THE CENTRAL GALLERY: VISITOR ORIENTATION AT
THE FLORIDA MUSEUM OF NATURAL HISTORY

By

PROVIDENCE LEGRAND

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by

Providence LeGrand
An enormous amount of gratitude is bestowed upon my parents, who have always wanted me to have more in this life than they had.

My husband deserves my undying appreciation. Even before he was my husband, he assisted me financially and provided emotional support during the long nights and the stressful times. Greg always believed in me, even when I didn’t believe in myself.

I dedicate this work to all of you, with much love!
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Abstract of Thesis Presented to the Graduate School of the University of Florida in Partial Fulfillment of the Requirements for the Degree of Master of Interior Design

THE CENTRAL GALLERY: VISITOR ORIENTATION AT THE FLORIDA MUSEUM OF NATURAL HISTORY.

By

Providence LeGrand

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Chair: Debra Harris
Major Department: Interior Design

The purpose of this study was to provide baseline data for a National Science Foundation Grant. The grant is needed to fund renovations to the Florida Museum of Natural History entrance gallery, also called the Central Gallery. The Central Gallery acts as a lobby area where visitors gather and orient themselves to the museum. Both physical and conceptual orientation takes place there. Therefore this study addressed issues central to both forms of orientation. The study focused on physical orientation devices in the Central Gallery such as the handout map and information desk, and visitor perceptions about the museum and the current entrance icon in the Central Gallery.

Using a multi-method research design, data was collected during a six week period and in three phases. These phases were: 1) a physical assessment of the space, 2) visitor observations, and 3) visitor interviews. The data was primarily analyzed using a statistical program called SPSS. SPSS allowed the principal investigator to compile frequencies, cross-tabulations, and line graphs for the data variables.
The data revealed that *entrance icons* have the potential to communicate content, or in this case the museum’s educational message, visually and at-a-glance. It was also demonstrated that different icon designs can communicate different messages. The study also showed that many of the devices that exist to help visitors physically orient themselves to the space are under-utilized. Consequently, the study generated several design recommendations that may alleviate this problem. This study and its recommendations will help the FLMNH make good, evidence-based decisions about the Central Gallery renovation.
CHAPTER 1
INTRODUCTION

Introduction

What is a museum? Perhaps it is a place where people can entertain themselves through novel displays, a place of reverential experience, or a place where people make meaning of, or connect themselves, to the world (Falk and Dierking, 2000). Regardless of which definition is correct, we know learning takes place there, either consciously or subconsciously (ibid.). Museums are often called informal learning places. Unlike a traditional school setting, learners (the visitors) are free to choose what and how they will learn (ibid.).

While the visiting public is free to choose what they will learn, the Florida Museum of Natural History (FLMNH) has an infinitely larger choice as to what it will teach. Entrenched in the research community of the University of Florida, the FLMNH seeks to educate the public about complex science concepts using their abundant collection of artifacts and their arsenal of written research. One could say that the principle goal of the FLMNH is to teach. However, a museum’s basic “message” could be just as complex as museum theory that surrounds it. Fortunately FLMNH scientists and educators have generated a concrete “message” that introduces visitors to the museum experience. The museum wants to convey the importance of three science concepts. They are: 1) biodiversity (life is diverse); 2) ecology (life is connected); and 3) evolution (life is related) (MacMahon, 2005). The FLMNH hopes to visually incorporate this “message” of diversity, connectedness and relationship in a new exhibit inside the museum’s Central
Gallery. The objective is for the new exhibit to become an *entrance icon*. An entrance icon is defined by MacMahon (2005) as specimens or sculptures that serve as focal points inside the entrance galleries of museums. The *entrance icon* should convey information visually and at-a-glance to visitors about the nature of the museum and the repeated themes inside the permanent exhibit halls (MacMahon, 2005). Simply, the *entrance icon* will serve to orient visitors conceptually to the museum.

However all the emphasis cannot be placed on conceptual orientation; physical orientation is also of primary importance to a visitor’s experience and ultimate learning. In other words, the ability to make meaning of the physical context of the museum is inherent to learning (Falk & Dierking, 2000).

Acting as a front-end evaluation, this study asks FLMNH visitors questions about their physical orientation experience. It also explores the ideas and feelings expressed by visitors when they look at the current *entrance icon* (Mammoth and Mastodon) in the Central Gallery, and then, a conceptual rendering of a proposed new *entrance icon*.

**Purpose**

The purpose of this study is to provide baseline data for the Florida Museum of Natural History (FLMNH) as they plan renovations to the Central Gallery (entrance gallery). Additional studies will build on this work and will be proposed to the National Science Foundation for funding. If awarded, the grant will provide funds needed to enhance the Central Gallery. The enhancement seeks to improve and more closely integrate the inherent dual function of the Central Gallery space: as a lobby space orienting visitors physically to the building, and conceptually to the museum’s educational message.
According to Falk and Dierking (2000), “ Appropriately designed exhibitions are compelling learning tools, arguably one of the best educational mediums ever devised for facilitating concrete understanding of the world.” Consequently it is logical that “appropriately designed” exhibits should include the integration of good physical and conceptual tools for visitor orientation. Therefore, the goal of this study is to explore and identify issues that are impacting the physical and conceptual orientation of visitors to FLMNH. Once we understand the positive and negative impacts of these issues, appropriate design guidelines can be developed for the Central Gallery renovation.
CHAPTER 2
REVIEW OF LITERATURE

Visitor Studies

The visitor study is a relatively new genre within environmental behavior studies. Such studies often encompass research that documents the behavior of people visiting museums, zoos, aquariums or other exhibition places. Visitor studies are important because they help museum professionals get to know and understand their visitors. Specifically, visitor studies help gain insight into the attitudes, knowledge and misconceptions of the target audience (Bitgood and Loomis, 1993). The studies are also very helpful in assessing whether exhibits are communicating the desired message within an exhibit (Bitgood and Loomis, 1993). Furthermore, when exhibit components fail to communicate the appropriate message, visitor studies can tell us why they are failing and suggest possible remedies to the problem(s).

Very few of these studies were conducted prior to the 1960’s. Edward Robinson and Arthur Melton conducted the better known and scarce studies before 1960. However, they were mostly concerned with the physical environment of the museum and how that affected visitor behavior (Bitgood, 1989). Then in the 1960’s and early 1970’s researchers began applying behavioral learning approaches to their research (Bitgood and Loomis, 1993). According to Stephen Bitgood (1989), Chan Screven and Harris Shettel were among the most prominent figures of this period. A shift occurred in the mid-1970’s when museum personnel began to play a more integrated role in conducting visitor studies. Before this shift, all visitor studies had been conducted by researchers outside the
walls of the museum (Bitgood, 1989). This change to internal research continued into the 1980’s, the 1990’s and is still primarily the case today. Many examples of museums conducting their own visitor studies can be found in Bitgood and Loomis (1993) and other sources. The Florida Museum of Natural History utilizes internal visitor evaluation for many reasons. Darcie MacMahon, Assistant Director for Exhibits, believes in “. . . keeping the studies in-house due to our expertise in this area, our profound interest in study design and research results, the ease of initiating auxiliary studies to further explore questions, and timely turnaround of deliverables” (MacMahon, 2005). This perception has led to the unification of the museum’s goals for internal evaluation and the completion of this Master’s thesis.

As more internal researchers and independents join the growing visitor studies revolution, many have brought with them varied methodological approaches. As outlined by Bitgood (2002) some examples include the “naturalistic evaluation” approach, the cognitive approach, the behavioral approach, the ethological approach, and the social design approach. The social design approach will be discussed more in depth in the Research Design Chapter. He contends “. . . (They) have all been integrated into the arsenal of visitor studies methodology” (Bitgood, 1989).

Many visitor studies focus either on exhibit development or exhibit evaluation. The studies are categorized into three types: front-end, formative, and summative evaluation. These categories correlate to the planning stage, the preparation stage and the post installation stage (Bitgood & Loomis, 1993). Visitor input is elicited during each stage. This study in particular is concerned with assessing the physical orientation of the visitor and informing the development of a new icon that will help visitors with their conceptual
orientation. Since visitor input is elicited during the planning stage, this study is considered a front-end evaluation.

As previously stated, visitor studies encompass research that examines the behavior of people visiting museums, zoos, aquariums or other places for entertainment or educational purposes. Extensive research has been conducted outside museums and some within with regards to how people interact with architecture and physically orient themselves. We already know that the way people move throughout the interior space of the museum and within each individual exhibit becomes crucial to the visitor’s experience (Melton, 1935). Unfortunately, much less information exists concerning the conceptual orientation of museum visitors. First outlined below are some of the key factors in physical wayfinding or physical orientation. Those factors most important to this study are signage, maps and Weisman’s four environmental cues (Weisman, 1981). Then some ideas are explored concerning conceptual orientation.

**Wayfinding**

A simplified definition of wayfinding is offered by Peponis, Zimring and Choi (1990). They propose that wayfinding is merely how well someone finds their destination without undue stress or anxiety. However Passini’s (1992) definition is more complex: there are three distinct abilities needed in order for someone to find their destination. These abilities are:

1. a cognitive mapping ability;
2. a decision making ability; and
3. an execution of the decision that results in a specific behavior.

Bitgood (1989) writes that, “. . . ‘wayfinding’ is the ability to navigate through the museum.”
In order to navigate in space it is assumed that people need information in order to make decisions within the built environment. Therefore Weisman’s four environmental cues become influential in affecting wayfinding. These cues are: 1) visual access to landmarks or familiar cues; 2) architectural distinctions between different parts of a building; 3) the use of signs; and 4) plan configuration (Weisman, 1981).

The first two cues concerning landmarks and architectural distinctions are reminiscent of Kevin Lynch’s (1960) five established environmental elements. These elements are: 1) landmarks (which Weisman specifically references); 2) paths; 3) nodes; 4) edges; and 5) districts. Although these environmental elements were first applied by Lynch to large urban settings, a landmark could be used inside the built environment, translating into a large architectural feature or an ornate piece of art work that is centrally located. Thereby, a landmark in the built environment serves as “a type of point-reference . . .” the same as it would in a city (Passini, 1992). Paths, nodes, edges and districts can be architectural distinctions between parts of a building. In fact Passini translated these elements from the large urban setting of a city to the interior built environment. His study in 1978 asked participants to build a scale model of a particular building they had visited. Then, they were asked to describe in detail as much as they could remember about the building. Passini found that most participant comments centered on the five basic elements coined by Lynch. So how is this useful in designing or evaluating circulation within the built environment? It is the opinion of this researcher that people are not consciously aware of these five elements. However, people subconsciously differentiate between distinctions in the built environment and use their understanding of the differences to help them navigate and understand an interior space.
Weisman’s environmental cues continue with the use of signage. In simplest form, signs tell people where things are. According to Passini (1992) signs come in three forms: directional, identification, and reassurance. Directional signs show direction by using differing forms or types of arrows to point to where something is in a general direction. Identification signs identify a place in space. Usually these signs are located very near or at the entrance to a place. They use text and/or symbols, and perhaps recognizable logos. Reassurance signs are located between the desired destination and the initial directional sign. These signs reassure the user they are headed in the correct direction. Signs are important aids in wayfinding, but merely providing them without thinking about their legibility, where they are located, and how many are needed, could be a grave oversight. There have been several studies that are specific to the use of signage. Carpman, Grant and Simmons (1984) developed a study designed to test how long (distance) a person could go without a sign and still feel comfortable. They discovered that any distance over 50 feet (ft) without a sign was too long. At the 50ft mark people exhibited uncomfortable behavior and began to look for another sign. Best discovered that signs were most effective when placed near decision points (Best, 1970). When Best’s theory was applied by Corlett, Manenica and Bishop (1972) in a renovation study of a university building, their findings reinforced Best’s original research.

And while there are several studies that advance the use of signage as a way to enhance wayfinding performance, there are several others that show the opposite effects. Weisman studied signage in a nursing home environment. His findings showed that only 18% of residents used the signage to help them find their way (Weisman, 1987). The remaining 82% said that architectural cues were more helpful for orientation (Weisman,
This substantiates the importance of Weisman’s theory regarding architectural distinctions discussed earlier. In addition, Seidel’s (1983) large airport study showed that 30% of the participants said that there were too many signs. These adverse results show that all signs are not useful to all people. Different populations and building types require careful thought by a designer.

While Weisman does not specifically point out maps as an environmental cue, maps are usually considered support material to be used in conjunction with signage (Passini, 1992). They usually represent space two-dimensionally; they are generally mounted to a wall for display or are accessible to the user in printed pamphlet or handout form. Many problems occur with mounted maps. First, the user must find their position on the map. Next, the user must understand the orientation of the map. Many maps use cardinal north/south direction. This is easily understood by the viewer if the user is looking the way the map is oriented. However, if the user wants to “look” the other direction, he or she would need to mentally turn the map. Perhaps the most famous of all mounted maps is the “you-are-here” maps. Levine’s research focused on this type of map. He determined that presenting the map rotated differently than the alignment of the building was worse than not providing a map at all (Levine, 1982). Levine’s research demonstrated that a misaligned map created significantly more mistakes in wayfinding (Levine, 1982). Passini (1992) recommends incorporating some or all of the five elements described by Lynch into a map’s design to prevent disorientation.

**Conceptual Orientation**

Conceptual orientation is described as the knowledge of what is offered at the museum thematically, how long it may take to view, and the information needed to plan the overall visit (Bitgood & Cota, 1995; Bitgood & Lankford, 1995). According to Wolf
conceptual orientation is important because, “people can only reap the full educational or esthetic benefit of a museum experience when the conceptual demands of that experience are made manifest.” Wolfe contends that if a museum’s orientation efforts are “done well,” “. . . a pleasurable and valuable learning experience will ultimately transpire” (1992). Bitgood and Cota (1995) reiterate this theory by stating “visitors learn more and are more satisfied when they are properly oriented.”

Conceptual orientation actually begins when a visitor encounters any information about the museum. It could be information from a billboard, website or newspaper article. However, most critical to this study is the conceptual orientation that takes place inside the entrance gallery space. Visitors are often disorientated when they are unable to comprehend what the museum is about or the ideas the museum is trying to convey (Wolf, 1992). Wolf explains that “. . . visitors are often more frustrated with the latter kind of disorientation than they are about not finding their way around the space” (Wolf, 1992). Bitgood and Lankford (1995) have established a checklist for conceptual orientation within lobby spaces. They are:

- Provide information about what there is to see and do at the museum;
- Provide clear directions to guest amenities such as restrooms;
- Provide information that would allow for time management; and
- Provide ways to demonstrate exhibit themes without having to enter exhibit areas.

A good strategy for conceptual orientation should be paired with an equally good strategy for physical orientation. We know that “disorientation can occur in the absence of effective orientation aids” (Cohen, Wikel, Olsen & Wheeler, 1977).

The checklist that Bitgood and Lankford (1995) have outlined for physical orientation in museums is reminiscent of the wayfinding tactics explored earlier. These recommendations are:
• Ensure the ticket booth/information desk is identifiable;
• Visitor guides should have readable maps;
• Handheld maps should be simplistic and only identify essential information;
• Mounted maps should adhere to the main principles of providing a landmark, you-are-here symbol and forward equivalence (Up on the map should represent forward space in the setting);
• Directional signs should be placed were they will be most easily noticed. They should be consistent with other wayfinding devices;
• Place information at choice points; and
• Security guards should be trained to answer orientation questions and give directions.

So beyond helping the visitor move within and understand the intent of the museum, why is physical and conceptual orientation important? Could they affect overall visitor satisfaction?

According to a study conducted at the St. Louis Science Center in 1996, both types of orientation affect the overall satisfaction of its visitors (Bitgood & Tisdale, 1996). This has widespread implications for all museums. Physically, the Center has two lobby spaces: the Oakland Avenue lobby and Forest Park lobby. More visitors reported a problem with wayfinding in the Forest Park lobby probably because of the complex building configuration, lack of directional signage, and the absence of receiving a visitor guide (Bitgood & Tisdale 1996). Most of the positive results surround the use of the visitor guide. Those who received a visitor guide in either lobby reported a better overall satisfaction rating than those who did not (Bitgood & Tisdale 1996). This study illustrates that both types of orientation are essential to a good visit and that physical and conceptual orientation are interconnected. A good strategy in one area can not overcome a poor
strategy in the other. Therefore it is logical that the study at the Florida Museum of
Natural History would need to focus on both orientation types.

**Data Collection Strategies**

Widely used in many other areas of research, observation and interview/survey
techniques are also widely used in museum visitor studies. They are relatively
inexpensive methods to use depending on how they are implemented. However, they can
be time-consuming for the researcher (Nielson, 1946). Observation in general allows the
researcher to collect data within a specific setting. It allows the researcher to relate the
setting to the particular behavior presented by the setting users (Sommers & Sommers,
1997). The physical means of collecting data when using observational methods can vary.
High-tech solutions are infrequent; but behavioral “mapping” and visitor tracking are a
few that are used often. Several visitor studies employing these methods will be discussed
in this section.

Several high-tech ways of physically collecting the data have been developed to
overcome the exhaustive nature of collecting observational data. One such method is
using multiple camera shots. A mounted ceiling camera takes a series of photos within
the area of interest. According to Nielsen (1946) it is a “slow-motion” record of the
behavior and movement within the area where the camera is mounted. Nielsen reports
much success with this technique at The Museum of Science and Technology in Chicago.
However, only one other reference to a similar photographic technique (Taylor, 1963)
was found in other research related to observational methods. Another technological
solution was developed by Bechtel in 1967. Called the Hodometer method, it entailed
installing a flooring system that would trigger an electric impulse to a computer when a
visitor walked on certain points. While this was helpful in determining frequency of use
of certain key points in the exhibit; it was not helpful in understanding the “big picture.”

Certain behaviors exhibited by visitors could not be recorded with this method alone.

Due to high cost and the inherent limitations of these high-tech solutions, these were not good candidates for this study. Instead a mixture of both behavioral mapping and tracking techniques were used. More specific explanation on how these techniques were implemented can be found in Chapter 3: Data Collection. Behavioral mapping is often used to record and determine behavioral activities of people and how they use a specific space (Bechtel and Ziesel, 1987). A “tracking” technique usually determines visitor use of pre-determined points of interest and documents frequency or total time of use within an exhibit (Bitgood, 2002). In most tracking studies, visitors are usually followed during their visit and records are made of their behaviors. This technique was used in a previous summative evaluation in 2004 by this researcher. However, it was not necessary to follow participants in the current study because the area of study was small; the participants could be easily observed anywhere in the Central Gallery from several vantage points. As noted by Groat and Wang (2002), the most important detail when using observational methods is to understand what to look for. The researchers of a study conducted at the Boston Museum of Science established 39 different points of interest and also collected time data from these areas (Bailey, Bronnenkant, Kelley, & Hein, 1998). Klein (1993) also developed points of interest in his study at a London automobile museum. He presented his finding by using diagrams of circulation routes. The use of diagrams was not used by this researcher because the Central Gallery space is not a complex exhibit hall. It was understood from anecdotal evidence that participants
were exhibiting routes or walking paths that could be easily explained by denoting the use or non-use of key points of interest only. Therefore, diagrams were not necessary.

Observational data can help a researcher identify certain behavior patterns, but it cannot tell a researcher why a visitor chooses to behave a certain way. It cannot explain what thoughts or feelings might have led to the behaviors observed (Bitgood, 2002). Therefore another method must be used to obtain this type of data. An interview or survey is most valuable for collecting complex information or ideas (Sommer & Sommer, 1997) Surveys tend to be self-administering, where participants respond to the prescribed questionnaire in a written format. Interviews also use prescribed questions but there is an interaction between the researcher and the participant. Surveys and interviews also ask for similar types of information, but interviews have an advantage because they allow the interviewer/researcher to ask follow-up or more probing questions of the visitor. Interviewing can also be advantageous because a museum visitor may be unwilling to write a lengthy answer to a survey question, but finds verbally telling his/her answer more acceptable. Note that this study is only concerned with the manifest content. Manifest content is the information which is verbally conveyed in the answer. This study does not analyze or describe information that is inherent is a participant’s body language, facial expression or emotional state, also called latent content (Sommer & Sommer, 1997).

Asking open ended interview questions requires careful analysis using a “coding” system. A “coding” system allows open ended responses to be numerically tabulated by frequency of response content (Sommer & Sommer, 1997). One such example is explained in a study conducted about nurses and pediatric patients. The conversations
between nurse, parent and child patient were audio-recorded. Then the researcher transcribed the recordings verbatim. The transcripts were analyzed line-by-line and coded for frequency of themes. These themes were then grouped into categories (Baggens, 2001). A similar technique is used for this study, except the FLMNH staff and this researcher predetermined the categories before reviewing the interview data.

Using a mixture of observational and interview methods can obtain information where one method alone would not be successful. Stephen Bitgood realized this dynamic when assessing a visitor study at the St. Louis Science Center. He comments, “no single method would have provided a clear picture of the overall problems” (Bitgood & Tisdale, 1996).
CHAPTER 3
METHODOLOGY AND ANALYSIS

Research Design

This study was designed to use a mixed methodology strategy because of the need to focus on both physical and conceptual orientation. The tools employed for data collection were: physical setting assessment, structured interviews and observations. By using a combination of these methods it was possible to illicit information that could not have been obtained by using only one tool.

According to Groat and Wang (2002), a mixed methodology research design has the potential to maximize the strengths and minimize the weaknesses of each design. In this study the use of qualitative and quantitative tactics are well grounded in Social Design evaluation. Social Design evaluation has five basic assumptions:

1. User-oriented: visitors and staff
2. Multi-disciplined
3. Theoretically eclectic
4. Methodologically scientific
5. Politically democratic

These five assumptions were outlined in 1989 by Bitgood in an attempt to define Social Design and how it fits within the context of museum evaluation studies. This study follows these guidelines fairly closely, with the exception of eliciting information from staff. Other committee meetings and seminars not associated with this study are assisting in that effort. The Social Design approach has several benefits. First it favors participation from the community, which helps gain support for the museum at the “grass
roots level” (Bitgood, 1989). By being theoretically eclectic and methodologically scientific, data from Social Design evaluation is inevitably gathered in a more reliable and valid fashion.

Setting

This research is only being conducted at the Florida Museum of Natural History at the University of Florida in Gainesville, Florida. The Florida Museum of Natural History is recognized as the official natural history museum of the State of Florida. It houses four permanent exhibit halls, two rotating or flexible exhibit halls, several teaching classrooms, the McGuire Center for Lepidoptera Research and the Central Gallery. However the Central Gallery is the main focus of this study.

Ethics and Human Subjects

There are several “codes” of conduct governing ethical principles in research. The British Psychological Society (2000-2004) and the Belmont Report of 1979 (updated 1998) both discuss the ethical treatment of human subjects in research. Both advocate that subjects be given all the necessary information in order to make a self determined judgment about whether they should participate in the research. This is usually referred to as informed consent (USFDA, 1998). Participation in the research should be completely voluntary and not coerced by the researcher. Both “codes” suggest that the nature or scope of the research should be fully divulged to the participant. The participant should also be informed of the risks associated with participating. The Institutional Review Board (IRB) of the University of Florida governs all research conducted by faculty, staff or students. The IRB closely follows the principles outlined above and its primary function is to provide for the health, safety and welfare of all human subjects participating in research at the University of Florida. This study was presented and
reviewed by the IRB. Approval was granted by the IRB on February 8\textsuperscript{th}, 2004, prior to data collection (Appendix H).

**Data Collection**

To collect reliable and valid data, the researcher must select appropriate data collection methods. A physical setting assessment, observation and structured interviews were employed for this study partly because of their widespread usage and acceptance among the research community across disciplines and in other visitor studies. Therefore the data was collected in three phases. A physical setting assessment entails collecting information like floor plans, pictures or other documents that depict the physical environment being studied. Structured interviews have a set number of questions and the questions are preconceived. When asked in the same order and manner the structured interview is a highly valid way of understanding what visitors think about complex topics (Sommer & Sommer, 1997). The use of observation is important because it shows specific visitor behavior. At times these behaviors might be in opposition to what visitors tell researchers they are thinking about. There are several methods for observing visitors. Here focused observation was used. Focused observation is used when problems or specific items to be observed have already been identified (Bitgood, 2002).

**Research Assistants**

A research assistant (RA) helped collect data during the period of March 11, 2005 to April 17, 2005. The assistant practiced the procedures using a pilot study during the weeks prior to March 11, 2005. Her technique and performance was assessed by the principle investigator (PI). Incorrect procedures or mistakes were identified and corrected prior to beginning the official data collection on March 11, 2005.
Pilot Study

A pilot study was conducted on February 12th and 13th, and March 9th, 2005. Seven participants were observed and six participants were interviewed. The purpose of the pilot study was to test the comprehensibility of the interview questions by museum visitors and to determine the average amount of time needed to administer the interview questions. The pilot study also was important in determining whether the tracking sheet was complete and effective. It was useful when estimating how much data could be collected during the six week collection period. The data collection instruments were then tweaked using feedback gathered during the pilot study. Wording was modified within some of the interview questions and a choice point (see Chapter 4 for explanation) was added to the tracking sheet for the observation phase. The ultimate decision to audio-record the participant interview was made because of the difficulty in trying to hand-write responses during the pilot study. Thus the pilot study was a valuable segment of the overall data collection process.

Physical Setting Assessment Phase

The principle investigator (PI) made several site visits to the FLMNH prior to other phases of data collection. The PI anecdotally watched visitors and their behavior inside the Central Gallery. Notes were recorded in a notebook describing the characteristics of the physical space and general information about how the museum operates on a day-to-day basis. The PI also gathered documents which described the space visually, such as the floor plan and visitor map. Photographs of the entry sequence and the Central Gallery were also taken for later analysis and reference.
Observation Phase

For the observation phase of the study a systematic space sampling was used. Participants were selected as they entered through the main entrance of the museum; each third adult visitor was chosen as a participant during data collection periods. A general sign informed all visitors to the museum that a research study was being conducted. It explained that visitors may be observed while they are inside the FLMNH. It was important to remain as unobtrusive as possible while monitoring the movement and behavior of the participant. The PI or RA remained seated at designated benches within the Central Gallery, unless their view of the participant was obstructed. The chosen participant was not be approached by the PI or RA while he/she was inside the Central Gallery. While inside the boundaries of the Central Gallery, the PI or RA observed the participant’s actions, movements and behavior. The tracking sheet (Appendix A) lists the actions or behavior the PI or RA were specifically interested in documenting. However the PI or RA was not limited to this list. They were free to document any other behavior or action that may have been of interest even if it was not listed on the tracking sheet.

The PI or RA also documented the overall time-in and time-out for each participant. Participants’ actions or behaviors were not observed once they entered into any space directly attached to the Central Gallery (outside the boundaries of the Central Gallery). This includes restrooms, gift shop or offices. The PI or RA stopped observing the participant when the participant left the boundaries of the Central Gallery and entered exhibit areas. Exhibit areas and the boundaries of Central Gallery are identified in Appendix G. The length of this observational period was determined by the amount of time the Central Gallery was inhabited by each selected participant.
Interview Phase

Participants for the interview phase were a sample of convenience. Any adult visitor (over the age of 18) inside the Central Gallery was a possible participant. Therefore, the PI or RA was free to select any adult visitor for this phase. Thirteen questions (Appendix B) were generated for this phase of data collection. A demographic data form (Appendix C) was also created to document the demographic information for each participant prior to beginning each interview. Multiple participant demographics were recorded on a single form.

The data collection began when a convenient visitor was approached by the PI or RA and asked if they would like to participate. The PI or RA explained the research study and what actions were required of the participant. The PI or RA asked the participant to give verbal consent to participate in the interview and to have the interview audio-recorded. Once verbal consent was given the survey was administered in an interview format. The PI or RA then began to record the interview; first they identified by voice the sample number. Then the PI or RA began asking the survey questions beginning with Question #1 (Appendix B). The PI or RA was able to explain the questions further or clarify the question but were careful not to influence the potential answers given by the participant. Two different visual aids (Appendix D, E) were used in conjunction with Question #8, #9 and #11. The first visual aid is a computer generated rendering of a proposed change to the Central Gallery. The concept and rendering was created by Ralph Applebaum Associates (an exhibition design company) for FLMNH. The second aid is the current visitor handout map. It is printed on white bond paper in black and white only. Both the visual aids are no larger than 11” x 17” and were laminated for durability and ease of use. The PI or RA gave the participant sufficient time to answer each question.
Once the participant answered all the questions or voluntarily ended their participation, then the interview was concluded. Each participant was given a handout, an informed consent form (Appendix F), which explained who they could contact if they had questions about their participation in this study. Finally, the PI or RA thanked each visitor for their time and participation.

**Data Analysis**

The information gathered during the physical setting assessment was analyzed in several ways. First the floor plan was diagramed to show direction of travel, choice points, visitor services locations, location of exhibit areas and the main entrance (Appendix G). The photographs taken at the site illustrated the location of important signage and places where orientation information is available to visitors. Notes taken during site visits were compared to the diagramed floor plan in order to ensure completeness of information. The notes were also used to inform the data collection instruments for the observation and interview phases.

Data collected during the observation phase was manipulated using a statistical data program called SPSS. Several variables have been established in SPSS, in accordance with the tracking sheet (Appendix A). The day of week, time in and time out, and number of people in the group were input as separate variables. Visitor services were coded as either used or not used by each participant. Other participant actions like interacting with staff at the information desk, receiving paper information, viewing the mammoth and mastodon, reading the informative labels, and visually noticing the directional signs were also input as actions that were either done or not done by each participant. Other behavior that was noted regularly was input as separate variables, such as the donation of money. Finally the choice points were coded and each participant’s choice was input into this
variable. SPSS was used to organize the data, and simple frequencies for each variable were determined. SPSS also produced the cross tabulation of frequencies by certain variables. See Chapter 4 for more information on which variables were used.

The interview data was analyzed in a similar fashion to that of the observation data. The demographic information was input into SPSS. Day of the week, gender, racial identity, and number of people in the group were all separate variables. Then the audio-recorded interviews were transcribed verbatim for each participant. A “coding” process was used to quantify the answers given for each open-ended question. The PI and research advisors predetermined many of the categories for each question (Appendix H). The participant’s answer for each question was read line by line from the transcript. If a participant’s answer fit into a predetermined category then it was recorded as such. It was possible for an answer to fit appropriately in more than one category. If a participant’s answer did not fall into any category, then their answer was placed into the “other” category for that question. Subsequently each “other” category was screened for similar answers. If there were two or more answers that were alike, then another category was established for those responses. Once each question was coded by category, simple frequencies for each category within each question were produced by SPSS. Cross-tabulation frequencies were also produced between each question’s categories and the demographic information obtained for each participant. See Chapter 4 for more information on the results. Trends among participants became apparent when reading the transcripts. These trends can not always be explained by quantitative methods. Therefore, a qualitative narrative explores other nuances found in the interview data in Chapter 4.
CHAPTER 4
RESULTS

Data was collected in three phases: 1) physical assessment phase 2) observation phase, 3) interview phase. The data from the physical assessment was compiled and analyzed. This yielded an overall floor plan, a diagrammatical floor plan and photographs of the building and Central Gallery. Data from the observation and interview phases was input into a statistical analysis program called SPSS. This program allowed the PI to compile the data and determine frequencies, cross-tabulations, percentages, and graphs for the variables. The results of these analyses are presented in this chapter.

Physical Assessment Data

The FLMNH is roughly 55,000 sq.ft. without the addition of the McGuire Center. It has a brick façade and a distinctive translucent sloping roof at the front entrance. It is situated in the University of Florida’s “cultural plaza,” along with the Harn Museum of Art and the Phillip’s Center for the Performing Arts. The FLMNH houses several permanent exhibits, offices, research areas and multi-purpose classrooms, all of which are labeled on the overall floor plan in Appendix G.

Entry Sequence

Visitors approach the building from the parking areas or circular drive (Figure 4-1). The sidewalks are wide and appropriate landscaping has been planted adjacent to them.

As they continue to the main entrance, colorful advertisement signs become more visible (Figures 4-2 and 4-3). Once inside the main entrance they must enter another set of interior doors (Figure 4-4).
Figure 4-1. Street and parking area in front of FLMNH

Figure 4-2. Sidewalk leading to front main entrance of FLMNH
Once inside the interior entry doors the visitor encounters several choices, amenities and objects within his or her view. The diagrammatical floor plan (Figure 4-5) displays the location of these items; and their proximity to one another. The
diagrammatical floor plan was adapted and enlarged from the overall floor plan in order to show greater detail.

Eight choice points were identified: a) *Microbes* exhibit (temporary exhibit), b) hallway to Pearsall Collection exhibit, South Florida exhibit and Florida Fossil exhibit, c) Northwest Florida exhibit, d) the McGuire Center for Lepidoptera Research and the Butterfly Rainforest exhibit, e) entrance to the administrative offices, f) a hallway leading to the multi-purpose classrooms, and g) the security office. Guest amenities that were identified include the information desk, the gift shop and the restrooms. The size and location of the Mammoth and Mastodon display are also outlined on the diagrammatical floor plan.
Figure 4-5. Floor plan diagram of entrance and the Central Gallery
Figure 4-6. Tiled entry area

Figure 4-7. View of gift shop entrance (See Figure 4-5 for location on diagrammatical floor plan.)
Figure 4-8. Closer view of information desk and donation box (See Figure 4-5 for location on diagrammatical floor plan.)

The Central Gallery

Figure 4-9. Two views of the information desk (A) Side view – right, visitors are helped here. (B) Rear view with paper information.
Figure 4-10. Mammoth and Mastodon fossils inside the Central Gallery, (A) Front view of both skeletons, (B) Side view of Mastodon skeleton (See Figure 4-5 for location on diagrammatical floor plan.)

Figure 4-11. Interior views of Central Gallery, (A) View of left side when facing front entrance (B) View of right side when facing front entrance.

Figure 4-12. Entrance to men’s and women’s restrooms (See Figure 4-5 for location on diagrammatical floor plan.)
Figure 4-13. View of large directional signs, which are located at the rear of the Central Gallery.
Choice points

Figure 4-14. Choice point A, entrance to Microbes, temporary exhibit (See Figure 4-5 for location on diagrammatical floor plan.)

Figure 4-15. Choice point B, hallway to other permanent exhibit halls (See Figure 4-5 for location on diagrammatical floor plan.)
Figure 4-16. Choice point C, entrance to the Northwest Florida exhibit hall (See Figure 4-5 for location on diagrammatical floor plan.)

Figure 4-17. Choice point D, entrance to The McGuire Center for Lepidoptera Research and the Butterfly Rainforest exhibit (See Figure 4-5 for location on diagrammatical floor plan.)
Figure 4-18. Choice point E, entrance to the administrative offices (See Figure 4-5 for location on diagrammatical floor plan.)

Figure 4-19. Choice point F, hallway to multi-purpose classrooms (See Figure 4-5 for location on diagrammatical floor plan.)
Observation Data

Results for this phase will be shown in tabular and written formats. Simple frequencies and percentages were calculated for each variable while cross-tabulations were calculated between relevant variables. Data was collected between 3/12/2005 and 4/18/2005. The data was comprised of observations for 63 participants. Data was collected from: 25 participants across various Fridays, 25 across various Saturdays, eight across various Sundays, and four participants on a single Monday during the data collection period. This section presents and summarizes the data from the observation phase, which will be more fully discussed in Chapter 5.

Frequencies

In summary, we know that half of the visitors are coming to the museum with their families (Table 4-1). 75% are not using the restrooms when first entering the museum.
(Table 4-2); nor are the majority (91%) of visitors stopping at the gift shop at the beginning of their visit (Table 4-3). Twenty-six visitors stopped at the information desk: 16 interacted with the staff person, eight picked-up paper information, six did both, two picked up paper information but did not interact with staff person, and nine visitors did neither (Cross-tabulation of Tables 4-4, 4-5, 4-6). Furthermore, of the 31 visitors who viewed the Mammoth and Mastodon display, 62.5% of them also read the text labels associated with the display (Table 4-7, 4-8). 59% of visitors did not display any behavior consistent with noticing or seeing the large directional signs (Table 4-9). An even higher percentage of visitors, 57 of the 63 observed, did not donate money (Table 4-10). Finally, 52% percent of visitors were observed entering the McGuire Center/Butterfly Rainforest exhibit first after leaving the Central Gallery, followed by 22% entering the Microbes exhibit. The other choice points received significantly less visitors (Table 4-11).

Table 4-1. Frequency of group size.

<table>
<thead>
<tr>
<th>Group categories</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>One, single</td>
<td>8</td>
<td>12.7</td>
</tr>
<tr>
<td>Adult couple (2 only)</td>
<td>12</td>
<td>19.0</td>
</tr>
<tr>
<td>Family of 5 or fewer</td>
<td>26</td>
<td>41.3</td>
</tr>
<tr>
<td>Family of 6 or more</td>
<td>7</td>
<td>11.1</td>
</tr>
<tr>
<td>Adult group (3+)</td>
<td>10</td>
<td>15.9</td>
</tr>
<tr>
<td>TOTAL</td>
<td>63</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4-2. Frequency of restroom use.

<table>
<thead>
<tr>
<th>Restroom use</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use</td>
<td>16</td>
<td>25.4</td>
</tr>
<tr>
<td>Non-use</td>
<td>47</td>
<td>74.6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>63</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 4-3. Frequency of gift shop use.

*Did visitor go into the gift shop?*

<table>
<thead>
<tr>
<th>Gift shop use</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use</td>
<td>6</td>
<td>9.5</td>
</tr>
<tr>
<td>Non-use</td>
<td>57</td>
<td>90.5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>63</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4-4. Frequency of information desk use.

*Did visitor stop at information desk?*

<table>
<thead>
<tr>
<th>Stop at info. Desk</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>26</td>
<td>41.3</td>
</tr>
<tr>
<td>No</td>
<td>37</td>
<td>58.7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>63</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4-5. Frequency of interaction with desk staff.

*Did visitor interact with information desk staff?*

<table>
<thead>
<tr>
<th>Interaction</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>16</td>
<td>25.4</td>
</tr>
<tr>
<td>No</td>
<td>47</td>
<td>74.6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>63</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4-6. Frequency of picking-up paper information.

*Did visitor pick up paper information?*

<table>
<thead>
<tr>
<th>Paper info.</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>8</td>
<td>12.7</td>
</tr>
<tr>
<td>No</td>
<td>55</td>
<td>87.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>63</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4-7. Frequency in viewing Mammoth and Mastodon.

*Did visitor view the Mammoth and Mastodon display?*

<table>
<thead>
<tr>
<th>View display</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>31</td>
<td>49.2</td>
</tr>
<tr>
<td>No</td>
<td>32</td>
<td>50.2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>63</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 4-8. Frequency in reading Mammoth and Mastodon text labels.

Did visitor read labels on the Mammoth and Mastodon display?

<table>
<thead>
<tr>
<th>Read labels</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>20</td>
<td>31.7</td>
</tr>
<tr>
<td>No</td>
<td>43</td>
<td>68.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>63</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4-9. Frequency of noticing large directional signage.

Did visitor notice large directional signage?

<table>
<thead>
<tr>
<th>Notice signage</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>26</td>
<td>41.3</td>
</tr>
<tr>
<td>No</td>
<td>37</td>
<td>58.7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>63</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4-10. Frequency of monetary donations.

Did visitor donate money?

<table>
<thead>
<tr>
<th>Donation</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>6</td>
<td>9.5</td>
</tr>
<tr>
<td>No</td>
<td>57</td>
<td>90.5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>63</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4-11. Frequency in choosing choice points.

Which way did the visitor go after leaving the Central Gallery?

<table>
<thead>
<tr>
<th>Choice points</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Microbes exhibit</td>
<td>14</td>
<td>22.2</td>
</tr>
<tr>
<td>B. Hallway to other exhibits</td>
<td>3</td>
<td>5.8</td>
</tr>
<tr>
<td>C. Northwest Florida exhibit</td>
<td>6</td>
<td>9.5</td>
</tr>
<tr>
<td>D. McGuire Center/Butterfly Rainforest</td>
<td>33</td>
<td>52.4</td>
</tr>
<tr>
<td>E. Administrative office</td>
<td>3</td>
<td>4.8</td>
</tr>
<tr>
<td>F. Hallway to multi-purpose classrooms</td>
<td>1</td>
<td>1.6</td>
</tr>
<tr>
<td>G. Security office</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>None of the above</td>
<td>3</td>
<td>4.8</td>
</tr>
<tr>
<td>TOTAL</td>
<td>63</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The mean total time spent in the Central Gallery was three minutes, with a minimum time under one minute and a maximum time of twelve minutes. Table 4-12
shows that 68% of the visitors observed spent three minutes or less in the entry area or Central Gallery. The line graph in Figure 4-21 illustrates that there were more visitors spending: 0-1 minute, 3 minutes, and 7 minutes in the Central Gallery than any other time interval. This may coincide with the “streaker, stroller, and studier” theory, which will be further discussed in Chapter 5.

Table 4-12. Frequency of total time inside Central Gallery.

<table>
<thead>
<tr>
<th>Total time</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:00min.-0:59min.</td>
<td>11</td>
<td>17.5</td>
</tr>
<tr>
<td>1:00min.-1:59min.</td>
<td>11</td>
<td>17.5</td>
</tr>
<tr>
<td>2:00min.-2:59min.</td>
<td>8</td>
<td>12.7</td>
</tr>
<tr>
<td>3:00min.-3:59min.</td>
<td>13</td>
<td>20.6</td>
</tr>
<tr>
<td>4:00min.-4:59min.</td>
<td>5</td>
<td>7.9</td>
</tr>
<tr>
<td>5:00min.-5:59min.</td>
<td>4</td>
<td>6.3</td>
</tr>
<tr>
<td>6:00min.-6:59min.</td>
<td>2</td>
<td>3.2</td>
</tr>
<tr>
<td>7:00min.-7:59min.</td>
<td>5</td>
<td>7.9</td>
</tr>
<tr>
<td>8:00min.-8:59min.</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>9:00min.-9:59min.</td>
<td>3</td>
<td>4.8</td>
</tr>
<tr>
<td>10:00min.-10:59min.</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>11:00min.-11:59min.</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>12:00min.-12:59min.</td>
<td>1</td>
<td>1.6</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>63</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Figure 4-21. Interpolated line graph showing frequency of total time inside Central Gallery.
Cross-tabulations

Cross-tabulations allow us to show the frequency of certain variables within another “control” variable. Tables 4-13 and 4-14 look at frequency of use among the listed variables for each category in the “group composition” variable. Tables 4-15 and 4-16 look at frequency of use among the listed variables for each category in the “total time spent” variable. Tables 4-17 and 4-18 look at the frequency of use among for the “group composition” variable and the “total time spent” variable.

Table 4-13. Cross-tabulation of frequencies between restroom use, gift shop use, information desk use, and picking up paper information within the “group composition” variable.

<table>
<thead>
<tr>
<th>Group composition</th>
<th>Restroom use</th>
<th>Gift shop use</th>
<th>Stop at information desk</th>
<th>Pick-up paper information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>One, single</td>
<td>0</td>
<td>8</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Adult couple (2 only)</td>
<td>5</td>
<td>7</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Family of 5 or fewer</td>
<td>3</td>
<td>23</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>Family of 6 or more</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Adult group (3+)</td>
<td>4</td>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
</tbody>
</table>

Table 4-14. Cross-tabulation of frequencies between monetary donation, Mammoth and Mastodon viewing, reading Mammoth and Mastodon text labels, and noticing directional signage within the “group composition” variable.

<table>
<thead>
<tr>
<th>Group composition</th>
<th>Monetary donation</th>
<th>View Mammoth and Mastodon</th>
<th>Read Mammoth and Mastodon Labels</th>
<th>Notice directional signage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>One, single</td>
<td>0</td>
<td>8</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Adult couple (2 only)</td>
<td>0</td>
<td>12</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Family of 5 or fewer</td>
<td>4</td>
<td>22</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Family of 6 or more</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Adult group (3+)</td>
<td>1</td>
<td>9</td>
<td>8</td>
<td>2</td>
</tr>
</tbody>
</table>
Table 4-13 and 4-14 were created in order to compare how the number of people in a group affect the behavior and actions of the group members. This data will help us better understand how visitor behavior is affected by who they come with. When interpreting Table 4-13 and 4-14 it is important to look back at the frequencies for the “group composition” variable (Table 4-1). For example, of the eight total single visitors: none of them used the restroom or made a monetary donation, one entered the gift shop, four stopped at the information desk, two picked up paper information, one viewed the Mammoth and Mastodon display, none of them read the labels for the display and one noticed the directional signage. The comparisons and other trends will be discussed further in Chapter 5.

Table 4-15. Cross-tabulation of frequencies between restroom use, gift shop use, information desk use, and picking up paper information within the “total time spent” variable.

<table>
<thead>
<tr>
<th>Total time spent</th>
<th>Restroom use</th>
<th>Gift shop use</th>
<th>Stop at information desk</th>
<th>Pick-up paper information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>0:00sec-0:59sec.</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>1:00min.-1:59min.</td>
<td>0</td>
<td>11</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>2:00min.-2:59min.</td>
<td>1</td>
<td>7</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>3:00min.-3:59min.</td>
<td>3</td>
<td>10</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>4:00min.-4:59min.</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>5:00min.-5:59min.</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>6:00min.-6:59min.</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>7:00min.-7:59min.</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>8:00min.-8:59min.</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>9:00min.-9:59min.</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>10:00min.-10:59min.</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>11:00min.-11:59min.</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>12:00min.-12:59min.</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 4-16. Cross-tabulation of frequencies between monetary donation, Mammoth and Mastodon viewing, reading text labels, and noticing signage within the “total time spent” variable.

<table>
<thead>
<tr>
<th>Total time spent</th>
<th>Interacted with staff person at desk</th>
<th>View Mammoth and Mastodon</th>
<th>Read Mammoth and Mastodon Labels</th>
<th>Notice directional signage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>0:00sec-0:59sec.</td>
<td>1</td>
<td>10</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>1:00min.-1:59min.</td>
<td>1</td>
<td>10</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>2:00min.-2:59min.</td>
<td>2</td>
<td>6</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>3:00min.-3:59min.</td>
<td>5</td>
<td>8</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>4:00min.-4:59min.</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5:00min.-5:59min.</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>6:00min.-6:59min.</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>7:00min.-7:59min.</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>8:00min.-8:59min.</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>9:00min.-9:59min.</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>10:00min.-10:59min.</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>11:00min.-11:59min.</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>12:00min.-12:59min.</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 4-15 and 4-16 were created in order to compare how much time people spent in the Central Gallery to what types of activities or behaviors they chose. This data will help us better understand the amount of time needed by visitors to view displays or to use the guest amenities. When interpreting Table 4-15 and 4-16 it is important to look back at the frequencies for the “number in group” variable (Table 4-1). For example, of the thirteen visitors who spent between three and four minutes in the Central Gallery: three used the restroom, one of them entered the gift shop, six stopped at the information desk, two picked up the paper information, five interacted with the staff person, nine viewed the Mammoth and Mastodon display, seven of those read the text labels associated with the display, and four noticed the large directional signage.
Figures 4-22, 4-23, 4-24 and 4-25 display line graphs for several of the behaviors found in the cross-tab Tables 4-15 and 4-16. All of these line graphs show spiked levels of use at the 3 and 7 minute periods. Further discussion of these findings will occur in Chapter 5.

Figure 4-22. Interpolated line graph showing frequency of visitors who used restroom for each one minute interval of “total time spent” in the Central Gallery.

Figure 4-23. Interpolated line graph showing frequency of visitors who stopped at the information desk for each one minute interval of “total time spent” in the Central Gallery.
Figure 4-24. Interpolated line graph showing frequency of visitors who stopped at the Mammoth and Mastodon display for each one minute interval of “total time spent” in the Central Gallery.

Figure 4-25. Interpolated line graph showing frequency of visitors who read the text labels for the Mammoth and Mastodon display for each one minute interval of “total time spent” in the Central Gallery.

Table 4-17 was created in order to see if “group composition” affects total time spent. This data will help us better understand how the amount of people in a visiting group can influence the amount of time the group spends in the Central Gallery. The figures that follow visually illustrate that many of the “group compositions” variables
hover around certain ranges of time. For instance Figure 4-28 shows that the majority of
visitors in “adult groups of 3 or more” spend greater than the mean time of three minutes.

While Figure 4-29 demonstrates that the majority of visitors in the “family of 5 orewer” group tend to spend less than the mean time of three minutes in the Central Gallery.

Table 4-17. Cross-tabulation of frequencies between “group composition” variable and “total
time spent” variable.

<table>
<thead>
<tr>
<th>Total time spent</th>
<th>Single (1)</th>
<th>Adult Couple (2)</th>
<th>Adult Group (3+)</th>
<th>Family Group (5-)</th>
<th>Family Group (6+)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:00sec-0:59sec.</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>1:00min.-1:59min.</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>2:00min.-2:59min.</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>3:00min.-3:59min.</td>
<td>3</td>
<td>2</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00min.-4:59min.</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>5:00min.-5:59min.</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:00min.-6:59min.</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:00min.-7:59min.</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00min.-8:59min.</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:00min.-9:59min.</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00min.-10:59min.</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00min.-11:59min.</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00min.-12:59min.</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 4-26. Bar graph showing frequency of single visitors for each one minute interval
of “total time spent” in the Central Gallery.
Figure 4-27. Bar graph showing frequency of visitors in an “adult couple” group for each one minute interval of “total time spent” in the Central Gallery.

Figure 4-28. Bar graph showing frequency of visitors in an “adult group of 3 or more” for each one minute interval of “total time spent” in the Central Gallery.
Figure 4-29. Bar graph showing frequency of visitors in a “family of 5 or fewer” group for each one minute interval of “total time spent” in the Central Gallery.

Figure 4-30. Bar graph showing frequency of visitors in a “family of 6 or more” group for each one minute interval of “total time spent” in the Central Gallery.

**Interview Data**

Results for this phase will also be shown in tabular and written formats. Simple frequencies and percentages were calculated from the demographic information and for each category (Appendix H) within each question. Before reviewing the data for each question, the PI and museum staff members generated question-specific categories that
participant answers could possibly fall into. Some of these categories seemed to be obvious from the data, while others were specifically chosen because they were themes museum educators were trying to communicate to visitors. Note that percentages are only shown for the demographic information and for Questions 2 and 3. Percentages were not calculated for the interview questions because it was possible for participant answers to fall into several categories, generating multiple responses per question.

Data was collected between 3/12/2005 and 4/18/2005. The interview phase included 54 participants. Data was collected from: 19 participants across various Fridays, 18 participants across various Saturdays, 13 participants across various Sundays, and four on a single Monday during the data collection period.

**Demographic Information**

While the age of adult visitors ranged from 18 (9.3%) to age 65 and older (25.9%), the most frequent visitor age was within the range of 55-64 (38.9%) (Table 4-18). Fifty of the 54 (92.6%) visitors were identified as Caucasian/white (Table 4-19). The frequency of female to male participants was 50% each (Table 4-20).

<table>
<thead>
<tr>
<th>Age categories</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-24</td>
<td>5</td>
<td>9.3</td>
</tr>
<tr>
<td>25-34</td>
<td>3</td>
<td>5.6</td>
</tr>
<tr>
<td>35-44</td>
<td>7</td>
<td>13.0</td>
</tr>
<tr>
<td>45-54</td>
<td>4</td>
<td>7.4</td>
</tr>
<tr>
<td>55-64</td>
<td>21</td>
<td>38.9</td>
</tr>
<tr>
<td>65+</td>
<td>14</td>
<td>25.9</td>
</tr>
<tr>
<td>TOTAL</td>
<td>54</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 4-19. Frequency of visitor racial identity.

<table>
<thead>
<tr>
<th>Racial Categories</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American/Black</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Caucasian/White</td>
<td>50</td>
<td>92.6</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Native American</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Multiple</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>54</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4-20. Frequency of visitor gender.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>27</td>
<td>50.0</td>
</tr>
<tr>
<td>Female</td>
<td>27</td>
<td>50.0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>54</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Questions 1, 2, 3

Questions 1, 2, and 3 asked visitors for more information about themselves. Question 1 asked visitors what the purpose of their visit was. The most frequent answer was a desire to see the Butterfly Rainforest exhibit (34 responses). The next frequent answer (12) was to participate in a social experience. This was indicated by the desire to bring a family member to the museum or to spend time with friends. Several participants mentioned that they were visiting Gainesville and were curious about the museum so they decided to visit. Frequencies for all these categories are found in Table 4-21. The specific responses in the “other” category can be found in Appendix I.

Question 2 asked the visitor who they came with. The answers given were structured into the same “number in group” categories used for the observation data.
Unlike the observation data, the most frequent group size was the adult couple group, followed by the adult group of three people or more (Table 4-22).

Question 3 asked the visitor if they had been to the FLMNH before. The data found in Table 4-23 illustrates that the frequency of repeat visitors and first time visitors was not equal, with 42.6% and 57.4% respectively.

Table 4-21. Frequency of responses for “purpose of visit.”

<table>
<thead>
<tr>
<th>“Purpose of visit” categories</th>
<th>Frequency of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>See Microbes exhibit</td>
<td>2</td>
</tr>
<tr>
<td>See Butterfly Rainforest exhibit</td>
<td>34</td>
</tr>
<tr>
<td>See North Florida exhibit</td>
<td>0</td>
</tr>
<tr>
<td>See Florida Fossils exhibit</td>
<td>0</td>
</tr>
<tr>
<td>See South Florida exhibit</td>
<td>0</td>
</tr>
<tr>
<td>See Pearsall Collection Exhibit</td>
<td>0</td>
</tr>
<tr>
<td>Required for a UF class</td>
<td>3</td>
</tr>
<tr>
<td>See exhibits</td>
<td>1</td>
</tr>
<tr>
<td>For educational experience</td>
<td>0</td>
</tr>
<tr>
<td>For social experience</td>
<td>12</td>
</tr>
<tr>
<td>For museum experience</td>
<td>3</td>
</tr>
<tr>
<td>Other reasons</td>
<td>14</td>
</tr>
</tbody>
</table>

Table 4-22. Frequency of group size.

<table>
<thead>
<tr>
<th>Group categories</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>One, single</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Adult couple (2 only)</td>
<td>26</td>
<td>48.1</td>
</tr>
<tr>
<td>Family of 5 or fewer</td>
<td>10</td>
<td>18.5</td>
</tr>
<tr>
<td>Family of 6 or more</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Adult group (3+)</td>
<td>15</td>
<td>27.8</td>
</tr>
<tr>
<td>TOTAL</td>
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</table>
Table 4-23. Frequency of repeat vs. first time visitors.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>Repeat visitor</td>
<td>23</td>
<td>42.6</td>
</tr>
<tr>
<td>First time visitor</td>
<td>31</td>
<td>57.4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>54</td>
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</tr>
</tbody>
</table>

**Questions 4, 5**

Questions 4 and 5 asked the visitor to specifically think about the FLMNH. First they were asked what comes to mind when they think about the museum. Sixteen of the 54 participants responded that the Butterfly Rainforest comes to mind when they think of the FLMNH. Six participants said they that they never thought about it, or weren’t sure how to answer the question because they had never visited the museum before. The rest of the answers are widely spread among the remaining categories. The specific responses in the “other” category are listed in Appendix J.

For Question 5 visitors were asked to describe what items/objects in the museum tell them what the museum is about. Participants found it easier to answer Question 5, because no one responded with an “I don’t know” answer. The majority of participants, 31, chose the Mammoth and Mastodon display (Fig. 4-10A-B). While most of the participants chose one item or object for their answer, a few named multiple objects. Several of these other objects fell into three categories: the advertisement/signage (Fig. 4-3), the gift shop (Fig. 4-7), and the frog wall (Fig. 4-31), which all garnered three responses each. The “other” category had several responses that compared the FLMNH to other museums the participants had visited. The specific responses in the “other” category are listed in Appendix K.
Questions 6 and 8

These two questions asked the visitor to describe what the current display in the Central Gallery (the Mammoth and Mastodon) and the new proposed design in Visual Aid #1 (Appendix D) makes them think about. When describing what they think about when viewing the current display, most participants (22) responded with “pre-history” or “history.” Additionally, nine other responses focused on the Mammoth and Mastodon’s size or other physical attribute. One visitor reported thinking about the concept of evolution, while none of the visitors reported having thoughts about the concept of extinction.

In contrast, when the participants contemplated the proposed new design there were five responses for “history” and one for “natural history.” Ten other responses were tabulated for “plants and/or animals” where the participant did not specifically mention Florida; five were counted where Florida was specifically mentioned along with the plants and/or animals, making 15 total responses for plants and animals. Other categories like “diversity,” “the natural environment,” and “evolution” were cited a few times each. A large portion of the participants (19) had positive responses towards the proposed new
design. Words like, “beautiful,” “impressive,” “it’s cool,” and “I like it,” were some of the descriptors used by these participants. Interestingly, five visitors thought the proposed new design gave them a better idea of what they might experience throughout the museum. The specific responses in the “other” category for Questions 6 and 8 are listed in Appendix L and N respectively.

Questions 7 and 9

Both of these questions asked the participant to describe how they feel in the Central Gallery now (at the time of the interview) and after viewing Visual Aid #1 (Appendix D). Interestingly, the participants not only described how they felt, but described the physical characteristics of the space also. Answers thereby fell into either a “feelings” response or a physical response category, with sub-categories in each one. Some participants had both a physical and emotional answer, while others only had one or the other. Thereby many visitors gave multiple answers for these two questions.

Within the “feelings” response category, 12 visitors responded that they were “comfortable,” followed by nine “nice or pleasant” responses. Feelings of being relaxed were cited by six visitors. Within the physical response category, the answers were similar in frequencies. There were nine responses for “airy or open,” nine responses for “big or large,” and nine responses for “empty or too much extra space.”

After viewing Visual Aid #1 (Appendix D) participants’ answers became more focused on the physical characteristics of the space and fewer about their emotional feelings. Most of the participants described the proposed new design in the Visual Aid as being “fuller” and having “more items to look at.” Seven participants specifically called out details about the display, such as the color or size. The emotional answers were limited to the five responses for “more welcoming” or “inviting.” Also of interest were
the non-descriptive positive answers such as “I like it” or “this is great.” Six visitors had such comments towards the space as it is now; 18 said they like the display in the Visual Aid more than what is currently in the Central Gallery. As in Question 8 above, six visitors thought the proposed new design gave them a better idea about what the museum had to offer. All the specific responses in the “other” category for Questions 7 and 9 are listed in Appendix M and O respectively.

**Question 10**

Question 10 asked the participants if they received the information they needed to plan their visit. Thirty-four of the 54 visitors interviewed responded affirmatively. Follow-up questions were used to discover what was or could have been more helpful to the visitors when planning their visit. The frequency of responses was equally divided among the use of paper information, directional signs and the staff person at the information desk. Three visitors simply stated that the people they came with were helpful because their friends/family were already familiar with the space. Three visitors who had not asked for information felt that they were comfortable “just wandering.” This is further explained by a participant: “…I didn’t ask for any information because we felt like we wanted to walk through.” She later expressed that if she had wanted help she could have gotten it. She also acknowledged that more information “…might have been more helpful but (would) not (have made the visit) more enjoyable.”

In contrast, three visitors said they did not get the information they needed. When these participants were asked what would have been more helpful to them, two of them responded that they did not necessarily take the initiative to seek out any information, they were more or less just wandering, but they still reported a “no” answer. The third visitor did ask for information about the Butterfly Rainforest and was provided directions
to the exhibit; yet they still responded “no” to Question 10. This particular visitor was still wondering whether they had to pay an entrance fee, so she felt she should have received more information from the staff person concerning the applicable fees. Four visitors reported that they simply didn’t ask for any information without reporting a “yes” or a “no” answer. A few stated that they did not need any information. Of those, one said they didn’t pick up any information because “(they) have been here so much….and (they) get the newsletter.” The other two had received information before they arrived, providing an opportunity to plan ahead. Several others (7) responded that they had not had a chance to get or ask for any information yet, but intended on doing so. All the specific responses in the “other” category for Questions 10 and 10a are listed in Appendix P.

**Questions 11, 12, and 13**

The last three questions of the interview were focused on the physical orientation devices within the Central Gallery. Question 11 asked the visitor to critique the current handout map, Visual Aid #2 (Appendix E). Several people didn’t know a map existed or where it could be obtained. One such visitor stated, “So you don’t know these (the map) exist unless somebody points it out.” He further suggests making the map available and noticeable somewhere other than the information desk. Visitors were divided on whether the map was acceptable the way it currently reads or whether color should be added. The majority of participants in favor of adding color mentioned using it as a way of coding the different spaces. Along the same lines as color use would be the addition of symbols or pictures. Others stated that the text should be bigger (6 responses) and “you-are-here” icon (8) should be added. Only two visitors wanted to simplify the map by having less
details and text. All the specific responses in the “other” category for Questions 11 can be found in Appendix Q.

When asked about the large directional signs (Question 12), 40 of the 54 participants acknowledged that they had seen the signage. This is in direct contrast to the observation data collected about the directional signage.

For Question 13, 40 visitors also said they would use the signs to help them find a specific exhibit. Interestingly, those 40 participants were not necessarily the same visitors who acknowledged seeing the signs.
CHAPTER 5
DISCUSSION AND CONCLUSION

Data was collected in three phases: physical assessment phase, observation phase and interview phase. The data was carefully analyzed and reported in Chapter 4. This chapter will discuss the findings in greater depth. Possible reasons for visitor behavior will be explored, as will an assessment of the current and proposed new entrance icons, with regard to visitors’ conceptual orientation and the conveyance of the museum’s educational message. Limitations of the study and opportunities for future studies will also be discussed. Furthermore, design suggestions for the Central Gallery renovation will be outlined at the end of the chapter.

Who Are the Visitors?

The demographic data collected during the interview phase was not collected using a systematic sample. Therefore it cannot be used to determine if the museum’s visitors during this study are similar to visitors in previous studies. Thus the demographic data from this study does not necessarily reflect the true “visitorship” of the museum. Furthermore, the visitor demographic data can only inform the results and discussion that are inherent to this study. Further discussion of this limitation is outlined in the Limitations section.

The “group composition” data collected during the observation phase was collected using a systematic sample; therefore it can be compared to previous studies conducted at the FLMNH. One such study was conducted during 2000-2001. Using the “group composition” data from the spring of 2001, we know that the previous study showed that
31% of visitors came with one other adult (adult couple). The current study shows that 19% of visitors fell into the adult couple category. A smaller difference occurs within the family group; 46% of visitors came in a family group in 2001, while 52% came in a family group in the current study. Does this mean that the overall composition of visitor groups has changed at the FLMNH? This is unclear because the data collected about “group composition” during the previous study was self-reported by visitors. The data collected during the current study only reflects apparent relationships. The RA was only able to observe the “group composition,” with no way to verify the true nature of the relationships observed.

**What Are Visitors Doing?**

The observation data presents an accurate picture about what visitors are doing and how long they spend inside the Central Gallery. First we know from Tables 4-1 and 4-2 that visitors are unlikely to use the restroom or gift shop in the beginning of the museum experience. They may use these guest amenities at another time in their visit.

Only 9.5% of visitors made a monetary contribution to the museum using the donation box. Interestingly, those visitors who came in a family group were the most frequent donors.

The fact that the majority of visitors (52.4%) chose to see the Butterfly Rainforest was not surprising, since it is the newest attraction at the FLMNH. The Rainforest has been open for less than one year. Likewise, the *Microbes* exhibit was selected as a first stop by 14 of the 64 visitors observed. It is a temporary traveling exhibit and was only shown at the FLMNH for a limited time. It would seem that novelty was the motivator for why visitors chose these exhibits first.
Table 4-4 illustrates that more than half of visitors did not stop at the information desk. This is unfortunate for several reasons: 1) the desk staff is extremely knowledgeable about public programs and the exhibits, and information that may be relevant to many visitors; 2) the handout map of the FLMNH is kept at the information desk; and 3) paper information such as brochures and handouts about the exhibits are also available at the desk. The low frequency of use could be explained by the fact that more than half of the visitors were repeat visitors. It is assumed they would not need the assistance of the desk staff or paper information because they are already familiar with the museum. Regardless, the FLMNH has many new public programs and traveling exhibits that change the museum’s environment on a regular basis. Therefore, the information desk always has information that may be relevant to repeat visitors.

With this in mind, many other factors could be impacting the use of the information desk. These other factors are: the physical attributes of the desk, the placement if the desk, staff allocation and visitor motivation. The desk has limited physical space where guests can be assisted. As seen in Fig. 4-10B, only one side of the desk is available for visitors to stand. Therefore only a few visitors can be assisted at one time. Anecdotally this has been a problem when selling tickets for past exhibits. This is further hindered by the placement of the desk within the Central Gallery. Fig. 4-5 shows the close proximity of the desk and the Mammoth and Mastodon display. It is quite possible that there is not enough room to accommodate both visitors waiting for information and visitors viewing the display. Also many times there is only one staff person working at the information desk. It is quite possible that visitors do not want to wait to speak to the only staff person. If there were more staff to assist guests perhaps more than 9 visitors (14%) would have
been able to interact with the staff person. From Tables 4-11 and 4-12 we understand that the majority of visitors were specifically motivated to see the Butterfly Rainforest exhibit. Of the 33 visitors who chose to see the Butterfly Rainforest first, 15 spent less than then the mean time of 3 minutes in the Central Gallery. It seemed like visitors had a “one-track mind” and headed straight for the exhibition. All of these factors may explain the low turnout at the information desk.

Visitors with the “one-track mind” may also be considered *streakers*. According to Larry Klein (1986), visitors exhibit behaviors in patterns related to time. Thus he coined the terms *streakers, strollers and studiers*. *Streakers* move quickly through an area, *strollers* tend to move at a more leisurely pace and *studiers* spend the most time in an area or exhibit. When looking closely at the “total time spent” variable and Figure 4-21, we see that frequency of “total time spent” among visitors peaked at three distinct time intervals. These were 0-1 minute, 3 minutes, and 7 minutes. This data correlates to Klein’s theory. More specifically, visitors in each “group composition” group spent different amounts of time in the Central Gallery. Thus they can be classified as *streakers, strollers*, or *studiers*, or a combination of these types. From Figure 4-26, the graph shows that single visitors could be described as *streakers*, with some *strollers*. But Figure 4-27 shows that visitors in the adult couple group are *streakers, strollers*, and *studiers*; they were more evenly distributed between the three types. Figure 4-28 illustrates that visitors in the adult group of 3 or more are more likely to be *strollers and studiers*. On the other hand, visitors in the family group (family with 5 people or less) are more likely to be *streakers*, with some *strollers* (Figure 4-29). This suggests that the children in the group may be influencing the pace of the group.
Those classified as *strollers* or *studiers* were more frequently observed doing the behaviors or actions in Tables 4-13 and 4-14, as illustrated by Figures 4-22, 4-23, 4-24, and 4-25. Therefore the majority of visitors in adult groups, not family or single groups, were more likely to partake in the behaviors that were observed.

Therefore two conclusions can be drawn from this data. First, that “group composition” and time are inter-related factors in how visitors behave. Second, the groups tend to overlap within the *stroller* category, where the mean time of 3 minutes occurs. More visitors were observed spending 3 minutes in the Central Gallery than any other time interval. Thus it seems logical that the majority of museum visitors are *strollers*. Perhaps the museum should try to communicate the museum’s educational message and physically orient visitor’s in 3 minutes. By using 3 minutes as a benchmark the museum has the opportunity to reach the majority of visitors.

The observation data alone cannot describe why visitors exhibited these behaviors. The interview data, although not directly linked to the visitors observed in the observation phase, may give us a better understanding. Question 10 of the interview asked visitors if they received the information they needed to plan their visit. Thirty four responded that they had. However, only a small percentage of visitors were observed stopping at the information desk during the observation phase. How can this difference be explained? First, equal amounts of visitors claimed they used the information desk staff, paper information and the directional signage. So we know that visitors are using other informational tools, such as signage, to get information. How does one interpret the use of the directional signage? During the interview, 75% of visitors reported noticing the signs but during the observation phase only 42% were observed noticing or looking at
them. It is hard to tell whether there is a true difference in the data. It is possible that the visitors who were interviewed felt they should answer “yes” to Question 12, once the signage was pointed out to them. Or stronger yet is the possibility that the RA was unable to determine if a visitor really did notice the signs. Regardless, the data from either phase shows that a good portion of visitors see the signs.

Of the remaining 20 visitors who did not answer “yes” to Question 10, many were already familiar with the space or were with people who were familiar with the space. This is corroborated by the fact that 43% of those interviewed were repeat visitors.

Thus the data allows for some assumptions about physical orientation in the Central Gallery. It can be assumed that the information desk, staff person and the paper information are not the only tools that help to physically orient visitors. Signage also has a vital role in helping visitors. Furthermore, it is assumed that every physical orientation tool available is not used by every visitor, and that visitor preferences influence their method of orientation. Thus an orientation strategy that employs all of these tools to varying degrees seems most appropriate for reaching the largest percentage of visitors. Loomis (1987) validates this idea by stating, “(visitors) may need to confirm or verify their orientation to the environment with more than one source of information.”

**What Do Visitors Think?**

Regarding physical orientation, visitors had several suggestions to improve the FLMNH’s handout map (Appendix E). Before visitors critiqued the map, many didn’t know the museum had a map. This problem is inherent in the fact that many visitors did not stop at the information desk (the place where the maps are located). The museum may want to consider making the maps available at the desk and at another location within the Central Gallery. Thus, picking up a map would not be limited by whether the visitor stops
at the desk. One visitor who was interviewed had the same suggestion. It is unclear among visitors who were interviewed which ones actually picked up a map because only eight people responded that they used paper information to help them plan their visit. It is possible that the paper information they spoke of was not the handout map.

How can the museum make the map more usable? Visitors had several suggestions (even those who did not pick one up); they include the addition of color and a “you-are-here” symbol. These ideas adhere to other researched map strategies by Levine (1982). Many of those who wanted color added were in favor of using color as a coding system, matching the colors on the map to the same color at the entrance of the exhibits. It is likely that visitors are comfortable with this strategy because it is commonly used in shopping malls and airports. These comments suggest that visitors need a better way to relate the physical, three dimensional spaces, with the image of the two-dimensional space on the map. This is a keen insight in order to make the map more usable for visitors.

Regarding conceptual orientation were visitors’ thoughts about the current entrance icon (Mammoth and Mastodon display) and the new proposed “Panorama of Life” entrance icon. According to the observation data 50% viewed the Mammoth and Mastodon display. One would desire even greater visitor usage for an entrance icon if planning to use it for conceptual orientation. Perhaps there is not enough, visually, to hold visitors’ attentions with just the Mammoth and Mastodon display. What we have learned is that the current display attracts half of all visitors and consistently delivers a message of “pre-history” or history.” But this is not the message that the museum wants to communicate. Therefore the FMLNH will attempt to change the icon design to deliver
the message (basic science concepts) it has developed, a message that better orients visitors conceptually to the museum. So does the proposed new “Panorama of Life” icon design suggest that it is possible to convey these science concepts? The visitor responses to Question 8 definitely illustrate the potential for greater attracting power. Visitors described the new display as having more color, more movement/excitement, and that it was more interesting to look at. It is encouraging that several visitors did think about diversity and the abundance of animals; these ideas are at the heart of learning about Biodiversity and Ecology. The results also show that several visitors thought the proposed new design was more representative of what they would see in the rest of the museum. This is interesting because it suggests that the proposed new icon design has the potential to conceptually orient visitors to the museum, unlike the current Mammoth and Mastodon display.

Because the Visual Aid for the “Panorama” was a rendered computer drawing, there was no way for visitors to take advantage of possible text panels for the proposed new display. Text panels designed for the “Panorama” could fill in the gaps between what is only learned visually. But, as was determined from the observation data about the Mammoth and Mastodon display, educators cannot rely on text panels to communicate the entire message; even though a good percentage of visitors (62.5%) who viewed the display also read them.

The museum now plans to develop several other entrance icon designs that build on the information gathered in this study. They will be evaluated to determine which one optimally teaches the science concepts that have been recently identified as biodiversity, ecology and evolution. Furthermore this study demonstrates that entrance icons have the
power to attract and deliver messages (or content) visually to visitors. The Mammoth and Mastodon display suggested “pre-history,” while the “Panorama” suggests different messages such as “diversity or wildlife.” Thus from this study we know that different icon designs evoke different ideas for visitors. The goal of future studies will be to identify which designs come closest to conveying the museum’s educational message.

**Limitations**

There are several limitations to the data as it was collected. First, a research assistant was employed to collect all the data. Although she was trained using a prescribed set of procedures, she was not always supervised when collecting data. It is possible that her technique could have changed during the course of data collection. At times visitors were not asked the same follow-up questions nor were their answers always clarified for specific meaning. Second, the data was collected during a six week period of time. This yielded a small sample number for both phases. A longitudinal study, over several seasons of the year may have documented a larger and more diverse sample.

Third, participants during the interview phase were chosen with a convenient sampling technique. Therefore the research assistant could have exhibited personal bias when choosing participants. This could account for the lack of more participants in each racial identity category and the low frequency of visitors from family groups being interviewed. Unfortunately because of the convenient sampling technique the data from the interview phase is not generalizable among all FLMNH visitors or other museums. Finally, since the principal investigator had no assistance during the analysis phase, specifically during the “coding” portion, inter-rater reliability could not be established.

**Further Studies**
This study explored several complex topics, in somewhat broad terms. Three of these topics should be more specifically studied: 1) the handout map, 2) the placement and size of the information desk, and 3) front-end evaluations of several more entrance icon designs. This study showed low visitor use and possible deficiencies with the current map. The suggestions by visitors could be used to change and enhance the map; several iterations of the map could be tested. This follow-up study could help the museum develop a map that is easier to use and more informative to visitors. The museum could also develop a study that tests whether having the maps available at other locations in the Central Gallery would increase use among visitors.

A follow-up study more specifically aimed at better understanding the information desk might be helpful as well. Using observations that only focus on the desk could provide a more accurate picture of visitor use. This might be paired with another interview which only asks visitors specific questions about the information desk, the paper information that is provided there, and their use or non-use of the desk.

Finally, another front-end evaluation will be needed to introduce other designs for the new entrance icon to visitors. This study revealed that such icons do deliver information visually, but that neither the current icon nor the proposed new design was sufficient in communicating the museum’s newly determined educational message. Perhaps scale models might be used in the future study, which may help visitors better understand the size, scale, and context of the designs that they are evaluating.

**Design Recommendations for the Central Gallery Renovation**

Using the information generated from this study, several recommendations have been developed. These recommendations should not be taken as discreet directions but
rather loose suggestions which can be consulted during the design process. The suggestions are:

- Consider moving the information desk to another location within the Central Gallery.
- Consider changing the size and configuration of the desk.
- Consider adding a second or third staff person to work at the desk during high volume hours/days.
- If the above changes are not possible, consider a secondary information area, elsewhere in the museum where visitors can ask questions.
- Consider having another area (away from the information desk) where paper information can be picked up by visitors.
- Consider changing or enhancing the visitor handout map.
- Consider designing an area where a stationary map could be mounted. This display could combine the stationary map and paper information. This will become especially important in the future as the FLMNH expands and other entrances become available to guests, e.g., the new entrance into the McGuire Center.
- Consider making the donation box more visually attractive. Explain to visitors how their money is being used by the museum. This may increase the frequency of visitors who donate.
- Consider alternative designs to “The Panorama of Life,” which incorporate the positive comments made by visitors in this study.

Conclusions

The purpose of this study was to provide baseline data for a NSF grant proposal. The grant funds will make a renovation of the FLMNH’s Central Gallery possible. This study provided the baseline data needed to substantiate the museum’s desire to create an entrance icon, and its claim that an entrance icon has the potential to communicate the museum’s newly developed science concepts. The renovation could also include some possible changes to the physical orientation system currently used in the Central Gallery. The study yielded useful data about potential physical orientation problems and some
suggestions on how best to make changes. This study and subsequent ones will help the museum make thoughtful, evidence-based decisions during renovation, and provide guidance as the museum expands its exhibits and square footage in the future. The most critical lessons learned are:

- Entrance icons have the ability to communicate content visually and at-a-glance to the visiting public.
- Visitors are receptive to the idea that the entrance icon can orient them to the themes within the permanent exhibits.
- Neither the current icon nor the proposed “Panorama of Life” optimally communicates the intended science concepts developed by FLMNH educators.
- Several physical orientation devices, like the handout map and the information desk, are infrequently used by the majority of visitors. Finding ways to enhance the frequency of use could help visitors physically orient themselves better.

The renovation of the Central Gallery gives the FLMNH the unique opportunity to enhance their physical orientation system while creating an entrance icon that conceptually orients visitors to the museum’s educational message. By pairing both forms of orientation within the Central Gallery, the FLMNH is ensuring a quality museum experience to the 250,000 people who visit annually.
APPENDIX A  
TRACKING SHEET

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<th>Sample #</th>
<th>Day:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
</tr>
<tr>
<td>Time out:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group Dynamic</td>
<td></td>
<td></td>
</tr>
<tr>
<td># of people:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>apparent relationships:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Restroom use: | yes | no |
| Giftshop use: | yes | no |
| Stop at information desk: | yes | no |
| Interaction with person: | yes | no |
| Receive paper information: | yes | no |
| View mastodon/mammoth: | yes | no |
| Read labels: | yes | no |
| Visually notice directional signage: | yes | no |

Other behavior:  
i.e. confusion, frustration

Which way did the participant go first:  
Temp. exhibit area  
McGuire Center  
North Florida  
Hallway to other exhibits  
Classroom Area  
Office Area  
Security Office
1. What was the purpose of your visit today?
2. Who did you come with?
3. Have you been to the Florida Museum of Natural History before?
4. When you think of the FLMNH what comes to mind? i.e., the nature of the museum or what it has to offer?
5. When you entered the museum today, what did you see that would give you an idea about what this museum is about?
6. When you look at the mastodon and mammoth skeletons what do they make you think about?
7. Can you describe how you feel inside the lobby space?
8. If you saw this (use visual aid) when you walked into the museum, what would it make you think about?
9. Can you describe how this space might feel to you compared to how it feels now?
10. When you entered the museum today did you get the type of information you needed to plan your visit?
   a. What was helpful to you?
   b. What would have been more helpful to you?
11. What could we do to make this map more helpful to our visitors?
12. Did you notice the large exhibit signs inside the lobby?
13. Did you use them to help you find a specific exhibit?
### APPENDIX C
#### DEMOGRAPHIC RECORD LOG

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APPENDIX D
VISUAL AID #1: “PANORAMA OF LIFE”, PROPOSED NEW DESIGN
Exploring the Florida Museum of Natural History

Microbes: Invisible Invaders...Amazing Allies
Microbes explores helpful and harmful germs, what they look like and explains the history of infection in children with its interactive video games, humorous narratives, colorful photographs and fun activities.

Children's Gallery
Works of art created by School Board of Alachua County elementary students in the

Galleria
View "Florida Bird Portraits," a series of color photographs by Jim Miller. The exhibit focuses on behavior of birds that create strong emotional responses. The photographs depict rich colors and simple compositions that reveal birds as most people have never seen.

Northwest Florida: Waterways and Wildlife
Explore the limestone cave and learn about the amazing diversity of Florida's biologically rich region of the state, as you follow the path of winding waterways.

The Peazzell Collection of American Indian Art 40th Anniversary Season
View over 200 of the finest examples of American Indian Art from the Museum's History's Leigh Morgan Peazzell Collection. (Through Spring 2006)

South Florida People & Environments
Highlights the story of native people in South Florida and 6,000 years of history. Walk along a boardwalk through a mangrove forest, view life-size models of extinct marine creatures, visit the house of a Calusa leader and much more.

Hall of Florida Fossils: Evolution of Life & Land
Chronicles Florida's geologic and environmental changes over the past 540 million years that give insight to the plants and animals that have made their home in Florida.

Fossil Plant Garden
The fossil plant garden is landscaped with modern species of plants that are 50 million years old and are preserved as fossils in many places around the world.

Butterfly Rainforests
Stroll along the waterfalls and walking trails of this 6,400-square-foot subtropical and tropical trees and plants and hundreds of living butterflies on the "Wall of Wings" and learn about butterfly and moth biology.

Florida Museum of Natural History
UP Cultural Plaza • SW 34th Street and Hull Road
PO Box 112710 Gainesville, FL 32611
Monday - Saturday 10 a.m. - 5 p.m. Sunday & State Holidays 1-4 p.m.
352-846-8400 • www.flaemmuseum.org
APPENDIX F
IRB INFORMED CONSENT FORM APPROVAL

Visitor Orientation in the FLMNH

Description and Informed Consent Statement
Florida Museum of Natural History, University of Florida, Gainesville

This study examines visitor behavior inside the lobby of the Florida Museum of Natural History (FLMNH). The purpose of this study is to assess if the lobby is properly orientating the visitor with museum services and general wayfinding within the museum. It also examines perceptions of the museum visitor about the nature of the museum. This research is exploratory in nature and could help inform future changes to the lobby/reception space.

What you will be asked to do: Once you have completed your visit to the FLMNH the principal investigator or research assistant to the PI will ask you to answer a questionnaire. Your answers will be recorded by an audio recording device. These questions are used to illicit your opinion and ask about behaviors you exhibited in response to your visit at the FLMNH.

It will take no longer than 15 minutes to ask you the survey questions. There is no, or minimal risk associated with these tasks. There will be no monetary compensation provided for your participation. Also please understand there is no penalty for not participating and you do not have to answer any questions you do not want to answer.

Whom to contact if you have questions about this study:

Darcie MacMahon, Assistant Director for Exhibits (phone (352) 846-2000 ext 208; dmcaimahon@flmnh.ufl.edu) Florida Museum of Natural History, P.O. Box 112710, Gainesville, FL 32611-2710
or
Debra D. Harris, Ph.D., Assistant Professor, Department of Interior Design, College of Design, Construction, and Planning, University of Florida, (phone: (352) 392-0252 ext 457; debraharris@design.ufl.edu) P.O. Box 115705, Gainesville, FL 32611-5705
or
Providence LeGrand, Graduate student (phone (352) 336-7659; chickv@acceleration.net) Dept. of Interior Design, College of Design, Construction and Planning, P.O. box 115705, Gainesville, Florida, 32611-5705

Whom to contact about your rights in this study: UFIRB Office (phone (352) 392-0433)
University of Florida, PO Box 112250, Gainesville, FL 32611-2250

Approved By
University of Florida
Institutional Review Board 02
Protocol # 2005-U-0139
For Use Through 2/8/2006
APPENDIX G
FLMNH OVERALL FLOOR PLAN

Enlarged area of front entrance and the Central Gallery, shown in Figure 4-5.
APPENDIX H
CATEGORY LISTS FOR EACH INTERVIEW QUESTION

The numbers of responses are shown for each category within each question.

**Question 1: What was the purpose of your visit today?**

See the Microbes Exhibit, 1
See McGuire Center/Butterfly Rainforest, 33
See North Florida Exhibit, 0
See South Florida Exhibit, 0
See Fossil Hall Exhibit, 0
See Pearsall Collection Exhibit, 0
See exhibits, 1
Social Experience, 12
Educational Experience, 0
Required for a UF class, 3
Museum Experience, 3
Other, 14 (see list of responses in Appendix I)

**Question 2- Who did you come with?**

Came alone, 2
Came with one other adult, 26
Came with family of 5 or less, at least one child, 10
Came with family of 6 or more, at least one child, 1
Came with an adult group, 3 or more, 15

**Question 3- Have you been to the Florida Museum of Natural History before?**

Have NOT been before, 31
Have been before, 23

**Question 4- When you think of the FLMNH what comes to mind?**

Natural History, 3
Butterfly rainforest, garden, 16
Plants and animals, non-specific, 3
Plants and animals specific to Florida, 3
See exhibits, 5
Never thought about it, 6
Memories, childhood etc., 2
Dickinson Hall, old building, 3
History, the past, relics, 5
Fossils, skeletons, bones, 5
Dinosaurs, 2
Other, 24 (see list of responses in Appendix J)

**Question 5-** When you entered the museum today, what did you see that would give you an idea about what this museum is about?

Frog wall, 3
Gift shop, 3
Mammoth and Mastodon, 32
Advertisement, outside signage, 3
Donation box, 1
Butterfly "wave", 3
Other, 20 (see list of responses in Appendix K)

**Question 6-** When you look at the mastodon and mammoth skeletons what do they make you think about?

Pre-History, the past, 22
Fossils, Skeletons, bones, 1
Dinosaurs, 4
Imagining oneself in the past, 2
Evolution, 1
Extinction, 0
Physical attributes of the animals, 10
Can’t believe they lived in Florida, or area, 3
Other, 21 (see list of responses in Appendix L)

**Question 7-** Can you describe how you feel inside the lobby space?

Comfortable, 12
Relaxed, peaceful, 6
Airy, open, 9
Bright, 4
Big, large, expansive, spacious, 9
Barren, sterile, 0
Empty, not enough items, extra space, 8
Nice, fine, pleasant, 9
Makes visitor feel small, 3
Other, 22 (see list of responses in Appendix M)
Question 8- If you saw this (use visual aid) when you walked into the museum, what would it make you think about?

Natural History, 1
History, the past, 6
Plants and Animals (non-specific to Florida), 10
Plants and Animals (specific to Florida), 5
Diversity, variety, 4
Evolution, 2
Ecology, 0
Natural Environment, 2
Comments about Physical Design, 5
Scientific Classifications, 0
More Interesting, more to look at, more exciting, 3
More Comprehensive, 3
Shows what the museum is about or has to offer, 5
Positive Response: I like it, impressive, beautiful, etc., 19
Other, 25 (see list of responses in Appendix N)

Question 9- Can you describe how this space might feel to you (with “Panorama of Life”) compared to how it feels now?

More items, fuller, busier, 10
More interesting, 7
Crowded, restrictive, confining, 2
More welcoming, inviting, 5
Describes what is inside museum, what the museum has to offer, 6
Comment about physical design, 7
Non-descriptive positive response to the Central gallery as it is now, 7
Non-descriptive positive response to new design, 18
Energetic, movement, more exciting, 4
Don't know, 1
Other, 23 (see list of responses in Appendix O)

Question 10- When you entered the museum today did you get the type of information you needed to plan your visit?

No, 3
Yes, 34
Don't need any, 3
Didn't ask for any, 4
Haven't sought it out yet, 7
Other, 3 (see list of responses in Appendix P)
Question 10A- What was helpful to you?

Paper information, 8
Staff person at the information desk, 8
Did not need information, 0
Already familiar with the space, 3
Directional signage, 7
Other, 9 (see list of responses in Appendix P)

Question 11- What could we do to make this map more helpful to our visitors?

You-are-here icon, 8
Color coding, 16
Use more symbols or pictures, 3
Bigger, 6
Orient differently, 1
Show location of entrance, 2
Don’t know/didn’t use map, 8
Okay the way it is, no comments, 17
Other, 6 (see list of responses in Appendix Q)

Question 12- Did you notice the large exhibit signs inside the lobby?

No, 14
Yes, 40

Question 13- Did you use them to help you find a specific exhibit?

No, 11
Yes, 40
Familiar, already know where to go, 1
Don't need them, just wandering, 2
Other, 0
APPENDIX I
“OTHER” CATEGORY RESPONSES FOR QUESTION 1

Question 1: What was the purpose of your visit today?

1. To look around the campus.
2. Well, I just wanted to see the sculptures. And, you know, just kind of see, you know, just kind of see what they have.
3. Well, we had some of the afternoon to kill because we were done riding our bikes and we saw the brochure for this and thought this sounds really interesting. So we came over to look at it because it sounded good in the brochure.
4. I’m going to visit Charlie Corvel. He works here.
5. We’re visiting Gainesville and we heard about the Museum.
6. ...to see some of the natural Florida history.
7. ... we came to the butterflies to take some pictures.
8. Just to see it, I’ve never been there.
9. Oh just to see what’s here.
10. Um, my son likes fossils.
11. Just recreation.
12. To see the natural history museum.
13. Oh, I have been interested to see this museum for a while.
14. To visit the museum.
Question 4: When you think of the FLMNH what comes to mind?

1. It has a lot of new stuff and interactive things.
2. Local natural resources, all kinds of ecosystems.
3. There's a big science museum where I'm from and it reminds me of like fun exhibits and playing with neat science toys.
4. My wife and I both enjoy museums. We travel a lot and that's the first thing we look for is the museums.
5. Gators.
6. Well, I just realized they had one.
7. Well this is…now; we were just driving up I-75 and saw the sign and decided to stop.
8. Research.
9. Uh, the mammoth.
10. Well, it's the first time we've ever walked in, this is the first exhibit I've seen, but it's a nice facility from what I've seen so far.
11. Hmm…oh gosh that's a hard one. Well, my children really enjoy it, so that's why we come quite a bit for them…because, they're pretty nature orientated so they really enjoy it.
12. Well, I…this new Florida Museum I think is actually spectacular. The improvement is marvelous, I thought the other one was very good, but this is really outstanding. It should be considered one of the best in the country.
13. Archaeology
14. I love it! All the wonder of it I think.
15. The mastodon and the mammoth, and I thought that was pretty impressive because of how detailed they were and how complete they were, and also I liked just the
environment was nice. A real relaxed environment, it wasn't crowded. Just kind of…a nice, comfortable place to visit.

16. Well I was…I knew the University of Florida in Gainesville was here, I didn't realize how large it was and someone told me yesterday there's 80,000 students or something like that. I like college university towns, I think the ambience and the culture's just wonderful.

17. Well…gee, I always remember this exhibit here with the mastodons, Like I said…I think of it would be kind of a child oriented museum, it's a very good place to take kids.

18. Oh, it’s great.

19. I don’t know, just fun and relaxing.

20. Oh well…we've been down in Fort Lauderdale, and I used to go to a museum down there, of Natural History. And we were going to go but it's closed, so…we were sort of disappointed but then we saw this one so that was it.

21. Okay, since it's associated with the University I figured it was going to have research and that it was not just going to be like some kids version. Since I'm tourist for the first time, I want something quality.

22. Well, the great deal of effort it took to put all this together.

23. Well, I think it's really educational. One thing that's different that they have, the interesting thing, is that things relate to children.

24. Prehistoric stuff that's why I was originally interested in coming.
Question 5: When you entered the museum today, what did you see that would give you an idea about what this museum is about?

1. Prehistoric times

2. Some of the birds around here, yeah. And the information signs.

3. Oh God…(laughs) well other than that, um…okay, my opinion was that…um, they're trying. They're trying to create this…uh, I don't think there's any other part of the University that has one of these, it's all here right? And it's more extensive than the last time I was here (at the Harn) which was about 5 years ago.

4. Uh, the art

5. Well, on the outside for one thing. And coming in the door and seeing the different, uh, things on the wall to give you an idea of what’s going to be inside. And talking to the lady at the desk about the rainforest.

6. Well, your first exhibit is all I've seen, and it reminds me of our museum at home in Raleigh…very similar.

7. I didn't…I just walked in, yeah, so I really haven't seen anything. I guess the first thing that caught my eye was the fact…how big the whole complex is. And my son being in theater, I did notice the theater…looked like that was pretty neat.

8. I have no idea, just visiting…curiosity

9. And…you know, I've been coming to this museum since I was a kid, when it was at it's older location…so, I…it's harder for me to answer because I've grown up with it…but, just the atmosphere you can tell it's a learning environment.

10. Well, obviously I looked at the brochures first of all and the general information.

11. Actually, nothing until I got through the door. No, because I already knew it was here…and that exhibit, butterfly exhibit, I’ve seen it before, it’s kind of unusual…you kind of look at it and say “well that’s got to be different”, and you’ve got a question mark, you know…but I knew. Sorry about that if that’s not the right answer…I’m giving you an honest answer.
12. Well I have an idea what Museums of Natural History are, and I have been to another butterfly place in Callaway Gardens, Georgia. So I had some idea, I've been to the Natural History Museum in Washington D.C. and so forth so I knew there would be these skeletons and so forth. I haven't been to the rest of the museum yet.

13. The big animals

14. Oh we saw everything. I don’t know…it’s just about everything.

15. The dinosaur

16. We haven't really gotten into it yet. I just figure that it's about natural history and I'm excited about exploring the natural stuff, kind of getting some more background.

17. I'm not sure, as I've said we have been here before, so we knew sort of what to expect. But I didn't think…have they, I know you're the one who's supposed to be asking questions, but it seems to me that they have a lot more now then they had when we were here last, it was about 5 years ago.

18. One thing when you walk in the front door, you already know what the museum's going to be like because whatever is out here on display is always an eye catcher. It's clean, it's neat, everything, I mean it just says "Come in, we're ready for you".

19. We knew it was here because it’s where the butterfly exhibit is and also natural history

20. But we like the archaeology and, you know, the reconstructed fossils exhibit.
APPENDIX L
“OTHER” CATEGORY RESPONSES FOR QUESTION 6

Question 6: When you look at the mastodon and mammoth skeletons what do they make you think about?

1. They make me think about the exhibit that I came and saw for the class.

2. Hmm…well, what are you looking for? What kind of aspects are you looking for? Like preservation? Well when we see them I want to tell my children about the fossils, and we’ve been studying the flood. And you know this is a good example of when the flood came. And especially, I guess a lot of the museums don’t present one side or the other, but we can use it to tell them how the fossils are preserved.

3. Running.

4. It made me think of the natural history museum in Washington D.C., and made me curious as to what else was here.

5. Elephants

6. I guess everything that we missed.

7. The differences between the two groups of elephants.

8. I guess dead things on display.

9. So far, so far…I haven’t had enough exposure to the rest to tell yet. Probably be better, actually if you catch them on the way out.

10. Natural history.

11. My anthropology class.

12. My childhood. They’ve been around for a while…so…it’s kind of a sense of excitement because when my kids come in the first thing they always say “whoa”, when they see that. So…it’s hard for me to describe, but…

13. What it used to be on Earth once upon a time…and how lucky we are that we’re still here.
14. Oh gee, just my love of history I guess and my love of science.

15. Just in amazement that they’re so close to where we live now, that’s where they were found… and how, it’s just real impressive. It’s one thing to read it or see it in a magazine, but when you actually see it in person it’s incredible. It’s not abstract anymore, it’s real.


17. I wouldn’t want to meet them, even though they aren’t meat eaters.

18. I guess how small we are in the universe.

19. Hmm… good question. Actually, the first thing that came to mind… we were at the museum of Natural History in New York. Yes, they have an amazing amount of fossils.

20. Well I was thinking, how in the world did they get that preserved; where they could bring it back out today and have this much of it here. It’s amazing.

21. I don’t know, they remind me of Africa
APPENDIX M
“OTHER” CATEGORY RESPONSES FOR QUESTION 7

Question 7: Can you describe how you feel inside the lobby space?

1. Happy.

2. I like the space, yeah, especially because right there and you can walk right in there.

3. There’s a lot of unutilized space. It looks like a convention center, the room isn’t really complete. It’s a beautiful building on the outside and it has a lot of structural feature and the lighting is excellent. I think it could definitely use a lot more.

4. Wonderful, good atmosphere.

5. It’s inviting except that this, um, like the bobcat and the bird that’s above your head you don’t notice it right away, you’re drawn to the mammoth skeletons.


7. It’s…let me look. Well, you know the look of the museum has changed from when I was a child. And it’s definitely, it seems more like of a lobby that you would find in a bigger city museum. It’s more…slicker, almost. And it has a great design, and it definitely feels like a bigger city museum.

8. …and it gives you a wonderful feeling.

9. I’m indecisive because I don’t know where to start. What should I do first?

10. Sort of overwhelmed actually.

11. Bringing the outdoors in, it gives me that sense,…friendly…it’s clean, it’s very clean.

12. …informative, there are signs telling people what’s available. And I like the mastodon and the other guy.

13. …it’s a little…it’s got the iron girders over there, you know, so to me it looks a little unfinished.
14. It’s well organized, it’s very inviting.
15. I feel relaxed; I feel really…I feel at peace.
16. ...it’s not cramped I guess.
17. I have no idea…Like I’m about to enter those eon periods years ago.
18. Safe. Relaxed and quiet, yet there’s talking going on. It doesn’t bounce off the walls.
20. I guess I am really surprised at how many people are here today. It is exhibited very well; I haven’t been around the whole museum.
21. No, not really.
22. I don’t have any feelings.
23. Well, there could be more going on.
APPENDIX N
“OTHER” CATEGORY RESPONSES FOR QUESTION 8

Question 8: If you saw this (“Panorama of Life”) when you walked into the museum, what would it make you think about?

1. It probably makes me think about Alexander Calder. It looks like a giant mobile.

2. …the track with the butterflies and animals on it,…

3. I was trying to see what these are…hmmm, all aspects of animal kingdom. Even the extinct ones.

4. It would just rekindle more thoughts about the fact that you’re entering another world, and that’s what the idea of a museum is, the past.

5. Let’s see, it looks like flight but obviously it’s not all flight, it’s underwater and… action, movement.

6. Ooh, I guess all the many creatures there are in this world that we need to know more about.

7. I’m not sure. It’s a lot going on. It kind of…I mean it looks nice, but it’s kind of disorganized to me.

8. Just what I would expect in Florida. It’s not what I’m used to. (What isn’t what you’re used to? The exhibit?) Yes. (The track?) Right. Particularly to Florida, I’m used to the large exhibits in the Northeast. That’s why I like this so much, it’s more…cosmopolitan.

9. It looks like a lot of fun. Better then…well it’s the same isn’t it?

10. I don’t know, I don’t.

11. First thing that ran through my mind was Fantasia for some reason.

12. And it definitely fills the space, it would kind of enhance, I think it would enhance the look and the feel of the museum. Definitely.

13. A forest.
14. Oh…um, just…I don’t know…just a beautiful open space that’s very light and airy…friendly.

15. This is an improvement, this design adds a lot. Without it, it’s a little more stark. I said it’s comfortable, but it is soothing and comfortable but this would add to it.

16. Well obviously prehistoric skeletons.

17. Confusion I think because of all the…when you first see it.

18. Oooh, definitely it’s like a walk through time.

19. It’s a very comfortable feeling…it does look like a museum, you can see some of the…you know, the fossils.

20. It’s way too busy. Too much to see, too much going on. No, that’s way too busy.

21. Mastodons. That’s what your eye is drawn to first.

22. That’s a very attractive museum, fancy or whatever…very attractive.

23. It would be almost overwhelming but it would definitely catch your eye; but, I mean, it would be more overwhelming to look at it.

24. I don’t know, it makes me think of other museums that I’ve been in. This reminds me of the dinosaur, uh well skeletons that they have in the museum in Connecticut.

25. Noah’s Ark. It’s a better feeling probably.
APPENDIX O
“OTHER” CATEGORY RESPONSES FOR QUESTION 9

Question 9: Can you describe how this space might feel to you (with “Panorama of Life”) compared to how it feels now?

1. I’m not sure if I think it’s appropriate or not. Maybe somebody younger would appreciate it I think, I don’t know. I’ve been to a lot of museums in my life…so, okay.

2. This is busier for sure than what is here now. More ideas.

3. That there, it kind of, I guess it would get you moving a little bit more. You’d be wondering what was going on exactly.

4. It feels a little more user friendly.

5. I think this room needs to say it all when you walk into the museum. It needs to…you need to have more in here, would be my opinion.

6. I think it would still… feel small.

7. … a little bit more finished maybe.

8. (Do you think it would feel differently at all?) If it was what…if it looked like this? (Yes.) No, I don’t think so.

9. Sort of…I think it would make people, I can’t think of the word, be like “wow”…when they walked in, sorry I can’t think of the word.

10. People might spend a more time in this area.

11. Yeah, it would really grab your attention. That would add a lot to the entryway and make it seem a lot less sterile as you walk in.

12. About the same.

13. This is more complex because of all the architectural, I mean the features here. Yes, that’s a work of art.

14. I think it gives more information, it would be an improvement. It’d be nice
if there would be a little more seating available for old people like me.

15. It would be acceptable, but this is... I don’t think this is any better or worse.

16. I think it would be a great improvement actually.

17. This (the picture) would give it a lot more life, a more homey, comfortable feeling.

18. Lots of talking, lots of activity. So much to see so you end up going on through because you don’t want to have all of that confusion.

19. Well, there’s more information here in this exhibit with the birds so it would be more informative, It would be a better utilization of space I would think, sure. Okay?

20. I think the picture is more attractive, but this one (the space now) is just as interesting. What’s aesthetic and what’s interesting depends on which one you want. The big skeleton there, versus a small one, I would prefer to see a picture of more things, okay?

21. A little chaotic, maybe. I like it more the way it is now. I like the idea that they’re trying to incorporate all the different wildlife, but I think it might be too much in one area.

22. Warmer.
APPENDIX P
“OTHER” CATEGORY RESPONSES FOR QUESTION 10,10A

Question 10: When you entered the museum today did you get the type of information you needed to plan your visit?

1. Oh, it was just more or less to inform ourselves what it was like. We’ve never been here before
2. Well we were asked if we’d like to have a map, yes, and I didn’t ask for any information because we felt like we wanted to walk through.
3. The one thing is just the signage is just very hard to see around the display.

Question 10a: What was helpful to you?

1. It was actually my friend that told us. She came yesterday and got the tickets for everything so she just walked us through.
2. You. (RA)
3. Everything was helpful.
4. The people we’re with know what we’re looking for. They’ve been here before.
5. Working at the museum for the last thirty-five years.
7. Well I had an unusual incident, I locked the keys in the car in the parking lot and the people were very helpful to my wife and to me, giving us information, phonebooks, information with the address of the museum and so forth.
8. In the butterfly exhibit there was a docent in there and we kept her busy for about half an hour. They need more, because there were only 2 in there. They were volunteers, well one of them was a volunteer I don’t know about the other one. There were probably 100 people in there and only 2 volunteers; and we kept her busy for thirty minutes, so you need more.
9. In the butterfly exhibit there was a docent in there and we kept her busy for about half an hour. They need more, because there were only 2 in there. They were volunteers, well one of them was a volunteer I don’t know about the other one. There were probably 100 people in there and only 2 volunteers; and we kept her busy for thirty minutes, so you need more.
APPENDIX Q
“OTHER” CATEGORY RESPONSES FOR QUESTION 11

Question 11: What could we do to make this map more helpful to our visitors?

1. So are we right here? I’m trying to see, I don’t know. So you have the butterfly here, people environment, Indian art, waterway, wildlife. So these are temporary exhibits? I think I would appreciate some more ocean aspects of the exhibit.

2. I don’t know, maybe it needs less detail.

3. Okay, now is this…are these given to everyone? (They are at the help desk.) So you don’t know these exist though unless somebody points it out. You might have something when you walk in the door that says “Maps here” or something like that. Yeah, this would be nice. I think everyone should carry one of these with them probably, or look at it before they go through.

4. Well you know the visitor’s responsible for getting around themselves too, you know what I mean? I’d say arrows in passageways and stuff, because I assume that’s what these are? Right. Is there any sequence of seeing this stuff that’s better than another, or you just go in and out of them as you go along. It’s part of the mystery and then fun. (Yeah, exactly, it just shows you what’s adjacent to each other.) Which is fine, there’s nothing wrong with that, that’s fine. No negatives here.

5. Oh…a little more white space. So I’m not sure…I’ve been through all of the things…and one of the things, the last time we brought the grandchildren there was this sweet blond haired lady…an older lady…(In the front desk she was sitting?) Yes, and she welcomed the children and they all wanted to pet one of the stuffed animals and were asking, “Can we do that? Can we do that?” I thought that was wonderful not only to welcome us, but to welcome the children.

6. Well, let me see…for me personally, it’s kind of like, a lot of stuff at one time. It might be more simplified somehow, like maybe just a few words with each thing that gives you just a brief description of what’s there, because it would take you a few minutes to read this. But that’s about it.
LIST OF REFERENCES


BIOGRAPHICAL SKETCH

Providence LeGrand-Fenn was born in Miami, Florida, in 1975. Her family moved to Gainesville soon after so her father could attend the University of Florida. Eighteen years later, Providence was accepted to the University of Florida as well. Previously she completed a high school diploma and was awarded an International Baccalaureate degree from Eastside High School in Gainesville, Florida, in 1994.

She continued her education as a fine art major. Ultimately she received a Bachelor of Fine Arts Degree, with an emphasis in sculpture in 1998. Providence spent four years working in the “real world,” which influenced her desire to seek out a higher level of education. She returned to the University of Florida and was accepted into the MID program in the College of Construction, Design and Planning in the summer of 2002. Adjunct to her classroom education Providence received a summer internship at the Smithsonian’s National Museum of American History in Washington, D.C., in 2004. Upon completing her master’s degree in 2005, Providence plans to pursue a career with an independent design firm that specializes in interpretive planning and exhibit design.