to remove, return, or destroy the information. Your

decision whether or not to participate will not influence your employment or relationship with the researchers.

If you have questions

The Co-Principal Investigator conducting this study is Pamela B. Kelsey, a graduate student at the University of Georgia. Please ask any questions you have now. If you have questions later, you may contact Pamela B. Kelsey at bonnabel@uga.edu. You may also contact the Principal Investigator supervising the research study (PI), Dr. Carole Henry at ckhenry@uga.edu. If you have any questions or concerns regarding your rights as a research participant in this study, you may contact the Institutional Review Board (IRB) Chairperson at 706.542.3199 or irb@uga.edu.

Research Subject's Consent to Participate in Research:

To voluntarily agree to take part in this study, you must sign on the line below. Your signature below indicates that you have read or had read to you this entire consent form, and have had all of your questions answered.

_____

Name of Researcher Signature Date

_____

Name of Participant Signature Date

Please sign both copies, keep one and return one to the researcher.

APPENDIX H

IRB APPROVAL OF PROTOCOL LETTER

Phone 706-542-3199

The University of Georgia

Office of the Vice President for Research
Institutional Review Board

APPROVAL OF PROTOCOL

August 9, 2016

Dear Carole Henry:

On 8/9/2016, the IRB reviewed the following submission:

Type of Review:	Continuing Review
Title of Study:	Meaning Making by Children with Visual Impairments Using Tactile Models in Art Museums
Investigator:	Carole Henry
IRB ID:	MOD00003219
Funding:	None
Grant ID:	None

The IRB approved the protocol from 9/5/2016to 9/4/2017 inclusive. Before 9/4/2017 or within 30 days of study closure, whichever is earlier, you are to submit a continuing review with required explanations. You can submit a continuing review by navigating to the active study and clicking Create Modification / CR.

If continuing review approval is not granted before the expiration date of 9/4/2017, approval of this study expires on that date.

To document consent, use the consent documents that were approved and stamped by the IRB. Go to the Documents tab to download them.

In conducting this study, you are required to follow the requirements listed in the Investigator Manual (HRP-103).

Sincerely,

Dr. Gerald E. Crites, MD, MEd
University of Georgia
Institutional Review Board Chairperson

310 East Campus Rd, Tucker Hall Room 212 • Athens, Georgia 30602
An Equal Opportunity/Affirmative Action Institution

APPENDIX I

TOUR FIELD NOTES FORM

Date/ Time	Original Artwork	Tactile Objects Used	Engagement/ Observations	Suggestions/Feedback

APPENDIX J

MUSIC SELECTIONS USED DURING THE GALLERY TOURS

Title of the CD: *Rhythmically Moving 3*

Music recorded by: Gemini: Sander & Laszlo Slomovits

Creative Director: Phyllis S. Weikart

Produced: The HighScope Research Foundation (1983), Yipsilanti, MI: HighScope Press

Selection #8 – *Little Shoemaker* (2:59) Published by Bourne Company

Used for the tour stop, Charles Warmack's (Mr. Imagination), *Horse.*

Selection #12- *Mexican Mixer* (2:04) Published by Mexican Folk Medley

Used for the tour stop, Howard Finster's, *Howard's Tools.*

HIGH MUSEUM OF ART AFRICAN COLLECTION-

In-house Video shown at the tour stop,

Yacoube, Bonde, Boni (Burkina Faso), Artist

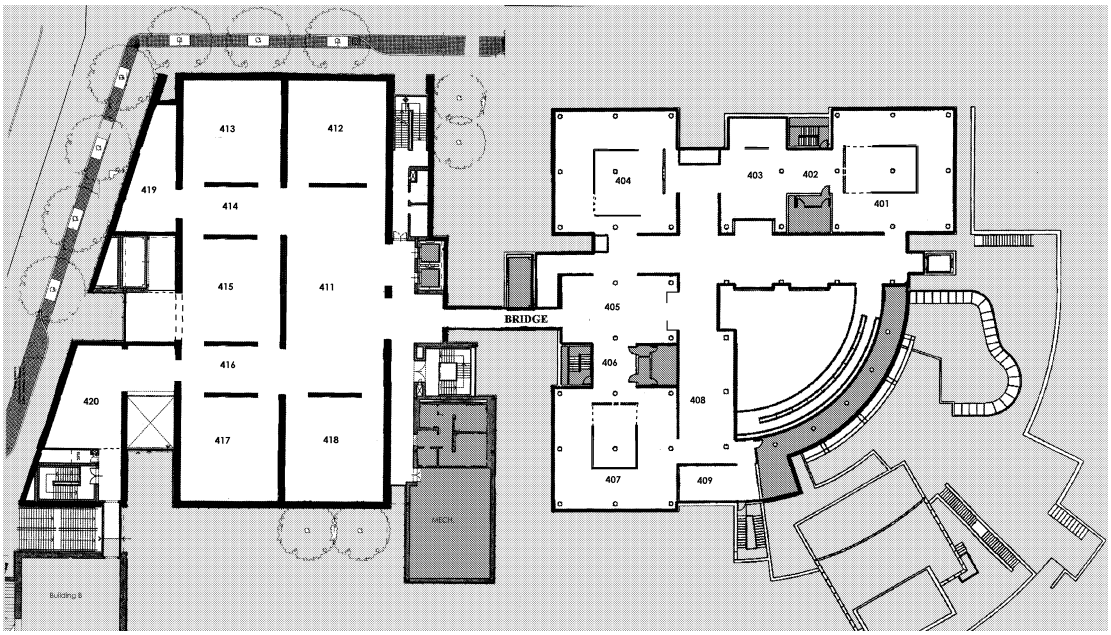
Three Nwantantay Masks, 1986-1976

High Museum of Art, A division of the Woodruff Center

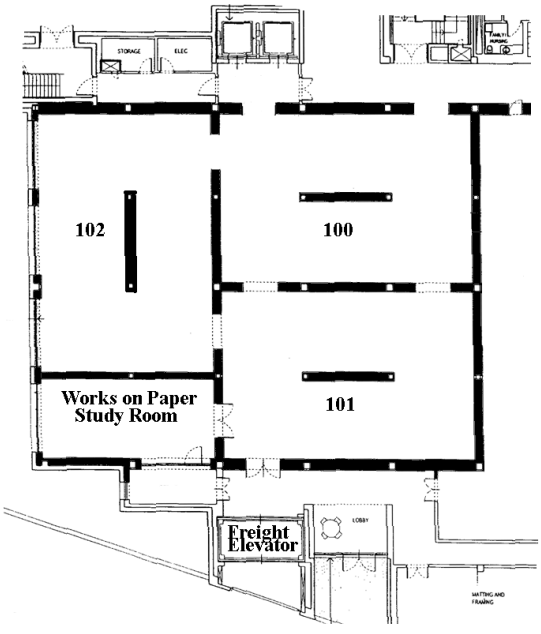
Music is played on a *BALAFON*, which is a wooden xylophone, similar to the marimba. The balafon is a sacred instrument played only by religious caste members and only at ritual events such as festivals. Performed by the Bwa people—an ethnic group indigenous to central Burkina Faso in West Africa.

APPENDIX K

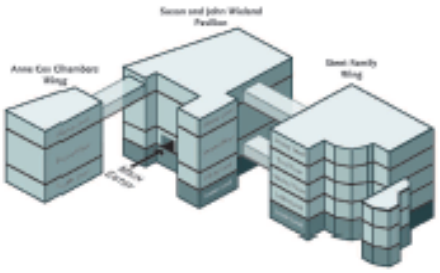
FLOOR MAPS OF THE HIGH MUSEUM OF ART IN ATLANTA, GEORGIA



STENT- WEILAND SKYWAY BUILDINGS- 4TH FLOOR FOLK ART GALLERIES



LOWER LEVERL OF THE WEILAND BUILDING- AFRICAN ART COLLECTION



Welcome!

The High consists of three buildings—the Stent Wing, the Wieland Pavilion, and the Anne Cox Chambers Wing. Glass bridges connect the wings so that you can easily move from building to building. The diagram illustrates where the bridges connect at each level. This guide will help you explore the Museum and make choices about which collections you want to see.

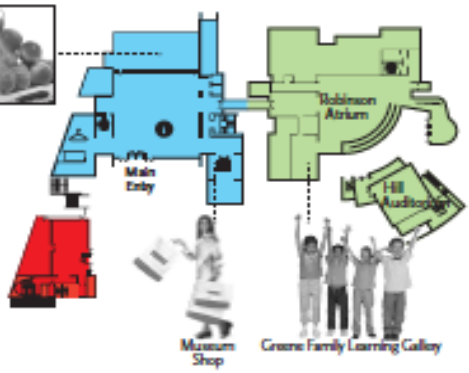
Lobby Level

Wieland Pavilion
Main Entry
Admission and Information
Coat Check
Membership
Museum Shop
Restrooms
Terrace
bridge to stent wing

Anne Cox Chambers Wing
The Sculpture of Grainger McKoy
Entry
Restrooms
Terrace

Stent Family Wing
Entry
Admission and Information
Greene Family Learning Gallery
Coat Check
Membership
Restrooms
Robinson Atrium
bridge to wieland pavilion

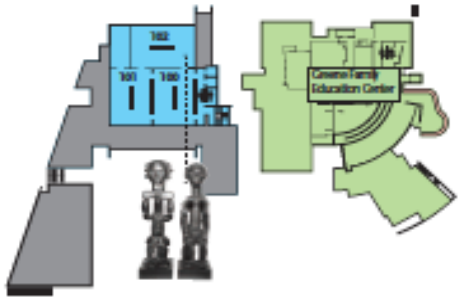




Lower Level

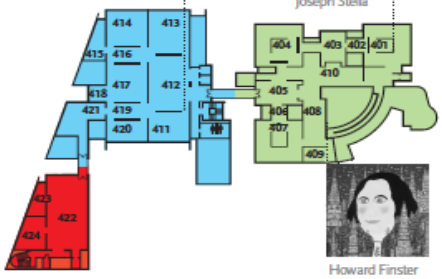
Wieland Pavilion
100 Kiki Smith: Rituals
101 Photographs by Chip Simons
102 African Collection
Restrooms

Stent Family Wing
Education Center
High Café
Restrooms




Tony Smith


Joseph Stella



Howard Finster

Skyway Level

Wieland Pavilion
411–420 Contemporary Art
415 MOCA GA
421 MOCA GA
Restrooms
Bridge to Stent Wing & Anne Cox Chambers Wing

Anne Cox Chambers Wing
422–424 The Sculpture of Grainger McKoy

Stent Family Wing
401–404 American and European Modern Art
406–409 Folk Art
410 Modern Art
Bridge to Wieland Pavilion

APPENDIX L

INTERVIEW QUESTIONS

Post-Tour Interview Questions for the Child with Visual Impairment

1. The first artwork that you visited was the large *Bwa mask* from Africa. Please tell me about that experience.

   Follow-up questions: You had the opportunity to listen to and read (braille) the verbal description of the mask, feel the tactile items on the board with the braille labels, touch the matt board replica of that mask, and hear the drums of the people celebrating with the men in raffia/grass outfits carrying the masks through the village. Which multisensory aid was the most helpful? Which multisensory aid was not necessary for you to understand the original artwork?

2. The second artwork that you visited was the sidewalk slab created by Reverend Howard Finster. Please tell me about that experience.

   Follow-up questions: You had the opportunity to listen to and read (braille) the verbal description of the sidewalk, feel the tactile items on the board with the braille labels, touch the cement replica of the sidewalk slab, and listen to the banjo music. Which multisensory aid was the most helpful? Which multisensory aid was not necessary for you to understand the original artwork?

3. The third artwork that you visited was the *Horse* created by Gregory Warmack, Mr. Imagination. Please tell me about that experience.

   Follow-up questions: You had the opportunity to listen to and read (braille) the verbal description of the horse, feel the tactile items on the board with

the braille labels, touch the replica of the horse. Which multisensory aid was the most helpful? Which multisensory aid was not necessary for you to understand the original artwork?

4. Describe what you think were the most positive things of the tour.

   Could you tell me more?

5. Share any aspects of the tour that need changes. Could you tell me more?

6. Can you share the ways the docent could have improved?

   Could you tell me more?

7. Can you share the ways in which the docent was most helpful during the tour?

   Could you tell me more?

Docent/Tour Guide Interview Questions- Post Tour

In an effort to explore how students engage in an art museum context, the following **interview questions** were explored:

1. Tell me in what ways did the child with visual impairment greet you at the beginning of the tour?

2. How did the child with visual impairment interact with you in a dialogue during the tour?

3. In what ways did the child with visual impairment interact with the interpretive replica during the tour you conducted?

4. Tell me about your experience of sharing the key/legend boards with the child with visual impairment. How did the child react?

The interview questions are designed to generate data, which best responds to the research purpose and questions. The research information will benefit art educators and museum docents as they develop formal tour activities using tactile experiences to develop knowledge and meaning making, which occurs through the child's sensory perception.

Parent/Guardian Post-Tour Interview

Parent/Guardian questions for the open-ended interview after they toured the art museum with their child with visual impairment:

1. In what ways did your child interact with the interpretive tactile model during the gallery tour you went on in the museum? Can you tell me about that?

2. Can you tell me about any experiences of working with your child in art projects? How did your child react?

3. In what way did your child show that the tour experience meant something? Can you tell me more?

4. In what ways could the tour guide improve the tour? Can you share your ideas?

Museum Educator Feedback Form

1. What were your experiences during one of the multisensory docent-led tours with a child with low vision? Discuss each aspect of the tour you observed or participated in, such as: meeting the child and his mother (guide), introducing yourself, using the verbal description (large print and braille) of the original work of art, interacting with the child during his engagement with the replica of the original work, the dialogue (modified Visual Thinking Strategies—VTS) with the child about his reaction to the artwork, the use of a key/legend board of items used to create the replica, or the conclusion of the tour.
2. Describe what you think were the most positive aspects of the tour as the child with low vision interacted with the artwork replicas and multisensory tools.
3. Which aspects of the tour that you observed need modifications?
4. What would you like to include on a docent-led tour that would enhance the museum experience for children with visual impairments?
5. In what ways is this tour similar or different from the tours you have led or observed with sighted children?
6. Describe the most helpful aspects of the docent training session? In what ways could the training session have been more helpful before conducting an actual tour? What additional information would have been important to experience at the training session?

Docent-Led Tour Suggestions for Dialogue

As the child interacts with the tactile replica of the original artwork and key/ legend board items, the docent will use a modified version of a routine from *Visual Thinking Strategies* (VTS) (Yenawine & Housen, 1999). Some useful questions to guide the dialogue are as follows:

- What are you feeling with your hands?
- Have you ever felt something like that?
- What do you think about what you felt?
- What more can you tell about the object?
- What do you wonder about?
- Is there anything more you want to say?

APPENDIX M

THREE ITERATION LEVELS OF DATA ANALYSIS

1st Iteration/ Initial Codes-Content Analysis	2nd Iteration/ Pattern Variables	3rd Iteration/ Application to Data Set
RQ #1	***RQ #1***	***RQ #1***
1A-Media/Child with VI needs choice of method to receive verbal description—by braille, large print or orally 1A- Media/Verbal description necessary for concept, place, context development	A- Preferred medium mode is essential for understanding of content, place, and context	Preferred mode of obtaining information: braille, verbal description, or orally
1B- Legend Board/ Having item and content available helps meaning making 1B- Legend Board/ Components together, in order, and authentic develop image in mind of child with VI	B- Tactile connections: Interactive activity inspires images in the mind	Touchable items create meaningful connections
1C- Replica/ needs to look like the original for child with total blindness 1C- Replica/ helpful to learn what materials artists used to create their artwork	C- Create replicas that are touchable and shows artist's materials	Replicas need authenticity for knowledge acquisition
1D- Environment/ children with VI) need more time to process concepts presented 1D- Environment/ UD, welcoming, willingness on docent's part to guide child with VI toward understanding	D- Safe setting, welcoming attitude of staff, and time needed to interpret the artwork	Processing factors: sufficient hands-on session, dialogue with docent

Table 3**. RQ #1** What are the lived experiences of children with visual impairments as they engage with tactile interpretive replica, tactile aids, music, verbal descriptions, and braille resources in an art museum setting?

The left column displays the results of the meaning and insights of the **children** in these areas: Preferred Media Mode, Key/Legend Boards, Replica, and Environment. The middle column is the description of four major themes that developed from the first iteration. The right column combines the first two iterations and brings the analysis to a theory of what the lived experiences were like for the child with visual impairment as he engaged with the tactile aids.

Overarching Theme: Finding responsive connections between the docents and children with visual impairments in an art museum setting.

1st Iteration/ Initial Codes- Content Analysis	2nd Iteration/ Pattern Variables	3rd Iteration/ Application to Data Set
RQ #2	***RQ #2***	***RQ #2***
2A-Modes/ Variety of modes used, depending on vision acuity 2A-Modes/ Verbal description important to transfer historical knowledge or artist and artwork and content	A- Vision acuity determines the way/mode child receives information	Variety of modes provide entry points for knowledge of artwork
2B-Tactile Aids/ Touchable-authentic components were essential for meaning 2B-Tactile Aids/ Replicas and music together bring context to work of art	B- Tactile Aids-replicas, music, verbal descriptions, key-legend boards facilitate meaning of artwork	Historical knowledge is transferred through use of tactile aids presented with intention
2C- Replica/ needs to look like the original for child with total blindness 2C- Replica/ helpful to learn what materials artists used to create their artwork	C- Create replicas that are touchable and shows artist's materials	Replicas need authenticity for knowledge acquisition
2D- Tour Structure/ Different from regular tour, fewer objects and fewer children in group tour 2D- Tour Structure/ Variety in time with each object, need for flexibility and patience for child with VI	D- Diversity of child (VI) requires flexibility and patience from the docent on the tour	Tour structure is centered on child with VI based on his vision acuity and cognitive abilities

Table 3. **RQ # 2** What are the docent's experiences facilitating a tour for children with visual impairments using tactile interpretive replicas, tactile aids, music, verbal descriptions, and braille resources?

The left column displays the results of the meaning and insights of the **docents** in these areas: Preferred Media Mode of the Children, Tactile Aids Used, Replica, and Tour Structure. The middle column is the description of four major themes that developed from the first iteration. The right column combines the first two iterations and brings the analysis to a theory of what the docent's experiences were like facilitating a tour for the child with visual impairment as he engaged with the tactile aids.

Overarching theme: Finding individualized tactile procedures for children with visual impairments

1st Iteration/ Initial Codes- Content Analysis	2nd Iteration/ Pattern Variables	3rd Iteration/ Application to Data Set
RQ #3	***RQ #3***	***RQ #3***
3A-Child's Needs/ Authentic experience builds confidence 3A-Child's Needs/ Share interpretation with docent dialogue	A- Social real-world activity in galleries and with docent empowers child with VI	Student driven experience including scaffolding by docent provides for enduring museum visits
3B-Tactile Needs/ Touchable-authentic components helps concept development 2B-Tactile Needs/ Provide all tactile aids on tours for diverse needs of children with VI	B- Tactile Aids-consider large print, color contrast on legend boards, provide gloves to touch real artwork, provide technology for access	Provide a variety of authentic materials for children with VI to use on tour even though functional needs vary
3C- Consider/ Organization of learning space, use of tactile maps, group size based on age and vision acuity 3C- Consider/ Audio recording of artwork, art lab activity	C- Consider/ Provide: post-tour art lab activity, 3D maps of the walking path directions, good lighting (is critical), audio recording and other means of getting information	Tactile exploration, aided by the other senses, takes time, available in segments that have been organized, and imagined as whole
3D- Docent Training Prep/ Additional docent training is required for best practice; shadow others on tours for children with VI 3D- Docent Training Prep/ Practice writing appropriate verbal descriptions of artwork. Create more artwork replicas and tactile books.	D- Additional training for teaching techniques of children with VI from Center for VI in GA. Write and practice verbal descriptions using terms appropriate for visitors with VI. Work together to produce more replicas and tactile books for children.	Docent and museum educator training, in collaboration with the Center for VI in Georgia, will make both the space and interaction by children with VI more effective.

Table 3. **RQ #3** How might an understanding of these experiences contribute to the creation of museum models that facilitate meaningful experiences for children with visual impairments?

The left column displays the results of the meaning and insights of the **Museum's Needs** in these areas: Child's Needs, Tactile Needs, Considerations of Space, Technology, Art Lab Activity and Docent Training Prep. The middle column is the description of four major themes that developed from the first iteration. The right column combines the first two iterations and brings the analysis to a theory of what the experiences were like facilitating a tour for the child with visual impairment as he engaged with the tactile aids.

Overarching theme: Collaboration of the child's/docent's experiences to formulate a model program for other children with visual impairments.