

ADVANCING THE OWELA
DISPLAY CENTRE,
NATIONAL MUSEUM OF NAMIBIA



Sponsoring Agency:

**The National Museum of Namibia
Anzel Veldman, Curator, Owela Display Centre**

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ADVANCING THE OWELA DISPLAY CENTRE, NATIONAL MUSEUM OF NAMIBIA

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by

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ABSTRACT

This report contains two aspects for the improvement of the Owela Display Centre: two guided-tour pamphlets and a restroom exhibit. The brochures provided supplementary text to the exhibits and the exhibit in the restrooms increased the museum's aesthetic appeal. We also improved community involvement with the museum by engaging underprivileged students in the creation of the exhibit. Not only did our projects benefit the museum, but also the students who were exposed to a technical life skill and new possibilities.

EXECUTIVE SUMMARY

National museums are an important part of any country as they ensure the preservation of significant aspects of that country's heritage. The National Museum of Namibia is no different, with a mission to "preserve, understand and explain the material heritage of our country for present and future generations, that they may study, enjoy, take pride in and learn from these assets" (National Museum of Namibia, 2003, para. 5). The Owela Display Centre at the National Museum of Namibia houses exhibits on the cultures and wildlife of Namibia. However, some of these exhibits had no written descriptions. Additionally, the toilet area of the museum was in dire need of repairs.

The primary goal of our project was to enhance the quality of the Owela Display Centre through the creation of two guided tour pamphlets to supplement the exhibits in the old wing of the museum while also creating an animal themed exhibit in the toilets. On site, we developed a secondary goal of enhancing the experience of the students we worked with by organizing an educational program for them. These students are from the Family of Hope Services, which is a community-based non-profit organization located in Windhoek. It is our hope that meeting these goals resulted in not only a more educational and pleasant atmosphere in the museum, but also provided the students with a fun learning experience that opened their eyes to new experiences in life and allowed them to leave their mark on the National Museum of Namibia.

LITERATURE REVIEW

In order to create an effective toilet display and informative self-guided tour pamphlet, we conducted extensive research to enhance the overall quality of our final product. A museum is a place of knowledge and enrichment, and improving or adding displays can increase the overall value of the museum. When designing and planning for an exhibit, one must consider the functionality as a public space. Additionally, a bathroom needs to be designed as a clean, safe, and durable environment.

The primary goal of a pamphlet is to deliver information. This can be accomplished through two important aspects: content and format. The content of a museum pamphlet will read similarly to an exhibit label, while avoiding subjective humor, metaphors, and alliteration, which may not be appreciated by all readers. A good self-guided tour can enhance the overall museum experience by supplementing display information and better engaging the visitor with the experience.

Proper evaluation strategies are necessary to test the success of a prototype pamphlet. Evaluations determine the effectiveness of the given prototype and range from observations, to various types of interviews, to surveys. Proper evaluation methods can be determined based upon the location of the evaluation, the audience of the evaluation, and the availability of subjects for the evaluation. We also considered Cultural Domain Analysis to gain a better understanding of the differences between our culture and the Namibian culture before working on site.

Engaging members of the community in a project is one way of achieving success. By inviting locals to become a part of the design process, not only will it increase the likelihood that the community enjoyed the designs, but it will also work towards the long-term success of the museum. This will expand the impact of the museum into more of the community and should also result in an overall benefit.

Finally, we examined several different case studies to examine how others have dealt with similar situations.

METHODOLOGY

We designed four main objectives for the completion of the toilet exhibit: determine a theme, determine the design specifications, obtain the materials, and create the exhibit. We found that an animal theme would be optimal, because it would best fit the content of the museum and because it is a unifying topic for the diverse cultures of Namibia. We then determined design specifications for the exhibit by taking the functionality and durability of the space into consideration. With the concept we provided, the curator created a formal design for the toilet that included a combination of mosaics and painted elements: a desert sunset in the background with a tree and animal silhouettes in the foreground. The museum already had several cans of paint that we used for materials. We identified a few local tile companies, and of those Tile Africa agreed to donate tiles for the project. We also recognized and purchased the additional miscellaneous materials needed, such as grout and rags.

Before implementing the design, we had to first prepare the toilets. We did this by removing any loose objects, by cleaning and disinfecting the room, and by painting a base coat on all the walls. The Family of Hope Services students then completed the design with our assistance. Finishing the exhibit consisted of painting the sun, sand, and the Namibian Flag on the wall facing the toilet stalls and making both the animal and the tree mosaics. After the design was finished, we fixed the mosaics to the walls to complete the scenes.

The second aspect of our work identified four objectives for the self-guided tour pamphlets: determine themes for the tours, create and test the prototype pamphlets, evaluate the pamphlets, and deliver the final product. We decided to create both an animal and a culture pamphlet, since those two themes best complemented the exhibits in the old hall, which the tours were designed for. We then determined which specific exhibits would be included and researched those topics. While we created the formatting and layout for the pamphlets, we also wrote and edited each section of the tour and produced the two prototypes. We tested these prototypes by providing copies along with surveys to visitors of the museum. Through these surveys, we determined what changes we needed to make to ensure our pamphlets were appropriate for their audience. Once we had made these changes, we presented an editable version to the curator, Ms. Veldman, so she could have them mass produced for the museum and would also have the technology to edit them for future changes to the Owela Display Centre.

In order to provide an enriching and educational experience for the Family of Hope Services students and complement both the toilets and pamphlets aspects of our project, we developed additional activities for the students along with the painting and tiling work. We first invited all of the students to create their own personal mosaic using the same materials they would be using for the toilet mosaics. The students split into two groups, and switched activities halfway through their time at the museum. One group used the pamphlets to fill out educational puzzles that we had made. The other group either painted or tiled depending on the day. By dividing the students into the two different groups to work, we hoped to ensure that the experience was both enriching and educational.

RESULTS

Interviewing the different collaborators that were part of our project helped us gain valuable insight and gave us a better understanding of what was expected. These initial interviews also helped us develop our secondary goal to make education an important aspect of our project.

The toilet exhibit was completed with the feedback and resources we attained from our various collaborators. The toilets required a significant amount of work to make the exhibit successful, but the enthusiasm of the students and the joy they gained from this eye-opening activity was more than worthwhile. In the end, the project was successful and feedback from the Family of Hope Services students and staff, along with feedback from the Museum staff helped

us determine that our exhibit was indeed beneficial both for the Owela Display Centre and the community. Pictures of one of the walls before, during, and after our project can be seen below.



A tour of the Owela Display Centre facilitated an understanding that two pamphlets, rather than one, were crucial, both to fit all of the necessary information and to help guide the visitor flow through the museum. The self-guided tour pamphlets were created as prototypes and given to the curator for feedback. Once minor adjustments were made to ensure the pamphlets were culturally appropriate, we tested them. The visitor surveys helped us determine that the pamphlets were a highly educational and beneficial addition to the Owela Display Centre and were also culturally appropriate.

CONCLUSION

We provided the Owela Display Centre with two easily modified self-guided tour pamphlets on the cultures and wildlife of Namibia. We also created an animal themed exhibit in the toilet area which featured two painted sunsets and raised mosaics of both trees and animal silhouettes. Our pamphlets provided additional information to the exhibits of the old wing of the museum. The toilet exhibit provided the museum with a renovated toilet area, but more importantly, we exposed students from the Family of Hope Services to the technical skill of tiling and to new information about the cultures and wildlife of Namibia, which they might not have the opportunity to get otherwise. Furthermore, we created recommendations for ways to expand upon the work done in our project and ways the museum can be improved in general. Finally, our group was privileged enough to have this opportunity to grow as individuals through our work with these students and the challenges we faced with them. We all benefited from this unique life experience.

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CHAPTER 1. INTRODUCTION

Hanging over an entrance to the Smithsonian Museum in Washington DC is the quote, “Wonder is the beginning of wisdom” (Connolly, 1914, p.11). Just by stepping into a museum, you are expanding your educational horizon. From the great museums, like the Louvre, the Metropolitan Museum of Art, and the Egyptian Museum in Cairo, to smaller more intimate archives, museums have the potential to provide an educational and enriching experience for the visitor. Museums allow visitors to use their imagination, to wonder about the unknowns of the world, and to discover new things. They are also useful resources for learning more about cultures, such as the Himba culture of Namibia represented in the National Museum of Namibia. Traditions, tales, artifacts, and the history of humanity are stored in museums so that more people have the opportunity to experience and learn from them. If a museum does not remain up to date, then it will not retain the educational value that is the basis for all museums.

Another way to increase the educational value of a museum is to improve its displays. Improved displays not only encourage visitors to return, but can also draw in new visitors. Unfortunately, renovations generally depend on the size and budget of a museum. A museum is judged to be small based upon the size of its physical space, collection, staff, and budget (Yeung, 2006). Small museums are always competing against larger museums for visitors, therefore a small museum with a limited collection and budget has to use innovative techniques in order to succeed.

One example of a small museum with a limited collection is the Owela Display Centre in Windhoek, Namibia. The Owela Display Centre is part of the National Museum of Namibia, which is a subset of the Ministry of Youth, Sport, Culture, and National Service. Along with the Owela Display Centre, which focuses on natural history and ethnography, the National Museum of Namibia has two other branches: the Alte Feste Display Centre, which focuses on the pre-colonial and colonial history of Namibia; and the Museum Acre which houses the administrative offices.

The mission of the National Museum of Namibia “is to preserve, understand and explain the material heritage of our country for present and future generations, that they may study, enjoy, take pride in and learn from these assets” (National Museum of Namibia, 2003, para. 5). The National Museum of Namibia accumulates and displays artifacts and information which are deemed significant to Namibia and the Namibian people. We worked with the Owela Display

Centre to highlight common themes among some of its exhibits in order to help visitors understand the significance of the unique artifacts housed there.

Additionally, we created an exhibit in the toilet area at the museum with the help of different organizations within the community to both improve the museum and to have a positive impact on the lives of the individuals we worked with.

Our main goal for this project was to improve the overall quality of the Owela Display Centre, and our secondary-goal was to create a fun and educational experience for those who participated in the renovations. These two efforts resulted in a nicer atmosphere in the museum and more community involvement with the museum. We hope that our improvements expanded the museum's appeal to both local visitors and tourists, thereby increasing the number of first-time and returning patrons.

CHAPTER 2. LITERATURE REVIEW

This project explored strategies for enhancing the visitor experience at the Owela Display Centre by creating a new exhibit in the toilet area and a self-guided pamphlet tour for several displays in the main hall. This chapter evaluates background information and pertinent literature on the Owela Display Centre itself, exhibit design, materials, community involvement, pamphlets, tours, and evaluation methods. The final part of this chapter outlines case studies that acted as inspiration for our project.

2.1 THE OWELA DISPLAY CENTRE

The Owela Display Centre is one of three separate divisions of the National Museum of Namibia. The National Museum was founded in 1907, as the Landesmuseum while Namibia was still a German colony. It was created in response to several articles in local papers calling for the creation of a museum in Namibia because many botanical, ethnological, and geological artifacts were being removed from Namibia to be placed in European museums. The museum gained early notoriety by having 33 meteorites from the Gibeon area, the second largest collection of meteorites in the world (Otto-Reiner, 2007).

The Landesmuseum was renamed the South West African Museum in 1925, five years after Namibia was relinquished from German to South African rule; this was a rather unstable time for the museum. The museum collections were not open to the public from 1915 to 1932 and the majority of the staff was underpaid or simply volunteers. After reopening to the public, the museum experienced slow yet steady improvements, with the majority of these improvements focused on preservation.

In 1956, the museum instituted a policy requiring all foreign scientists to provide duplicates of anything they collected to the museum. This regulation highlights the mission of the National Museum of Namibia: to preserve and protect the environment and heritage of Namibia. However, the 1956 regulation was deemed insufficient and control of the museum was transferred to the Executive Committee of Administration for South West Africa because it was felt that the most significant discoveries made in Namibia were still leaving the area and were not being preserved locally (Otto-Reiner, 2007).

More recently, the National Heritage Act of 2004 was passed stating that all cultural material are the property of the Namibian government and that no one may take cultural artifacts from the country without permission from the National Museum. This recent regulation,

the National Museum is still working hard to preserve the history of Namibia and has had to continually enact stricter policies to achieve the desired results.

In 1957, the museum became known as the State Museum shortly after control was transferred to the Administration for South West Africa. At this time a new facility, the Owela Display Centre, was added to the museum (Otto-Reiner, 2007). The National Museum also continued to focus on its mission, enacting decisions in 1962 that:

No private individuals were to be granted permission to do collecting for commercial purposes in the country, (ii) only *bona fide* scientists who were attached to accepted research centre, universities or museums were to be granted conditional permission to do so, and (iii) whenever possible, duplicate material of collected specimens were to be handed to the Administration for South West Africa. (Otto-Reiner, 2007, p.19)

The new decisions again stress the mission of the museum: to keep Namibia's national treasures inside the country. Despite the inconsistency surrounding the museum, it had some very successful endeavors, many of which began while the museum was under control of the South West African government. The first of these successes was the publication of the museum's own academic journal, "Cimbebasia" in 1962. Another success occurred in 1963 when *Angolosaurus skoogi* (a very rare desert reptile) was collected in Namibia by a museum-sponsored expedition. Additional accomplishments occurred in 1983 and 1984 when the museum hosted two African conferences. Another victory for the museum took place in 1991 when it gained possession of the oldest pieces of rock art in southern Africa to date (Otto-Reiner, 2007).

The name was changed to the National Museum of Namibia in 1994, after Namibia gained full independence in 1990 (National Museum of Namibia, 2003). This was also accompanied by the naming of one of the buildings as the "Owela Museum" thanks to its display of the Owela-game, a variant of mancala using four rows instead of two, which had been added to the property in 1990 (Otto-Reiner, 2007). Using the Owela Museum and the Alte Feste, the museum was able to emphasize its mission of allowing all members of Namibia to experience its heritage by making these two the first public buildings in Windhoek to be handicapped accessible. 2001 also proved an especially exciting time for the museum when it played a large role in the discovery of the *Mantophasmatodea*, a new order of insect (Otto-Reiner, 2007). More recently, in 2005, the National Museum received the Cultural Preservation Grant from the American Embassy and the American Cultural Centre. The museum put these funds to use by developing educational materials for schools, thereby ensuring that future generations are able to appreciate Namibian history (Otto-Reiner, 2007). The National Museum of Namibia was

established to protect Namibia's national artifacts (Otto-Reiner, 2007). Their Mission Statement now reads,

The mission of the National Museum of Namibia (NMN) is to preserve, understand and explain the material heritage of our country for present and future generations that they may study, enjoy, take pride in and learn from these assets. This is achieved by systematically collecting representative objects, specimens and information; by preserving these collections to the best of our ability; by carrying out and encouraging research to account for our National Heritage; by displaying the Museum's Collections; by making other resources available to the public; and by disseminating knowledge for the benefit of Namibians and the International Community. (National Museum of Namibia, 2003, para. 5)

The National Museum achieves these goals by focusing on various specialized fields such as zoology, arachnology, myriapodology, entomology, herpetology, ichthyology, mammalogy, ornithology, archaeology, anthropology, and history, including pre-colonial, colonial and modern history. They also curate exhibits pertaining to aquatic invertebrates and nematodes. In addition to these research and curating departments, there is an education division and a reference library (National Museum of Namibia, 2003).

2.1.1 THE EXHIBITS

The Owela Display Centre is the subject of our project. It is a multidisciplinary display centre which includes exhibits regarding natural history and traditional lifestyles of Namibian people (Veldman, personal communication, Feb 28, 2011). The Centre is oriented towards all ages, but the text is generally geared toward visitors aged 14 and up, focusing on the cultures and animal life of Namibia.

The quality of the displays varies within the Centre. While some of the exhibits contain informative text, many of the exhibits do not have any sort of supplemental information outside of the physical display. For example, the Damara display highlights the Damara-speaking peoples' harvest of ant seeds. It does not identify who the Damara are, where they originated, or even why they specifically harvest ant seeds. The majority of the cultural exhibits highlight subsistence practices without providing background on their associated cultures. Namibia contains a plethora of cultures that have been around for centuries and have played a part in enriching Namibia's past. This type of cultural identification is the information that should be supplementing the exhibits.

Similar to the cultural exhibits, the animal exhibits often contain spotty supplemental text. Cape Cross has the largest Cape Fur Seal colony on the African continent; however, the Cape Cross (Kap Kreuz) exhibit (Figure 1) does not contain that fact, or even any additional



FIGURE 1. CAPE CROSS EXHIBIT

information about seals. There are a few animal exhibits with no text at all, such as the South Kalahari exhibit, and only provide visitors with the exhibit image and its label. This often leaves visitors guessing as to what exactly is in the exhibit, counteracting a museum's purpose of providing knowledge.

2.1.2 THE TOILET EXHIBIT

The toilet area of the museum is located in the basement. It occupies an area of approximately ten square meters and contains one stall for men and another for women, adjacent to each other. The space was originally bland and unwelcoming, but the curator was interested in creating an exhibit there to further integrate it into the museum experience. The project involved painting the room as well as creating mosaics on two of the walls. Figure 2 shows the floor plan of the toilet.

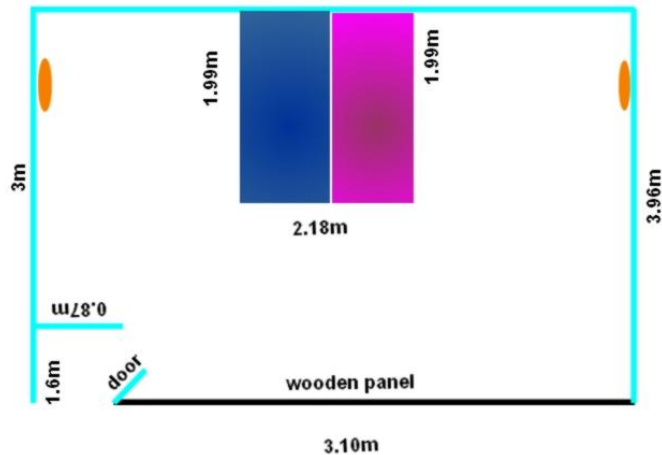


Image courtesy of Anzel Veldman

FIGURE 2. TOILET FLOOR PLAN

In addition to the floor plan, there are several photographs of the bathroom, which can be seen in Appendix A: Original Photos of Toilets.

2. 2 TOILET DISPLAY

In this section, we evaluate exhibit planning to enhance the toilet display we created. Since the display is not only an exhibit, but also a public facility, we looked at the literature on exhibit planning, design, and materials that we would be using in the display.

2.2.1 EXHIBIT PLANNING

Creating anything new in an educational venue requires a great deal of planning; in a public space this is even more true. Not only does the new exhibit have to be planned to the smallest detail, but the planning has to consider the community involvement, the overall theme of the museum, and the sustainability of the exhibit. Professor J. A. Veverka, an expert on museum interpretation, states that “an exhibit is an array of cues purposely brought together within defined boundaries for a desired effect” (Ververka, 1998, p. 124) and the planning of an exhibit according to Michael Belcher is “a group activity where each member contributes his or her particular expertise, knowledge or talents to the benefit of the project” (Belcher, 1991, p. 78).

We worked together just as Belcher describes in order to plan and produce an exhibit in the National Museum of Namibia.

The role of a museum within society can be understood through James Clifford's "contact zone" theory. Clifford casts the idea that a museum is "a space where different cultures and communities intersect, interact, and are mutually influenced by the encounter" (McDonald, 2008, p.25). Creating the proper environment for this influential encounter lies in the role of the curator, who uses his or her knowledge and skills to convey a message to the visitor. While a curator's work consists of "medium-term cycles divided between housekeeping, exhibitions, and scholarly research," the curator's primary role in museum design is transforming space into knowledge (McDonald, 2008, p.64).

Exhibit design traditionally is done by the curator; however, it can involve professionals ranging from educators to technicians. According to Gustav Taxén (2004), exhibit design exists in multiple phases. The first phase is identified as the conceptual phase, in which the curator identifies subject and audience of the potential exhibit. The curator also formulates resources and a timeline for completion of the project. The second phase is known as the development phase, because the design is completed and proper funding is in place. In some cases, a prototype could be generated and evaluated for efficiency before its physical implementation, which is also included in this phase. The final phase in exhibit design is the assessment phase. This phase consists of surveys and interviews to evaluate the current exhibit and also suggestions for improvement when designing and implementing future exhibits.

Each museum contains valuable subdivisions of information, exemplified through the exhibits, and a common theme noted throughout the exhibits. The exhibits should contain educational knowledge that complements the theme so that each subdivision maintains a connection with the greater picture. When changing or adding an exhibit, it is important to identify the exhibit's role in the overall theme, such that it blends in with the other subdivisions, yet has its own quantity of information. These materials work to provide for effective museum design and planning concepts.

Before the plans for a new exhibit can begin, there has to be a need (Belcher, 1991). The toilet area at the Owela Display Centre is very small, often vandalized, and, according to the curator, "in dire need to be re-painted" (Veldman, personal communication, Jan 31, 2011). Based on the description we received of the bathroom, we agreed that a renovation of the toilets was necessary and an interesting exhibition in the toilets would be highly beneficial.

2.2.2 DESIGN SPECIFICATIONS

When designing an exhibit, it is important to view the project from different perspectives. This will ensure that the needs of different people involved with the project as well as those viewing the exhibit are met. Aside from fastening loose objects, Virginia Greene notes that when designing a public area, “architects must consider the possibility that individuals may try to damage, destroy, or vandalize the finishes, furnishings, and equipment in a space” (Greene, 2011, para. 13). Objects can be stolen as easily as they can be vandalized. If a proper theme is picked that captures Namibian identity as a nation, it has the potential to instill a sense of pride in the visitors that would result in them admiring the exhibit rather than defacing it. In the case of vandalism, Greene also suggests a finish that is durable and easy to maintain.

2.2.3 MATERIALS

When designing the toilets, we needed to consider the functionality of the room. As a public space, the toilets should be a clean and safe environment, as well as handicap accessible to ensure that everyone can reach the facilities. A bathroom contains multiple sources of water output, so the floors should be made up of a material that doesn't get slippery when wet to ensure safety. All toilet materials should be durable and easy to clean.

There are a few different types and finishes of paint, all having varied functionality. Paint in a bathroom should be durable, easy to clean, and resistant towards steam and water. The two primary types of paint that fit these characteristics are oil and latex based. Oil paint is typically harder to clean up and takes longer to dry compared to latex paint, but has a more durable surface that is easier to clean. Both latex and oil paint come in multiple finishes, and each finish produces a different luster on the walls or molding that adds an effect to the room. The best finish for a bathroom is semi-gloss, because it is easy to clean, provides a subtle shine, and also holds up under moisture conditions (Nafie, 2011).

The goal of a museum typically is to provide each individual with an engaging and enjoyable visit. Colors can be used to enhance visitor experience because of the sensory feelings that are associated with certain colors. Kaylan Meola conducted a study through the University of Hawai'i at Hilo regarding the effects of color on perception by doing in-depth analysis of color psychology studies throughout the second half of the 20th century. Through his study, he concluded, “color has a definite effect on our emotions and our perception of the world” (Meola, 2005, para. 13).

Each human being associates colors with specific objects seen in daily life and therefore attaches his or her emotions to the colors. While there is little information on typical colors used

in Namibia, five prominent colors can be seen in their flag: yellow, blue, white, red, and green. Upon Namibia's independence, each of these colors was chosen with a specific meaning; red represents the people, their most important resource; white refers to peace and unity; green represents vegetation and agricultural resources; blue represents the Namibian sky and ocean; and yellow represents life and energy (Namibia's National Flag, 2011).

To complement a museum visitor's experience, colors should enhance the feel of the museum. While the colors in each display should reflect the energy of that specific display, it is important to pick an overall museum color that will instill positive sensory feelings in the visitor. Each color can have both positive and negative connotations, so it is important to consider carefully when choosing a color.

Another consideration when picking paint color is the size of the room. Is the room tiny and needs to feel bigger? Or is the room excessively large and needs a smaller, more intimate feel? Choosing the right shade of a color can give the impression of new dimensioning of a room without changing its actual dimensions. Dark, warm hues, such as deep reds, oranges, or yellows, can make a spacious room feel smaller whereas light, cool hues such as pale greens, blues, or purples, can make a room feel larger. Color is an important aspect of any design project, and should be taken into consideration.

The literature reviewed in this section provided us with information on the various steps in developing an exhibit. Since the toilet display is not only an exhibit, but also a public space, we learned about the necessary design specifications and materials in creating a durable yet functional toilet. From there, we developed an understanding of which colors would be most effective in enhancing the feel of the exhibit.

2.3 PAMPHLETS

In this section, we evaluated literature that would enhance the self-guided tour pamphlets we created. We needed to review the different methods used in creating an effective pamphlet and then identify which design would work best for our pamphlets.

Pamphlets and brochures are used in many different ways as a medium to deliver information. They can sell a product, provide points on an important issue, or just deliver general knowledge. There are two important aspects of a good pamphlet that are not dependent on the purpose: content and format.

The content in a brochure contains both text and pictures. When writing the text, it is important to consider the primary audience, as well as secondary audiences, which can include the media (Lipe, 2006). Text must be written in a way that will convey the intended message to

the main audience, but still keep in mind that it will be read by individuals separate from the target audience. The text on the outside of the brochure should be permanent information, and the text on the inside can be subject to changes (Egelhoff, 2008), so the editing process can be easier. For a more useful pamphlet, information soon to be obsolete should not be included (Lipe, 2006).

Since the pamphlet will be written for a museum, it will read much like an exhibit label. The primary audience of a museum label is the visitor, so the label must be written with that end in mind. The author of the label will not know the visitors' past experiences, and so the writer must use aspects of the exhibit to make an initial connection (Serrell, 1996). The writer should also stay away from metaphors, alliteration, exclamation points, and too much humor, mainly because the writer does not know how the visitor will react (Serrell, 1996); humor is subjective, the reader may not have the background to understand the metaphor, alliteration may seem gimmicky and annoying, and exclamation points could be interpreted as forceful (Serrel, 1996).

The format or design of the pamphlet is very important, as a good design is essential to getting information across to the reader (Molina, 2006). A catchy title and bright colors will catch the reader's attention (Jacobson, 2006). Once a reader is attentive, the font must be easy to read to keep the reader engaged. Fonts too vertical and compressed can be difficult to read, as can a serif font with short letters (Serrel, 1996). It is important to break up writing with headings and pictures (Jacobson, 2006) and to provide captions for those pictures (Lipe, 2006). This will keep the reader from getting bored by reading large blocks of text. A usual 3-fold pamphlet can be folded with either a z-fold or a barrel fold, as illustrated in Figure 3, below (Lipe, 2006).

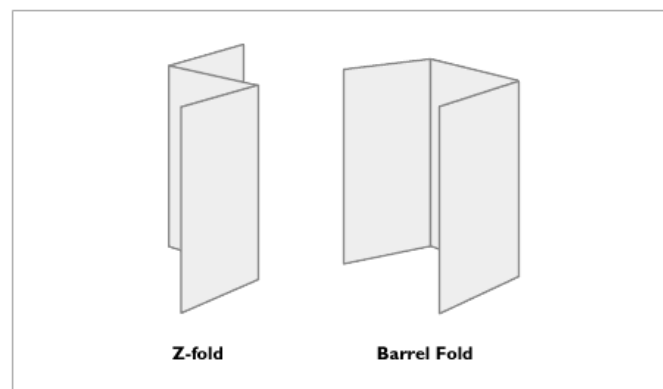


FIGURE 3. TRI-FOLD BROCHURE FOLDS (LIPE, 2006)

The designer should test the pamphlet before printing the final copies (Jacobson, 2006). Since the writer should not assume the reading capacity of the audience, testing is important to ensure the right level (Serrell, 1996). Testing will also tell the designer if the pamphlet is

aesthetically pleasing. Once the pamphlet is tested, it can be printed. When printing, it is effective to keep in mind how often the information will change when determining the number of copies to print (Lipe, 2006).

2.3.1 TOURS AND GUIDES

A good tour can enhance the experience of a museum visit. Tours can be lead by a guide, or they can be self-guided, as is the case with audio tours. In either case, tours should be very helpful and instructive to the visitor. In “Tape Recorded Tours and the Museum-Going Experience”, Galligan states that audio tours helped the visitor make sense of his or her visit and provided extra information on the artwork (Galligan, 1996). Other guided and self-guided tours can have the same effect. The guides, whether via a docent, recording, or written page, should give the background necessary for understanding the exhibit without including boring facts (Wressnig, 1999).

In this section we found how to best enhance the design and content in a pamphlet. We also learned about museum tours and how to best supplement museum information through a guided tour.

2.4 EVALUATION METHODS

This section reviews proper evaluation methods that could have been used to test a prototype. As a part of our project, we needed to evaluate the effectiveness of our pamphlet, based on visitor feedback. We explored different evaluation methods used, which helped us identify evaluation methods that could work best for our project.

Evaluation is important both before and after the completion of a project. Evaluations before the project will most likely ensure that the client and the users are going to be happy with the design and outcomes. Evaluations after the project help to determine whether it was successful, and if the needs that were determined prior to the research were met. There are many ways to conduct these evaluations that will provide the necessary data for constructive feedback.

One method of evaluation is observational research (Patton, 2005). Observation is one of the best ways to gauge the reaction of an individual because “observational research studies life” (Abrams, 2000, p. 7). This insight helps researchers determine how patrons honestly feel because their first reaction will reflect their natural instinct, which alone will be free of outside influence (Turney, 2010). Observational research can be conducted by merely sitting near the object that needs to be evaluated and recording the reactions of the patrons as they view it. It is

also a very effective way to collect large amounts of data, as each person that experiences the product is recorded and observed, allowing for more responses overall in a short amount of time. Observational research cannot be easily replaced by any other method of evaluation as it allows the researchers to get data “where and when it happens” (Abrams, 2000, p. 7).

Interviews can also be used to evaluate the effectiveness of a project. Interviews are a successful way to obtain qualitative information about relevant issues (Rubin, 2005). Interviewing the management, on the one hand, can give the interviewer valuable insight that cannot be gained in any other way. Interviews with patrons, however, can provide the interviewer with what the patrons actually want to see added, what would make them return to the museum, and what they would like to see improved.

There are various types of interviews; including structured interviews, open-ended interviews, and semi-structured interviews. Structured interviews flow in a question-answer basis; open-ended interviews allow the interviewee to talk about whatever they want; and semi-structured interviews, which were the most effective form for our project. Semi-structured interviews should seem like an extended conversation between the interviewer and the interviewee (Rubin, 2005). Follow-up questions are a good way to maintain this flow and can also encourage interviewees to elaborate on a specific point, but the interviewer needs to make sure they let the interviewee complete their thought before a new question is posed so that the interviewee does not feel cut-off (Johnson, 2005). Starting with a broad topic is also a good way to give the interviewee freedom to discuss anything they think is important or want to see changed (Rubin, 2005).

How the interview is going to be recorded is an important consideration. There are three basic ways to record an interview: tape record the interview, take notes during the interview and recall—or writing down everything the interviewer remembers after the interview is over (Merriam, 2009). The most common option is to record the interview because it ensures nothing is left out. Often though, the tools necessary for taping are unavailable and interviewers resort to taking notes (Merriam, 2009). This may result in forgetting some details, but good practice is to check back in with the interviewee after the interview to ensure that nothing was recorded incorrectly (Johnson, 2005). Recall is the least effective way to record an interview as often many details are left out or forgotten (Merriam, 2009).

Another method to evaluate a project is to conduct a survey. Surveys are used to collect information from a variety of people, and provide valuable information to determine if a project is effective (Fink, 2009). Applicable types of survey methods for our study included face-to-face and written (Fink, 2009). The rationale behind these two methods is that they allow one to

capture the opinion of the visitor during their time at the exhibition, which online or telephone surveys would not allow. The written survey has the advantage of allowing people confidentiality with their answers (Schmidt, 1991). There are also many different groups that a survey can be given to. Surveys can be given out in a random sample, a snowball sample, or a sample of convenience. A sample of convenience is effective when the sample size is limited and trying to do a random sample would eliminate too many potential participants in the survey (Chang, 2010).

The best form of evaluation is a combination of the mentioned methods. Using a combination approach, results in a more thorough analysis of the project when completed. Combined evaluations give more feedback on the exhibit, allowing researchers to determine the effectiveness of the new exhibit for the different target audiences.

In this section, we learned about many different methods for evaluating the work we had done. We also determined what the best means of evaluation specifically for our project would be.

2.5 COMMUNITY INVOLVEMENT AND PARTICIPATION

Here, we evaluated community involvement within our project. Since we involved the local community in our project, we also evaluated Cultural Domain Analysis, to understand the differences between ourselves and the culture in which we were working. We wanted to understand the cultural and social differences that might play a role in our interpretation of the museum experience. While the professionals we worked with are more likely to lead a life similar to one we could experience in America, many of them have lived through and felt the effects of Apartheid, which was not something we could even remotely relate to. The students we worked with have for the most part come from poor families and poor households, and have not lived nearly as fortunate of a life as we have. Understanding the possible differences before we arrived in Namibia could be done by studying Cultural Domain Analysis.

Cultural Domain Analysis is “the study of how people in a group think about lists of things that somehow goes together” (Bernard, 2006, p. 299). The goal of studying Cultural Domain Analysis is “to understand how people in different cultures interpret the content of domains differently” (Bernard, 2006, p. 299). It is important when working with another culture to understand and respect their beliefs and way of life. Namibia is a very different culture than the United States and therefore many interpretations made by our group could be different than the interpretation of our hosts. Studying Cultural Domain Analysis helped us learn to understand that cultures vary all over the world, and in order to live and work in a community, such as

Windhoek, that is different than the community we come from, we had to first understand the context of their life experiences. This way, we did not try to impose our social context consciously onto the community.

One way to ensure that we remained culturally appropriate was to collaborate with the community in the design process. Community input is an essential part of making a museum successful (Levy, 1975). By inviting the community to become a part of the design process, not only did we ensure that the community enjoyed the designs, but this also contributed to the long-term success of the museum. Anna Johnson discusses why the community is so important to the museum in her book *The Museum Educator's Manual*. She describes how the impact of the museum can only expand as far as the knowledge in it. Therefore, if students are invited into the museum to help implement a design, they will be more likely to spend greater amounts of time in the museum and gain familiarity with the museum while they are there. The experiences will go with them outside of the museum into the community. This will expand the impact of the museum and benefit the community overall. Therefore, the longevity of the museum also pertains to expanding the museum outside its own walls (Culter, 2009).

We identified the Family of Hope Services to work with. The Family of Hope Services is a non-profit organization that works with orphans and children without reliable guardianship while attempting to give them the help and education they need to become active members of Namibian society. It was founded in May of 2002 and has worked with over 450 children, primarily focusing on children from the informal settlements around Windhoek. Their mission statement is "To restore hope, joy and dignity and bring socio-economic stability to families affected and infected by HIV/AIDS through empowerment and capacity building programs" (Family of Hope Services, 2011, para. 4). They attempt to achieve this goal by providing general education as well as more technical skills, which can allow participants to get jobs using these skills (Family of Hope Services, 2011).

Getting the community involved encouraged them to care about the museum and not to let it become destroyed- thus increasing the sustainability of the museum (Peet, personal communication, February 8, 2011). As one researcher noted, "if people begin to believe that the museum is theirs, they will not let it die" (Levy, 1975, p. 25). Another factor that contributes to the sustainability of the museum is a sense of pride in the museum, which will also come with helping implement a new exhibit in the museum. Being a part of something gives an individual a sense of pride for those accomplishments and therefore may stop vandalism within the museum, ensuring the museum will stay beautiful longer (Golding, personal communication, February 7, 2011).

2.6 RELEVANT CASE STUDIES

Case Studies are important for understanding how other museums have dealt with a similar situation to the one we experienced at the Owela Display Centre. They helped us determine what has been successful in the past and what has not.

2.6.1 THE WORCESTER ECOTARIUM

The EcoTarium is a science and nature museum located in Worcester, Massachusetts, with a mission to “contribute to a better world by inspiring a passion for science and nature through discovery” (EcoTarium, 2010). As a private, non-profit organization, it seeks to provide a hands-on learning experience through interactive exhibits as well as its own miniature zoo. The EcoTarium’s primary audience is children; they put on numerous educational programs for schools, girl scouts, boy scouts, and youth groups. However, they cater to high school students also through their EcoQuest program as well as advanced workshops on pond ecosystems and converting wind energy into electricity.

While the EcoTarium is a museum of smaller scale, they find ways to create innovative exhibits and raise funds. The whole ground floor of the museum is about water: how we use it, how it affects us, and how to conserve it. The museum utilizes its big, open room by placing smaller interactive exhibits every few feet along the floor. Each exhibit uses inexpensive and common materials, such as PVC piping or Plexiglas, that combined provide an innovative and valuable learning experience for the young visitor. The upstairs floor in the museum focuses more on the forest, animals in the forest, and our atmosphere. These exhibits are more traditional, however they all contain some level of interaction whether it be a panel to look under, a texture to feel, or a device to rotate.

The EcoTarium’s highly innovative designs combined with miniature zoo provide a great atmosphere for families. Exhibits are simple and kid-friendly, yet educational and provoke a sense of learning through discovery. The EcoTarium is a prime example of a small museum using the highest innovation to provide a highly memorable museum experience for a specific audience. Pictures detailing some of the exhibits of the EcoTarium can be seen in Appendix B: The EcoTarium, Worcester, MA.

2.6.2 HONG KONG UMAG

The University Museum and Art Gallery (UMAG) at the University of Hong Kong is considered a small museum, and in the past has had issues finding proper resources to sustain its exhibits. The museum primarily depends on artists, collectors, and curators to prepare

appealing and informative displays of historical and cultural materials reflecting Hong Kong. However, the museum is also able to get by with photographic reproductions of interesting exhibits in other museums with the help of talented staff who recreate the exhibit to the best of their ability around the photographs.

Successful small museum renovation can be enhanced with innovation. The Hong Kong UMAG uses local artists in addition to inexpensive resources to build on the small collection that is permanently there. The Hong Kong UMAG uses a number of innovative methods for maintaining a good reputation, for its size. They increase the value of their museum by bringing in speakers, performers, or by hosting workshops to draw in the outside community. The ultimate goal of any museum, regardless of size or functionality, is to leave the visitor with a positive and lasting experience. The success of Hong Kong's UMAG proves that this can be achieved by a small museum with little resources (Yeung, 2006).

2.6.3 HUNDERTWASSER PUBLIC TOILETS

The Hundertwasser Public Toilets are located in Kawakawa, New Zealand. They have been chosen as a case study for their inexpensive implementation of a mosaic in a public bathroom. The project was designed by Friedensreich Hundertwasser in 1997, and constructed by others under his supervision. The focal point of the bathroom is a mosaic constructed from recycled glass bottles (Top 5, 2010). The glass bottle mosaic is located on the right side of the image.



Photo courtesy of Top 5 Bathrooms

FIGURE 4. HUNDERTWASSER PUBLIC TOILETS

This case study is important to our project because it shows the diversity of materials that a mosaic can be made from. The Hundertwasser public toilets use colored and recycled glass, two common and inexpensive materials, to create an enjoyable public display.

2.6.4 SMITH COLLEGE ART MUSEUM TOILET EXHIBIT

The Art Museum at Smith College in Northampton, Massachusetts is the home of very unique bathrooms. Created in 2002, these bathrooms were designed by local artists in the likeness of the bathrooms at the John Michael Kohler Art Center in Sheboygan, Wisconsin. The Kohler art center had six bathrooms created in 1999, and a seventh in 2004, in order to show that “art can enliven, enrich, and inform every facet of our everyday lives” (Kohler, 2011, para. 3). The bathrooms at the Smith College Art Museum also act as a permanent exhibit for visitors. Some of the unique aspects of the Smith college bathrooms include the story told by the men’s room, entitled “Liquid Origins, Fluid Dreams”.



FIGURE 5. PANELS IN THE SMITH MEN'S BATHROOM

The tiles on the walls alternate between water drops and ten different stories of creation from around the world, ultimately reflecting the importance of water in life. The combination of creation and water emphasizes the water cycle and how it is all part of the circle of life. The fact that this exhibit tells a story makes it more appealing to patrons of the museum and helps them relate to the exhibit.

Another important aspect of the Smith College Art Museum is the way each individual sink and toilet is different in the women’s bathroom (see figures below).



FIGURE 6. SINKS IN THE SMITH WOMEN'S BATHROOM



FIGURE 7. TOILETS IN THE SMITH WOMEN'S BATHROOM

The differences between each individual part of the bathroom encourage the visitor to look at every single one of them. According to Barry Lord (2002), in *The Manual of Museum Exhibitions*, the length of the stay of an individual is part of the criteria for the success of a museum. By catching an individual's interest, they are more inclined to stay longer, therefore increasing the overall success of the museum. Therefore, the idea of increasing the number of unique details for the patron to view is something our group would like to mimic from this case study.

2.6.5 SELF-GUIDED BROCHURE IN THE CHICAGO BOTANICAL GARDENS

In order to make a successful pamphlet, we needed to find a case that investigated the ways to best execute a self-guided tour on a pamphlet. In 1988, a study was published on the effectiveness of various types of self-guided brochures. This information proved useful as we set about creating our pamphlet for the Owela Display Centre. The study focused on the

differences between the effectiveness of declarative and inquisitive writing in self-guided brochures. Declarative is the more traditional approach, involving direct statements and facts. With an inquisitive brochure, questions are used to guide the visitor to answers that would usually be directly stated in declarative writing (Korn, 1988).

Through this study we learned that, for the general population, either brochure increased the knowledge of the visitors (Korn, 1988). However, when looking at the group of patrons with no prior knowledge about Japanese Gardens or culture, the declarative brochure had a better mean learning score (Korn, 1988). Many of the visitors at the Owela Display Centre have little to no knowledge about the cultures present in Namibia, and there are several animals in the exhibits that may be unfamiliar to most people, such as the jackal. We therefore have many patrons visiting the museum that would benefit more from a declarative pamphlet. Additionally, those visitors with declarative brochures were observed to be reading the brochure and interacting with the exhibit more often than those with inquisitive brochures (Korn, 1988). Since both time in the museum and interaction with the exhibits are signs of a successful museum, the declarative brochure would be more effective overall.

2.6.6 SUMMARY OF CASE STUDIES

From the case studies we gained valuable insight into making an exhibit successful. We learned about using inexpensive, innovative designs from the EcoTarium, which was important to the exhibit at the Owela Display Centre. We also discovered how to use creative materials for our mosaic from the Hundertwasser case study. Furthermore, we understood the importance of engaging the patrons, either with a story or with a large variety of art from the Smith College case study. Once they are hooked it is easier to keep them entertained and at the exhibit. Through the case study on the Chicago Botanical Gardens, we found that declarative pamphlets would be more helpful than inquisitive pamphlets. Case Studies played an important role in our research because they allowed us to examine the success of similar, real-world projects.

CHAPTER 3. METHODOLOGY

The primary goal of our project was to improve the Owela Display Centre at the National Museum of Namibia. In our view, *improvement* can be measured by an effort to:

1. Instill a sense of community pride in the museum
2. Increase community involvement and interaction with the museum
3. Provide a more engaging and satisfactory experience for the visitor

After arriving in Namibia, we realized that the Family of Hope Services would play a larger part in our project than originally anticipated. A subtext developed in the course of our work, which resulted in a secondary goal of enhancing the experience of the students. This experience was designed to provide an educational program in collaboration with the toilet renovations that engaged the students creatively and introduced them to some technical skills which could prove beneficial later in life.

In order to meet our primary goal, we divided our project into two parts: the renovation of the toilet area and the development of a self-guided tour pamphlet. Our strategies for completing these tasks are listed below. The first part focuses on the toilet exhibit, while the second part details the self-guided tour pamphlet. Finally, we included a section on involvement in the community that describes the individuals engaged with this project and describes how this project benefited the children educationally and socially.

3.1 TOILET EXHIBIT

In order to ensure that the toilet exhibit contributed to the goals we laid out for the Owela Display Centre, we defined the following objectives for the exhibit:

1. Determine a theme for the exhibit
2. Determine design specifications
3. Obtain materials for the exhibit
4. Create the exhibit

3.1.1 DETERMINING A THEME FOR THE EXHIBIT

Together with the museum administration, we decided that an animal theme would best tie together the museum's directive and the broad cultural components of Namibia into the toilet exhibit. An animal theme also complements the Owela Display Centre and its focus on natural

history. Wildlife iconography has always been present in Namibian culture and allows for a common bond through Namibia's diverse past. An animal theme proved to be a neutral topic, which all guests of the museum could enjoy.

The curator of the Owela Display Centre, Anzel Veldman, developed an animal design for the toilets based on the templates we submitted to her. She is a creative resident of Namibia and is able to identify what type of display would best suit the museum. Therefore, we determined that she was the most qualified person to create a design that instills a sense of pride in Namibia, while also meeting the needs of the museum. Our final design consisted of a sunset with trees and animal silhouettes. The sunset was first painted on the walls and then the animals and trees built with mosaic tiles were later attached over the background. Her concept drawings can be seen in Appendix C: Toilet Designs.

3.1.2 DETERMINING DESIGN SPECIFICATIONS

Before we began, we considered the design requirements for the toilet exhibit at the Owela Display Centre, including time and budget constraints. The bulk of this project was completed within an 8-week time period, with some preliminary work done beforehand. The budget required that we were as cost efficient as possible to preserve the resources the museum already had.

The curator also specified other design considerations. She expected a project that made educational and sustainable changes to the museum. In the past, visitors had stolen or vandalized objects, so the exhibit needed to be secure, robust, and durable. The exhibit is an art display, but also a public space, and needed to be designed for human activity.

3.1.3 OBTAINING MATERIALS FOR THE EXHIBIT

The primary resources required for the bathroom were paint and tiling materials (tile, grout, and so forth). The museum already had a supply of oil-based paint and requested more to ensure that there was a sufficient amount of paint and painting supplies (brushes, turpentine, et cetera). Therefore, our focus was on collecting tiling materials for the mosaic. We identified the obtaining of materials as a good opportunity to involve the community, both due to budget constraints and a way to get more organizations involved.

We had to purchase an adhesive for binding the tiles to the wall. Another required material for making a mosaic is grout, which is the filler that is applied between each piece of tile to create a smooth finished product. In order to simplify the work for the students, a two-in-one grout and adhesive compound was used. This allowed the students to do every step required to

make a mosaic, and would ultimately give the students a better understanding of the entire process than if an adhesive and grout were used in the traditional sense, which would require alternating groups placing tiles and grouting in between the tiles. Additionally, we needed rags to wipe the two-in-one compound, a trowel to distribute the two-in-one compound, hammers to further break apart tiles, and a drop cloth to protect the floor, all of which the museum already had at its disposal.

3.1.4 TOILET EXHIBIT CREATION

In order to create the exhibit, we first learned how to complete the mosaic and where we could get help from the community. To implement our project, we started by preparing the site during the two weeks before the Family of Hope Services (FHS) students joined us. Some of these tasks included a thorough cleaning of the walls, sanding rough patches, applying primer paint, and removing all extraneous objects from the toilets. Once the preparations were completed, we sketched the painted portion of the design on the walls and the mosaic portion on boards that would be screwed to the walls. We then used a jig-saw to cut out the shapes from the boards. Next, we sketched a Namibian flag on the back wall which the students later painted and then put their hand prints around. Our group also sketched a rhino on the entrance to the toilets for us to paint. All these preparations made it possible for the students to complete their tasks in the short amount of time they were with us.

We painted the bathroom with the FHS students who came the first two mornings during the week of remodeling. When the painting had been completed, we worked with the afternoon students to tile the mosaics. This continued for four afternoons beginning the second day of implementation so that the oil paint dried before tiling began. Our plan called for the students on the first day painting one wall while the morning students of the second day painting the opposite wall. Then, the afternoon students of the second day could begin work on the mosaic for the wall painted on the first day. Because the mosaics were created on boards, which were later screwed to the wall, the paint did not have to be dry for tiling to begin, but we still allowed ample time for drying. We also split both the painting and mosaics into sections so that all of the students got to do a relatively equal amount of work. Further information on the implementation process involving the FHS students is provided in Section 3.3.2. Once the mosaics were completed, we added a few finishing touches to the toilet display, such as paint touch-ups and a painted acknowledgement for our collaborators.

3.2 SELF-GUIDED TOUR PAMPHLETS

In order to make sure that the self-guided tour pamphlets contributed to the goals we laid out for the Owela Display Centre, we defined the following objectives:

1. Determine themes for the tours
2. Create and test prototype pamphlets
3. Evaluate the pamphlets
4. Produce the final products

3.2.1 DETERMINING THEMES FOR THE TOURS

To create the pamphlets, we brainstormed with Ms. Veldman various ideas for themes and identified two themes that unify several of the exhibits. The first theme focuses on the animals and environment represented in the museum. The second theme focused on the cultures of Namibia. The exhibit hall is set up in a circular course; cultural elements such as pottery, leatherwork, and music in one direction, and regions and animals in the other. Having two pamphlets with separate themes fit well with the layout of the exhibit hall.

3.2.2 CREATING AND EVALUATING THE PROTOTYPE PAMPHLETS

Once we determined themes, we picked the specific elements for the tour pamphlets and conducted extensive research on each topic. We put together a basic layout for the pamphlets. We used a barrel fold with the front and back pages containing the title, the name of the museum, contact information for the museum, and either greetings for the culture pamphlet or animal names for the animal pamphlet in some local languages. The outside of the flap that folds into the middle contains a simple floor plan of the museum for people to find their way around, and the animal/environment pamphlet contains a map of Namibia in the middle inside panel showing the locations of each animal and region mentioned. The remaining panels contain the text for the tour. We then designed the prototypes using Adobe Photoshop, as it had the picture editing and graphic design features necessary for our pamphlets.

After we created our prototypes and printed multiple copies, the museum patrons evaluated the pamphlets. We provided them with a survey (Appendix I: Survey) so that they could give us feedback on the effectiveness of the pamphlet prototype. This survey was a written and anonymous survey based on the research presented in the literature review. The written aspect of the survey made it possible for the patrons of the museum to evaluate the pamphlet and fill out the survey as they walked around the museum. We hoped the anonymity of the survey

made the patrons feel more comfortable being honest, and felt that they could take their time to fill out the survey. We asked the patrons' age and hometown to help us determine the most relevant answers. Since the written material for the museum was geared toward high school aged patrons and older, knowing the participant's age helped us to ensure that the pamphlet was designed for the correct age group. The museum also aspires to educate both local people and visitors from other locations, so knowing the participant's hometown or country of origin was also important to gauge the effectiveness within each group. We added additional questions addressing the pamphlets specifically, including:

1. Did you have trouble finding any of the exhibits? If so, which exhibits proved difficult and why.
2. Did you find the pamphlet informational and interesting? If not, which part(s) would you like to see improved and why.
3. Were there any sections of the pamphlet that you had trouble reading? What section(s) and why?

We also allowed a space for the patron to tell us any additional information, such as what they thought the pamphlets were lacking or other improvements they would have liked to see.

Our survey used a sample of convenience relying on available subjects: the patrons of the museum. We realized that often there are risks associated with this type of sample, such as not getting a large enough sample size or obtaining a bias from surveying only museum patrons. However, we believe that under the circumstances this was the most effective type of survey.

Our survey questions were designed to be relevant, answerable questions for the patrons of the Owela Display Centre. This was essential to make the participant of the survey feel like our group cared about their opinions and that their time was valuable to us. Ultimately, ensuring our questions were answerable increased the chance that the feedback we received was insightful.

3.2.3 PRODUCING THE FINAL PRODUCT

With the results of the evaluations of the prototype in mind, we put together the final pamphlets and gave Ms. Veldman easily-edited documents for the pamphlets so she could send the designs out to be printed. This also allowed Ms. Veldman to edit the pamphlets for future changes and upgrades at the Owela Display Centre.

3.3 COMMUNITY OUTREACH

Due to the research we completed on Cultural Domain Analysis in the literature review, we determined that the more local residents involved in our project, the better it would be for both the Owela Display Centre and the success of our project. Not only did this create a better product for the museum, but it also ensured that the outcomes were more permanent. The two groups we worked with were the Family of Hope Services and Tile Africa.

3.3.1 MATERIALS

We began by researching local tile companies with the hope that they would be willing to donate materials and time to help complete this project. Three different companies with locations in Windhoek were identified: Tile Africa, Ceramic Tile Market (CTM) Namibia, and Union Tiles. After these companies were identified, they were contacted and Tile Africa alone generously agreed to help sponsor the project by donating tiles for the mosaic. Tile Africa donated enough tiles to complete a 7m² mosaic. This allowed us to complete all of the mosaics in the toilets, as well as a take-home mosaic for each student that worked to help implement the design.

3.3.2 BENEFITING THE COMMUNITY

In addition to our partnership with Tile Africa, we wanted to work with as many different community organizations as possible. Therefore, we chose a community aid organization to assist in creating the actual exhibit. We identified the Family of Hope Services, which is a community based, non-profit organization that is located just outside of downtown Windhoek and that already had a background with the Owela Display Centre, since they visit the museum annually. Another reason to encourage the relationship between the Owela Display Centre and the Family of Hope Services was to increase the sustainability of the Owela Display Centre. Because the students of Family of Hope Services now have a personal connection with the museum, we hope that they will care more about the museum and work to keep it successful for years to come. Additionally, we hope that the Family of Hope Services will continue to do projects with the Owela Display Centre, creating an ever-increasing group of involved parties.

We contacted the director of Family of Hope Services, Abigail Bachopi who helped us identify students in two different groups. The first group of students included those who had never attended formal schooling and are in the FHS remedial program. These students came on Monday and Tuesday morning. The second group of students attend public school, participate in FHS afternoon enrichment programs, and assisted us Tuesday through Friday afternoons.

In order to benefit the students, we made sure their project was both educational and engaging. First, we allowed the students to create a take-home mosaic on which they could express themselves artistically. This also allowed us to teach the students the proper procedure for tiling. We had them use the same materials they used for the mosaic that went on the toilet walls. The personal mosaic was an important step because it made sure the students would create the mosaic correctly and also introduced them to a life skill that could be applied in a job setting. Even though the students implemented someone else's mosaic they were still able to express themselves artistically on their take home mosaics and it gave FHS teachers a better gage of which students have artistic potential.

Next, we created a way to make the tiling itself more educational. Each student was given a predetermined area and an average tile size and was asked to determine how many tiles they needed to cover their given area. Once their math problem was completed, our group gave them the number of tiles they had calculated to fill their space. If more tiles were needed after the initial tiles were used, they were provided after the student explained what error might have occurred. We also ensured the painting was educational by creating a mathematical paint by numbers. Each number was associated with a certain color such that if the solution was the number associated with the correct color, the student was given that paint color.

When not working on the mosaic or painting, the students participated in one of two word puzzles associated with the content of the museum. The students used the pamphlets our group created to guide them around the older wing of the museum to find the necessary information for completing the puzzles. The puzzles can be seen in Appendix F: Pamphlet Worksheets. The puzzles helped us identify any errors in our pamphlets, while teaching the students about the cultures and wildlife of Namibia.

To ensure that both the math problems and puzzles were of an appropriate difficulty, we sent our worksheet prototype to the Family of Hope Services. They told us that the math problems were of an acceptable difficulty and that the puzzles we created were within the skills of the students. Additionally, the Family of Hope Services offered to do a pre-assessment with the students to ensure the worksheets would be solvable. In the event that a student had trouble with either the math or the puzzles, we decided upon the strategy of asking them leading questions to help them get the correct answer instead of simply providing them with the answer. We hoped this approach provided the students with a better sense of accomplishment and increased the likelihood that they retain the knowledge gained during their time at the museum.

Finally, the completion of this project was intended to provide the students with a sense of accomplishment. We hoped this would not only help us achieve our goal of increasing

Namibian pride in the museum, but also leave a lasting impact on the students and allow them to leave a lasting impact on the National Museum of Namibia. Therefore, the Family of Hope Services was a valuable partnership in which our project could enrich the education of their students, and also expose them to technical skills all while interacting in a fun community project.

At the end of our work we invited all involved parties back to the Owela Display Centre to take pictures for two local Newspapers, the Namibian and the Republican. With the help of the museum curator, we wrote an article and submitted both the article and the picture to the papers to be published. At the time of submitting this paper, the article was awaiting publication. Recruiting help from local resources like Tile Africa increased the community involvement in our project. It also provided publicity for all the organizations involved that ultimately gave positive press to Tile Africa, more support for the Family of Hope Services, and more visitors to the Owela Display Centre.

CHAPTER 4. RESULTS AND ANALYSIS

In this chapter we summarize our findings through our meetings with our collaborators, through the planning and creation of the toilet exhibit, and through the research, design, surveying, and reworking of the self-guided tour pamphlet. We then analyze these findings to show what further meaning these results may have for the various parties involved.

Our initial meetings with the curator included discussion, a tour, and site assessments of the Owela Display Centre from which we gained valuable information about both our pamphlets and toilet exhibit project. We solidified the ideas of what we were to accomplish at the museum and discovered with more precision the steps we needed to take in order to accomplish our goals. The specific results and analysis of these meetings and tours are included in sections 4.1.1 and 4.2.1.

4.1 TOILET EXHIBIT

The toilet exhibit was an on-going part of our project. It provided us with constant challenges to overcome but resulted in a more enjoyable space for the museum. The following sections describe the results of our planning and site preparations.

4.1.1 RESULTS FROM COLLABORATORS: ANZEL VELDMAN

From discussions with Anzel Veldman and inspection of the toilets for ourselves, we discovered that anything we did for the toilets would be an improvement since the toilets were in such dire need of renovation. While touring the museum, we found that some areas were newer or better kept than others. The toilet was the least desirable room to be in as it was even worse than it seemed from the original pictures and required more preparation work than we had planned for. Therefore, updating the toilet proved to be very beneficial to the museum, as it brought it up to par with the rest of the museum. It was also determined at this time that a mosaic would be completed on two different walls instead of one.

4.1.2 RESULTS FROM COLLABORATORS: TILE AFRICA

In meeting with Tile Africa, they graciously donated two pallets of tiles for our use, which was much more than we had originally anticipated. The tiles were also more diverse in color than expected. The colors we received were of various shades of white, black, green, blue, brown, and pink. Consequently, we were able to mosaic more of the design than originally

planned, since we had more colors to work with than just the black for the silhouettes. We also had more than enough tiles for the small mosaics that the students made to practice with – enabling them to use the same materials for their take-home mosaic as they used for the actual mosaic.

This donation by Tile Africa shows that there are local companies with interest in contributing to the community. While investigating other potential tile sources, all others that we asked for donations offered to sell their broken tiles for a discounted price. We were therefore pleasantly surprised by the donation we received from Tile Africa. We are hoping that this donation will be part of a trend of local businesses contributing to the community. In this case, all parties benefit: the community obtains more support, and the companies gain a better public image.

4.1.3 RESULTS FROM COLLABORATORS: FHS

One of the first steps of our project was a visit to the Family of Hope Services to discuss logistics involving the students that were to work with us. The FHS project coordinator, Foibe Silvanus, first gave us some background information on the students and the FHS program. FHS was formed in 2002 by a women's support group and currently has around 250 students in their educational and extracurricular programs. These children have been looking after family members or other adults since they were young, and because they had such a large responsibility at home, their schooling was set aside.

Since the Family of Hope Services program is mostly based on volunteer work, they collaborate with the Bicycling Empowerment Network (BEN) Namibia to gain more financial support. They have a bicycle shop on site, which does repairs and contains used bicycle parts for sale. The revenue earned through this bike shop goes directly to the FHS program. They also have a vegetable program in which students gain valuable skills tending to the garden and the ripened vegetables are used to feed some of the FHS children every day.

Ms. Silvanus let us know that one of the primary reasons FHS was interested in helping us with this project was due to their effort of try to expand the students' knowledge and technical skills. Many of these students aspire to be security guards or taxi drivers, yet are capable of much more. Ms. Silvanus hoped that the students' exposure during this project would open their eyes to new knowledge and inspire them to reach for higher goals. For this reason, we agreed to work with 6 different groups of 10 students. It was during this meeting that we determined the number and types of students in each group, their transportation to the museum, our educational plans for the students, and the general schedule of the days they were with us. This

meeting with FHS was a turning point in our project that led us to develop our secondary goal of using this project as an educational opportunity for the students.

4.1.4 PREPARATION

We had to complete several tasks before the students from the Family of Hope Services arrived to ensure that the toilets were ready for the painting and mosaics and to ensure that the work would be educational. These tasks included cleaning, sanding, painting, and planning.

CLEANING

Before anything could be done in the toilets, we first had to remove any extraneous objects. There were a few loose objects, such as posters and a storage cabinet that we removed to prevent them from being destroyed or defaced during cleaning and painting. Two of the window areas, shown both before and after cleaning, can be seen below (Figure 8).



FIGURE 8. CLEANING AND DISINFECTING THE WALLS

The windows, stalls, and ceiling of the toilets were all covered in spider webs and cobwebs. The walls were also in dire need of cleaning, as they were filthy with stains all over the walls and floor. One of the preparations we completed before painting was to completely

clean and disinfect all the walls, doors, and windows. This was also important as it would ensure the paint would stick and the toilets were sanitary enough for the students to work in.

SANDING

After cleaning the walls, we then sanded the few problem areas of the bathroom. This originally was only supposed to include sanding a small area of peeling paint, as can be seen on the left side of Figure 10 (see top of page 37). However, the sanding soon expanded to other areas as damage was identified. One of these areas, the back wall of the toilets, can be seen in Figure 9.



FIGURE 9. SANDING THE WALLS

Many of the walls had water damage, including all four back areas and the two long walls with the water basins. We had not expected this damage, and it required additional work to strip off the water damaged paint and putty. This also affected sanding because some of the water damaged areas were still wet, causing the putty to stick to the limited amount of sand paper we had. Because we had stripped so much area, we also had to sand more of the walls than anticipated - which made the job much more time consuming than we expected.

PAINTING BASE COAT

Once the sanding was completed, we rinsed the walls one more time to remove any dust created from the sanding. The next step was to paint the walls. We originally planned to paint the walls white, but as seen in Figure 10, this was not the case.

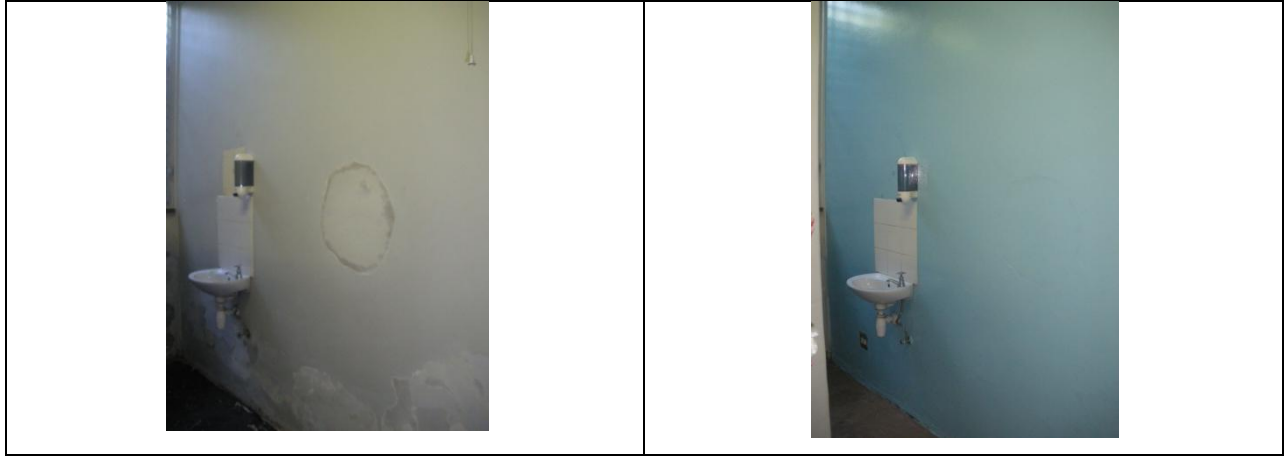


FIGURE 10. PAINTING THE WALLS

The base coat of the paint was completed using oil paint, but supplies were lacking for applying the paint. While these tools may not have been ideal, they were needed for a rather small area and so were deemed satisfactory for the job. We knew that the brushes would not be sufficient for use by the FHS students, and therefore we acquired new brushes that were more adequate. Furthermore, the bathroom was not closed while we were painting and we had to work around people, including a school group, coming in to use the facilities despite the wet paint on the walls and doors. Fortunately, this did not cause any significant problems. In hind sight, many of these problems could have been minimized by our group, however, we instead choose to work with the situation at hand.

As stated earlier, when we started the painting process, we expected to be painting the base coat of the walls white. As we arrived at the museum that morning, we discovered the can of white paint had been stolen, so we had to work with the materials which were available. The paints available to us were mostly bright, vibrant colors once used to paint the children's room, which is currently used as the storage room. However, some of the colors were not practical since there was either too small of a quantity for what we needed, or the cans had been sitting for so long that the oil paint expired and had become useless due to improper storage.

We decided on a lighter blue for the main walls to serve as a sky background for the mosaic and to open up the feeling of space within the room. We obtained a small can of white paint, which was used for the Namibian Flag wall. There was a small quantity of white paint left, which was used to tone down the intensity of the yellow paint that was used on all of the doors. Once we had painted all the main walls and doors, we focused on the exterior walls of the stalls. There were a few colors that had enough quantity remaining, but we chose the lighter sky blue and a dark blue to enhance the color palate already in the room. We mixed the blues to create

an overall color palate of lighter and darker hued blues to complement the walls that had just been completed. A medium blue was used for the exterior of the stalls, to frame the stall doors and enhance the sky blue opposite its walls. A dark blue was used on the walls inside the stalls, to further enhance the color scheme. The light blue on the outer walls allowed the light to reflect off the walls, giving the toilets a more spacious feeling. The color combinations also added dimensioning to the room due to the various blue hues.

SKETCHES

Because the entrance to the bathroom is located in the back corner of the basement, and identified merely by a sign held in place by a pipe running down the wall we determined it was necessary to make the bathrooms easier to identify for patrons visiting the museum. We did this by including a painting of a rhino with the toilet sign (Figure 11) on the wall facing the entrance of the bathroom to complement the toilet theme.

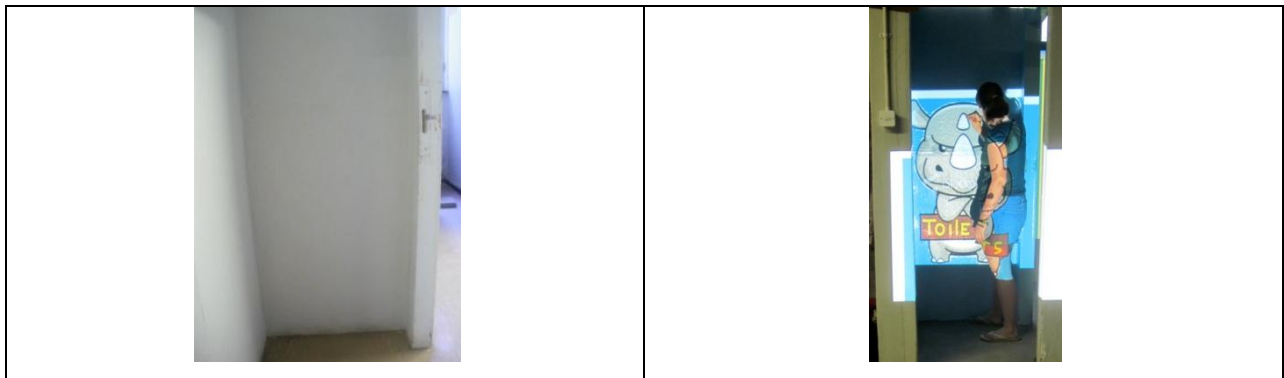


FIGURE 11. SKETCHING THE DESIGNS

Sketching was also completed on the left and right wall, and the front wall next to the entrance. The left and right wall sketching was done as the background for the mosaics. On the front wall a Namibian flag was sketched and measurements were done so that the proper size of the flag could be determined and all 60 hand prints that needed to be put on the wall would fit as well.

PLANNING AND TESTING

Extensive planning was done to prepare for the week with the FHS students to ensure things ran smoothly. We had a full three hours with the morning groups, and since they were the more easily distracted group, we planned additional activities to keep them occupied. We only had 90 minutes with the afternoon group, so we planned with the utmost efficiency to ensure the students could have the maximum amount of time doing the activities in the limited time period

they were visiting. We generated a schedule by testing ourselves on how long it took us to complete the worksheets and the personal mosaic. Additionally, we tested to ensure that we had enough of the small mosaic tiles to complete all of the mosaics by spreading out the tiles over the boards. The schedule was also arranged such that it could be easily modified if problems arose.

COMPLICATIONS

Once all our preliminary tasks had been completed, the curator found that the paint we had applied was already beginning to peel in certain places. We then began to investigate this problem. We determined that it was not actually the paint itself peeling, but instead it was a layer of putty that had been applied to the wall. This putty had dried and broke down, becoming more like a powder. Therefore, the paint stuck to the powder, but the powder did not stick to the wall. The results of the subsequent peeling can be seen in Figure 12.



FIGURE 12. STRIPPING THE WALLS

If either the curator or our group had known of the problems associated with this wall, such as the improper use of filler or the water damage, we would have at the very least stripped and sanded the entire wall or even chosen a different wall to do this project on. However, we had devoted too much time and too many resources into this wall at that point and had to make it work. We started by using a power sander to remove the plaster from the peeled area. We also attempted to use the sander to smooth the edges of the paint. Unfortunately, the oil based paint proved to be stronger than the cement. Because of this difference in strengths, the cement

was sanded away instead of the edge of the paint being smoothed. Therefore, the paint could still be peeled away. The wall during this sanding can be seen below (Figure 13).



FIGURE 13. SANDING THE WALLS

We consulted with Walter Ruegheimer, an architect of the Ministry of Works, to solicit advice about the peeling paint. He agreed that there was really nothing we could do at that stage in our project and suggested using a bonding liquid. This liquid allowed the paint to stick to the walls despite the remaining powder from the plaster. Additionally, with regard to water seeping through the wall, Mr. Ruegheimer said that the only way to prevent this would be to fill the ditch adjacent to the back wall with cement. This ditch fills with water and the water sits in the ditch, slowly seeping into the wall.

After our meeting with Mr. Ruegheimer, we decided to make all of our mosaics on resin board, instead of having the trees tiled directly onto the wall. This decision ensured that if the walls are ever completely repaired, our mosaics could be removed from the wall instead of being destroyed. However, we soon realized that the resin board alone would not be enough. Resin board is similar in construction to plywood: it is created by compressing paper product and glue. Therefore, the resin board would quickly deteriorate when pressed against the wet walls. To combat this, we decided to apply a water sealant to the boards, thereby ensuring the longevity of the mosaics.

4.1.5 CREATING THE EXHIBIT

The fifth week of our project was the apex of our work. It was the week when the students from the Family of Hope Services came to the museum and learned how to tile, helped

us paint the scene in the toilets, and created the mosaics which we later attached to the walls. An image of the Namibian flag the students created can be seen below (Figure 14). Additionally, (Appendix J: Progression of Namibian Flag) shows how the Namibian flag developed through the course of the week.



FIGURE 14: NAMIBIAN FLAG

Watching the students as they painted both the flag and the walls, we noticed an interesting and significant occurrence. The students were rather careless when painting the walls, spilling paint, leaving gaps, and having little regard for the brushes. However, when they began to paint the flag, everything changed. Everyone who worked on the flag was overly cautious, carefully wiping excess paint off their brush and then taking their time to ensure that the paint was uniform and filled the entire area. We can only assume that these actions highlight the national pride within these children and probably most Namibians. This is reassuring for our project as one of our hopes was to use this national pride to deter people from vandalizing the exhibit.

Figure 15 shows the toilets through several iterations. The first column shows the two major walls after sanding. The second column shows the walls after the paintings were finished, and the final column shows the completed walls.

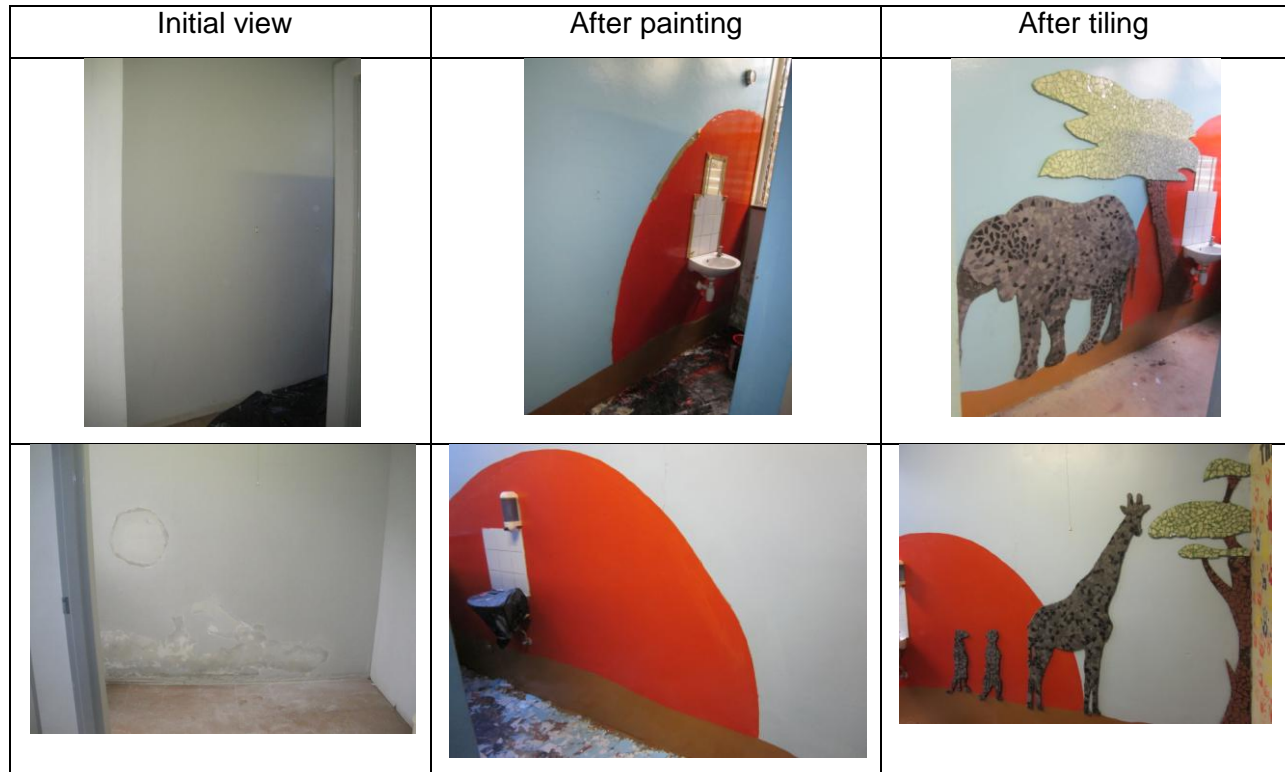


FIGURE 15. PROGRESSION OF THE TOILET WALLS

We completed mosaics on two different walls, opposite each other. Originally, we were told the students would be coming in six groups, two morning groups of younger students, ages 12-16, and four afternoon groups of older students, ages 16-18. This did not end up being true, as all the students were in the same age group: 11-16. The difference between the afternoon and morning groups was the level of education they had received. The morning groups were at a much lower level in their education than the afternoon groups, who attend public school regularly, and this was highly evident in their work ethic and maturity. The afternoon groups were extremely excited about learning and eager to fill out the worksheets and complete their mosaics. One female student said, "I wish I could just stay here," which reflects the attitude of the majority of the students we worked with. The major complication we faced with the afternoon groups was not having enough time to complete everything we had hoped. We were forced to neglect the math problems for tiling because we felt that it was more important to practice tiling during the limited amount of time we had with them.

The morning groups were also very excited about the work they were doing, but they struggled with the educational aspect of the work. The first morning we determined that the paint-by-numbers we had created were too difficult for some of the students to complete, as they were not all up to multiplication yet, and adjustments had to be made for the second

morning group. Also, the animal scavenger hunt created to complement the animal pamphlet was too complex for the students. The majority of the students chose the shorter culture word puzzle, we believe purely because it looked easier. Therefore, a new animal word puzzle (Appendix G: Revised Animal Worksheet) was created for the second day with the hope that the students were more likely to choose the new animal puzzle since it was the same length as the culture one.

As we had expected, unforeseen events arose while working with the Family of Hope Services students. Bus scheduling issues occurred on almost a daily basis; however the worst of these happened on the first day where the bus dropped off the students 90 minutes late. This caused us to successfully readjust our schedule and the students were able to complete their take home mosaics. At this time, we were informed that the bus would not pick up the students for another hour. We were able to readjust to this change and occupied the students by giving them the word puzzles which we had originally eliminated. While this was the worst timing issue we endured, there were several other timing problems which resulted in us constantly changing our plans to suit the situation.

In addition to the timing issues, a logistical problem arose. All of our preparations and planning were based upon 60 participants. However, each of the teachers created their own take home mosaics and 14 instead of the expected 10 students came to the museum on the last day. Luckily, we were prepared and had cut 70 boards which could be used for take-home mosaics. The toilet mosaics were divided equally such that there were enough for 10 students to complete their own section each day. 10 uncompleted mosaics were left on Friday for the students to complete, when 14 students arrived instead of the 10 we anticipated. We were able to divide this into 12 sections and then had two of the students help those who were struggling. By doing this, we gave all of the students an enjoyable experience at the museum while optimizing our time with them.

As the week progressed, the process used for creating the mosaics evolved. After the first day of tiling, we noticed the mosaics had not bonded properly to the mounting boards. We attempted to fix this problem by replacing the majority of the water in the grout with bonding liquid. As we spent more time with the students we were able to identify the common mistakes, such as spreading the grout too thin and waiting too long before placing tiles which caused the grout to harden. By keeping watch for these mistakes, we were able to correct the students and this resulted in more stable mosaics later in the week.

As part of the student's work, we asked them to each do a handprint on the wall. The reactions from the students when they were told they could mark the wall were some of the

most excited reactions observed all week. Not only did they leave the painting and mosaic behind, but they left their own handprint, so that they can return to the museum one day and see the mark they left on the National Museum of Namibia.

We were aware that most of the students' aspirations reached no farther than to become a taxi driver or security guard but being told is very different from experiencing it firsthand. Some students may have realized that they enjoy art while others may have liked the tiling and wish to become masons. Others may have been inspired by the exhibits to work with history while still others may have simply benefited from their time spent in the city. It is also possible that our project did not affect these students and was nothing more than a fun day at the museum. The problem with examining the impact our project had on these students is that the results will not be present for several years. For these students, our project was a small piece of a much larger program designed by the Family of Hope Services to teach these students to reach their full potential.

While the FHS students gained a fun and educational experience, the value of the experience we had was immeasurable. We spent the entire week on our toes adjusting our activities around the obstacles we had with the bus. We dealt with a little girl crying because an older boy splattered paint on her, 12 year olds that could not read, and students who couldn't tell the difference between a noun and an adjective. None of these were problems we even came close to anticipating, yet we were able to handle them in stride and successfully complete our project. We were also able to gain some insight into cultural and social situations very different from our own. Despite all of the obstacles facing these students, such as poverty and AIDS, they were still able to be happy and inquisitive children. All of these experiences helped adjust our outlook on life and allowed us all to grow as individuals. Not only did we become better people for having worked with the students of FHS, but we also have a better understanding of what is truly important.

4.1.6. COMPLETION OF EXHIBIT

Not all of the work on the toilet exhibit was finished when the FHS students left the museum. Some of the work done by the FHS students had to be fixed. Our previous attempts to stop the peeling of the paint on the far wall were unsuccessful so ultimately the entire wall was stripped. Therefore, we repainted the sky, sun, and sand on the right wall the week after the FHS students painted the sun and sand.

Despite our best efforts, two of the mosaics did not stick to the mounting boards and had to be repaired. We remade the giraffe and top of the large tree using a different approach.

Instead of water or bonding liquid, wood glue was used as the liquid for the grout. We also painted bonding liquid onto the resin board to help the grout stick to the board. This new approach yielded much better results than the previous two attempts.

While completing touch-ups, we also painted the rhino we had sketched on the wall much earlier in the design process. The final product is shown below (Figure 16: Completed Rhino).



FIGURE 16: COMPLETED RHINO

Finally, the timing of our work was interrupted by acts of nature. As proof of the water problems facing our project, the toilets flooded on the day scheduled for mounting the mosaics to the wall. Aside from the delay created by this problem, mounting the mosaics to the wall went as expected. Some of the tiles fell from the board which we had expected, but we replaced these once the mosaics were secured to the walls.

4.1.7. MISCELLANEOUS WORK

There was also an abundance of miscellaneous work that the toilets required that did not fall within the scope of our project, but we decided was necessary to boost the aesthetic appeal of the exhibit. Some of the examples of this work are shown below.



FIGURE 17. VIEW OF STALL DOORS

The doors required more work than we expected because the men's door did not close or open all the way and the handles on both doors were broken, with the women's handle often coming off the door. The door handles were replaced but this job took much longer than anticipated. Like the walls, the original door handles were not done correctly. Therefore, the holes in the door were made incorrectly and the new latch assemblies did not fit. Due to a lack of time and tools, the new latches were installed as best as possible but will need to be readdressed once the proper tools can be obtained.



FIGURE 18. BACK WALL

During the week of implementation, we decided to tile the back wall instead of painting it because of the water damage we previously removed. If we had simply painted the wall our paint would soon be water damaged too, while tiles are much less susceptible to water damage. A professional mason was supposed to come into the museum while the students were there,

but his schedule did not work with ours and this could not be completed. Instead, a sealer was painted on the back walls to combat the water damage in the short term.

4.2 PAMPHLET

Our pamphlet proved to be quite successful in providing interesting and engaging information about the exhibits. This was partially done by our decision to create separate pamphlets for the animal exhibits and culture exhibits, ensuring that each individual exhibit was given adequate coverage. The main steps in creating the pamphlets were research, graphic design, evaluation, and revision.

4.2.1 RESULTS FROM SITE ASSESSMENT

Our assessment of the museum led to the discovery of two recurring themes throughout the old wing of the museum and resulted in two different self-guided tour pamphlets. The supplemental information would help the visitor gain knowledge when viewing the exhibit, and therefore help bolster understanding. The map would be helpful by directing the visitor to the exhibits that are mentioned in the pamphlet, since we found that some of the exhibits did not have very evident signs throughout the tour. It may also direct the visitor to exhibits they may have otherwise missed without the pamphlet. We hoped that through these improvements our pamphlet would be able to help the old wing of the Owela Display Centre increase its overall effectiveness.

4.2.2 RESEARCH

Our research was almost exclusively done in the museum's library, located at the Acre facility. Additional research was done online to obtain results of a time-sensitive nature. We first chose an animal or two from each exhibit and performed in-depth research on the animals. At this time we removed the Khomas-Hochland exhibit from our pamphlet, as its focus was on plant life instead of animals. Aside from not finding a suitable animal for the Khomas-Hochland, all of the animals had an abundance of information and our biggest challenge was reducing the information to the most important facts.

The research on the cultural exhibits proved to be much more difficult than that on the animals. We found that while the Namibian cultural heritage of some groups had a multitude of sources, other less known cultures were found in passing references while researching the well-known groups. One such group, the Thwa, had very little information written about them because they are now technically considered part of the Herero, and therefore are not

separately referenced in books. Consequently, we were able to find some information about the Thwa in books on the Herero. Building upon this problem, many of the cultures of Namibia are interrelated and it was sometimes hard to generate clear divisions between groups.

4.2.3 DESIGN

The designs of the two pamphlets were purposefully made very similar and included a shared template. This template was based upon the architectural design of the Owela Display Centre. It featured the beige roof, blue awning, and red stairs. We also decided to write “Owela Display Centre” vertically to emulate the vertical “Museum” written on the side of the building. Both pamphlets featured a floor plan of the wing containing the culture and animal exhibits. The animal pamphlet also featured a map of Namibia highlighting where each animal could be found. This was not possible for the culture exhibit due to multiple groups occupying the same areas. But, there were more exhibits and more information to be covered in the culture pamphlet, so this was not an issue. The final significant difference occurred on the cover page: each included an outline of Namibia, the culture pamphlet having a flag inside and the animal pamphlet having an animal collage. Due to limited space on the pamphlet, the content was written to take up no more than a third of a column for each exhibit.

4.2.4 EVALUATION

The feedback received on the pamphlets from the surveys was generally positive. Most people responded that they did not have trouble finding anything (see Figure 19).

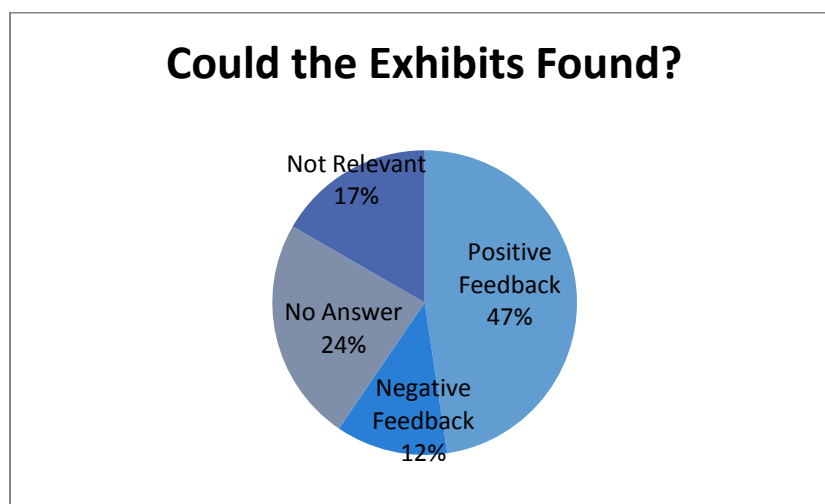


FIGURE 19: SURVEY RESPONSE: DID THE VISITOR HAVE TROUBLE FINDING THE EXHIBITS?

Also, a high number of patrons found the pamphlet interesting (see Figure 20).

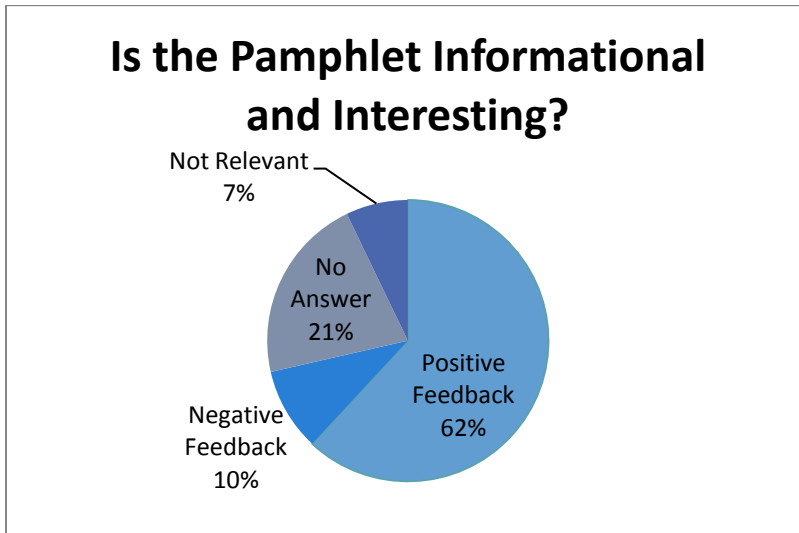


FIGURE 20: SURVEY RESPONSE: IS THE PAMPHLET INFORMATIONAL AND INTERESTING?

Finally, a large number of patrons found the pamphlets easy to read (see Figure 21).

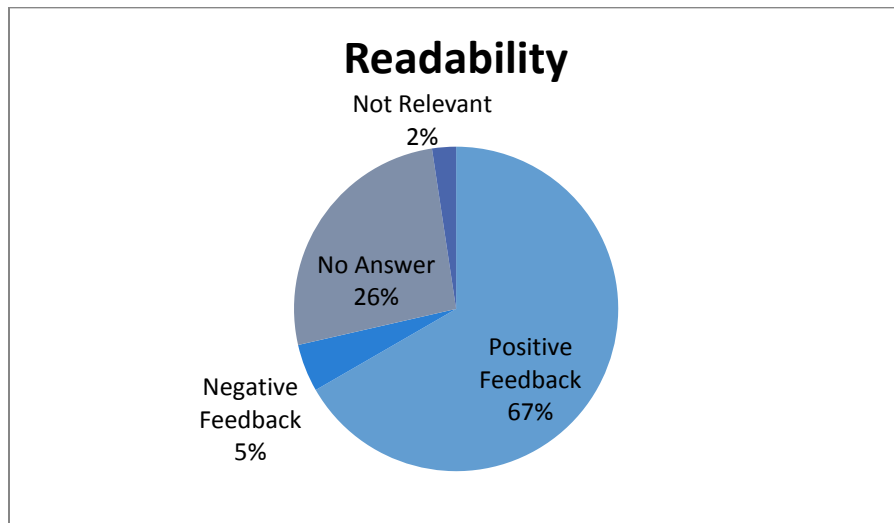


FIGURE 21: SURVEY RESPONSE: READABILITY OF PAMPHLET

There were a high number of irrelevant comments (see Figure 22) on the surveys because many patrons did not understand that the survey was in response to the pamphlet and not the museum itself.

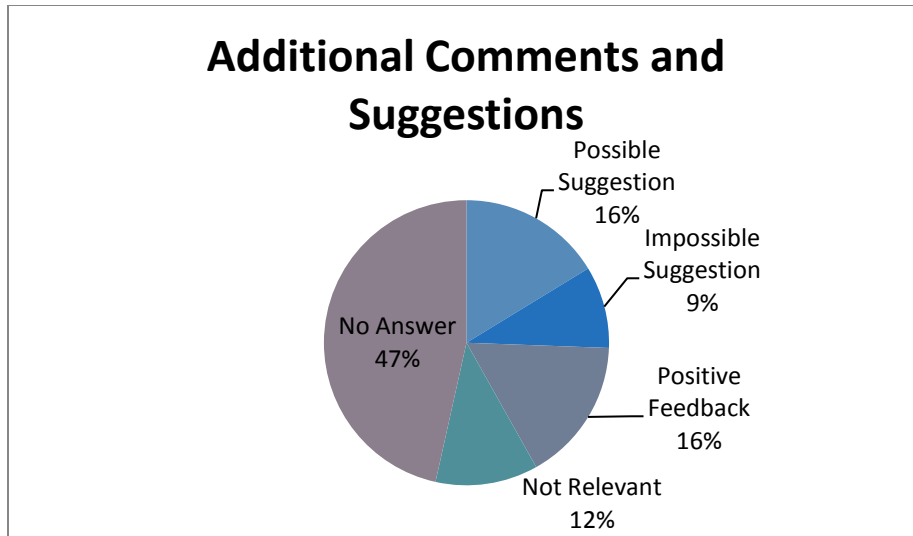


FIGURE 22: SURVEY RESPONSE: COMMENTS OR SUGGESTIONS

However, there were also a few helpful suggestions. One of these specifically was to re-number the exhibits in the pamphlet so those that we discussed in the pamphlet would be sequential. This was suggested in three different surveys. The numbering was originally placed to reflect the spatial order of the exhibits in the hall, but some visitors found this confusing. Another suggestion that a visitor made was to have the headings in the pamphlet match the names on the physical exhibits. The visitor thought that this would help younger school children find the exhibits a little easier. One last comment corrected a translation for “Hello, how are you?” in Afrikaans. We found with a bit of research that the translation we used in the pamphlet was the formal greeting, and therefore uncommon. One commenter said that the exhibits would have lacked dimension without the additional information we provided. We therefore deemed that the pamphlet, as it was, was a success and needed only a few changes.

4.2.5 REVISION

Our pamphlets went through two separate sets of revision. The first occurred after the curator, Ms. Veldman, reviewed the pamphlets. This revision was primarily focused on ensuring the accuracy and political correctness of our pamphlets. The second set of revisions occurred as a result of our surveys. These revisions were mostly focused on making the pamphlets more user-friendly.

While the animal pamphlet did not require any edits after being reviewed by Ms. Veldman, the culture pamphlet did. This was not surprising because most of our research was done using books from the museum library and these were not up to date. Little has changed in

the understanding of the wildlife of Namibia since the 1970's, but the way indigenous cultures are perceived and represented has changed significantly since then. Furthermore, there are many unspoken cultural perceptions in Namibia which outsiders cannot be expected to understand without spending a significant amount of time within Namibia. One such problem in the culture pamphlet was the clothing section that presented the Victorian dresses of the Herero culture. The adoption of this outfit was an attempt by the Herero to blend in during a time of genocide. While this is an interesting fact and potentially worthy of being included in a museum, we learned that it is actually a sensitive subject in Namibia and is not discussed.

This unaccounted for revision step was the reason why our surveying began 3 days behind schedule. However, because our group had the foresight to include buffer time for unexpected problems, we simply continued our surveying longer than initially planned.

The second round of revisions occurred based upon the results of our surveys. We decided to renumber the exhibits to reflect the order they are discussed in the pamphlet, rather than have them represent the exact spatial order of the museum. Another suggestion was to give the pamphlet headings the exact title on the exhibit labels, making the exhibits easier to find for younger school children. Since changing the headings in this way could only have a positive effect overall, we decided to make this change as well. Although the Afrikaans greeting we originally included was correct, we instead included the more common greeting that was suggested. We hope that these changes made the pamphlet more user-friendly. The final pamphlets can be seen in Appendix H: Final Pamph.

4.3 SUMMARY OF RESULTS

Despite many unexpected problems, we were able to deliver quality improvements to the Owela Display Centre and therefore accomplish the primary goals we set for this project. The Owela Display Centre now has a freshly painted and tiled toilets exhibit along with not one, but two self-guided tour pamphlets to supplement their exhibits. The project we did with the students of Family of Hope Services and the puzzles we created to increase the educational value of their work, ensured that our secondary-goal was also accomplished. The students all gained an eye-opening experience which exposed them to both practical and historical knowledge that they would not have otherwise experienced. Like it was for the students, this project was also an eye-opening experience for us. Not only did we learn about the Namibian culture and wildlife present in the museum, but we also gained valuable life experience working on our toes and making the best of any situation.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

In this chapter we discuss the conclusions we drew from our project along with recommendations for both future projects. The conclusions focus on the deliverables of our project generated as well as the impact it had on the groups we worked with. The recommendations focus on ways to improve the museum in general.

5.1 UPGRADES TO THE MUSEUM

This first section examines the renovation and upgrades to the museum. It details how our project in the toilets and our pamphlets met the goals of the museum, the benefits of which extended to the greater community. It also details the effect we had on the environment of the Owela Display Centre.

5.1.1 TOILET UPGRADES

The addition of an exhibit in the toilets in the Owela Display Centre brought the toilet area up to par with the rest of the museum. We hope that the new toilets exhibit is both interesting and visually appealing for all the visitors that use it. To improve security, the outside door to the toilets will now be locked and visitors will have to ask for a key to use the toilets. This will decrease the number of people that have the opportunity to vandalize or steal from the toilets.

5.1.2 PAMPHLET UPGRADES

The old wing of the Owela Display Centre has not been updated since 1957. It has been kept as homage to the way museum displays were in the past: dioramas of people and animals. While the displays work wonderfully for this purpose, there is not much supporting text to accompany the displays. The new pamphlets work as supplemental text for the displays, providing museum visitors with more information and a more enriching experience than they would obtain from the display alone. The animal and regional exhibit case displays mainly show the English and Latin names for the animals, while the pamphlet provides additional information on animals and their habits. Meanwhile, the cultural practice display cases focus mainly on processes, but leave out historical information on the different groups themselves. Our culture pamphlet provides additional background information, and details how the different cultures are

related to their practices. Also, the inclusion of the map makes it very clear where the different exhibits are located. This adds clarity to the museum flow, while allowing visitors to instantly know the contents of the museum.

5.2 VALUE OF COMMUNITY INVOLVEMENT

The following three sections discuss the key organizations that were involved in our project. It shows how the museum can engage the community in future activities. It also details how Tile Africa was more than just a donor to our project, but also a supporter of the greater community. Finally, we highlight the Family of Hope Services and how the students' work was central to the educational aspect of our project.

5.2.1 FOR THE MUSEUM

From the beginning, we wanted to involve the community in our project, and while the focus of community involvement benefited the students of FHS, it also had a significant and positive effect on the museum. The most obvious profit is that the toilets project was completed and provides an aesthetically pleasing and functional exhibit for the museum. Through our community involvement, the Owela Display Centre was able to gain valuable partners that it can work with in the future.

Most importantly, our project helped the museum expand its influence in the local community. The goal of the National Museum of Namibia is to preserve the history of Namibia so that future generations can learn from it. The museum exists to help educate the public, and our work with the community allowed it to do just that. Not only did the FHS students learn through the worksheets, they also explicitly stated that they wished to return to the museum so that they could learn more about the contents of the museum. During our time at the museum, we noticed that the majority of people who enter the museum only go there to use the toilet. By turning the toilet into an engaging exhibit, it is possible that what they see in the toilets will inspire them to examine the other exhibits the museum has to offer.

We hope that our project has made the museum more sustainable because of all the anticipated benefits mentioned above. This success can be seen in two aspects: renovation and visitation. The work we did significantly improved the appearance of the toilets. Our project also established relationships between the museum and FHS and Tile Africa, both are examples of local community support that can be utilized in future renovation projects.

5.2.2 FOR TILE AFRICA

By sponsoring the toilet exhibit, Tile Africa gained recognition as a company interested in the local community and willing to help in the education of the students involved. Aside from the sign above the Namibian flag with Tile Africa's name and emblem, a plaque will also be created thanking Tile Africa for its generous donation. Tile Africa will also benefit from the newspaper article we submitted to the Namibian and the Republican (Appendix L: Article and Pictures Submitted to The Namibian and The Republican). Their name associated with the Family of Hope Services and Owela Display Centre provides the visitors with the knowledge that Tile Africa is working to better the community around them and is not a purely financially oriented business.

5.3.3 FOR FHS

Involving the Family of Hope Services in our project not only benefited us in the completion of our project, but also gave the students a new experience. They were introduced to Namibia's vast cultures and animal species, and exposed to pertinent life skills of painting and tiling. They also learned that a little bit of hard work can go a long way when working together.

5.3 FUTURE RECOMMENDATIONS

While our project is completed, there is still work that can be done to the toilets as well as around the museum. Some work, such as the proper repair of the walls was discovered too late in our project for us to address it. It is our hope that these walls are fixed in the future. Our project was modified to ensure that the mosaics could survive these renovations by screwing them to the wall so that they could be removed if necessary. Therefore, it is our recommendation that these maintenance problems be addressed to further improve the integrity of the space.

We designed the pamphlets to be editable so future changes to the museum could be reflected in the pamphlet if needed. We recommend that the pamphlets are kept up to date and printed in smaller quantities so changes can be made without wasting overprinted and outdated pamphlets.

The pamphlets provide information to exhibits that previously had no form of description. One simple way to improve the museum would be to add informative and concise text to the exhibits. We mention conciseness because the exhibits sometimes already have text in long

paragraphs, where the reader must choose to either read everything to find the valuable information or simply move on to the next exhibit. It is our belief that more often than not, the visitor chooses to move on and we hope that future improvements will heighten visitors' experience at the museum.

Finally, the biggest benefit to the exhibits would be simple maintenance. Several of the exhibits feature text or images that have fallen from their original position and can no longer be seen. Additionally, some of the exhibits are too dark to read and simply need the light bulb to be changed. This lack of light also holds true for much of the wildlife section of the museum. It is our hope that one day in the not too distant future these updates will be completed when the museum staff has the time and resources.

5.4 SUMMARY

We trust that the new exhibit in the toilets created a nicer atmosphere in the museum, the work with the local organizations encouraged more community involvement at the museum, and the self-guided tour pamphlets provided information to complement the exhibits and expand the educational value of the museum. We expect that these improvements increased the museum's appeal to both local visitors and tourists, thereby heightening the number of first-time and returning visitors. These improvements were the first of many for the museum, and should lead to a higher quality of the museum overall.

Not only was our project rewarding for the organizations we worked with, as detailed above, but it was also highly rewarding for us. We benefited from learning about the different cultures and animals in Namibia while researching for our pamphlets, and from working with the students from Family of Hope Services.

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APPENDICES

APPENDIX A: ORIGINAL PHOTOS OF TOILETS

All photos courtesy of Anzel Veldman



VIEW FROM ENTRANCE



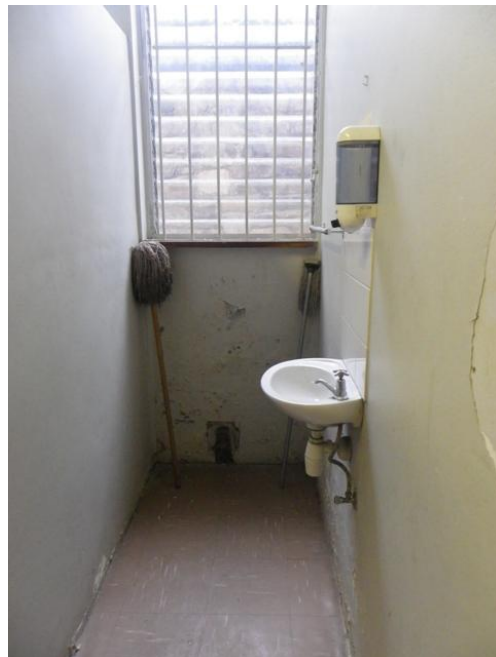
PARTIAL VIEW OF LADIES AND GENTS STALLS



PARTIAL VIEW WITH GENTS STALL



VIEW OF WASH BASIN NEXT TO GENTLEMAN'S STALL

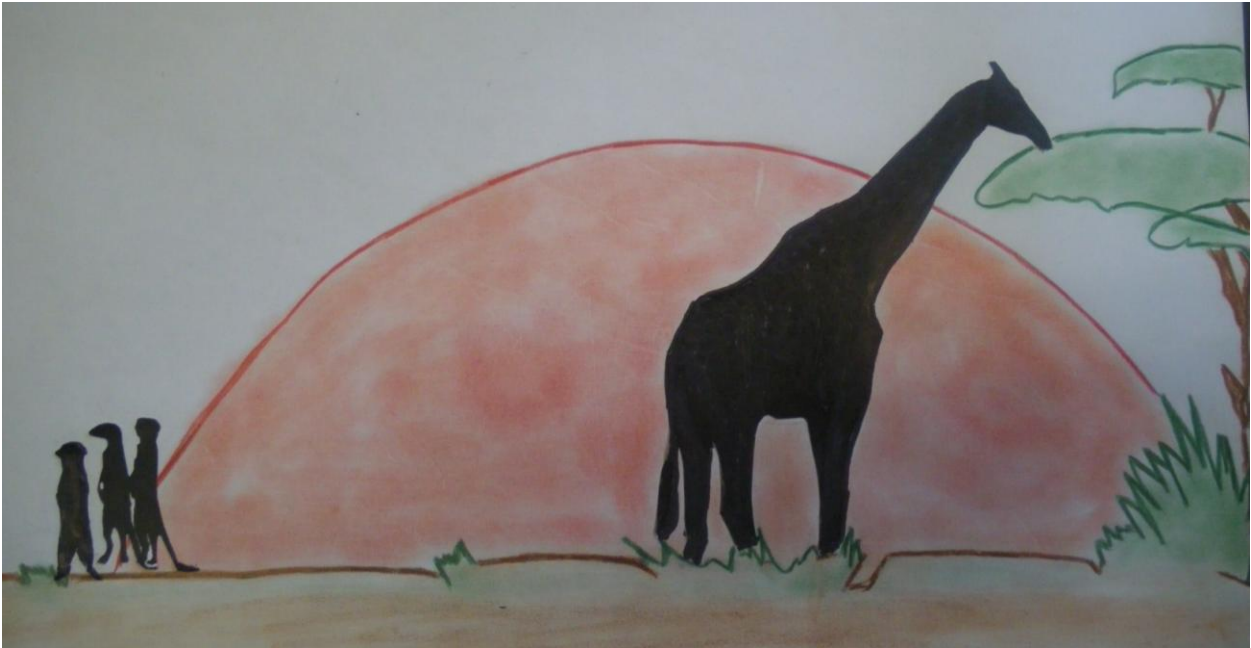


VIEW OF WASH BASIN NEXT TO LADIES STALL

APPENDIX B: THE ECOTARIUM, WORCESTER, MA



APPENDIX C: TOILET DESIGNS



RIGHT WALL IMAGE



LEFT WALL IMAGE

APPENDIX D: INTERVIEW WITH PROFESSOR DOMINIC GOLDING

PERSONAL COMMUNICATION WITH DOMINIC GOLDING

Monday, Feb 7, 2011

1. Can you tell us a little bit about your background with museums?
 - a. Started museum work with the EcoTarium
 - b. Have been working with museums over 30 years
 - c. Have done a lot of work with grants for museums
2. What information do we need to know to create an exhibit at a museum?
 - a. You need visitation data for the museum
 - b. Need educational content for the exhibit
 - c. Need educational theme for the exhibit
 - d. Need input from staff, visitors, board of directors (What do they want?)
3. Is there a process for creating an exhibit?
 - a. Layout Criteria:
 - i. Cost of exhibit
 - ii. Vandalism
 - iii. Relevant topics for exhibit
 - iv. Lighting of exhibit
4. How should we go about involving the community?
 - a. Have community evaluate theme options so one is chosen that interests them.
 - b. Involving the community will also help stop vandalism at the museum
 - c. Ex: Victorian-Albert Museum in London; got community artists involved
5. Can you give us any advice on creating a self-guided tour pamphlet?
 - a. Designing a pamphlet is designing a device for how people find their way around a museum intellectually, "way-finding" device
 - b. Develop a prototype and then test it → Evaluate → Modify → Test again
 - c. Develop a number system to relate exhibits to map. *Identifier
6. What are the first things we should consider when creating our pamphlet?
 - a. What is important
 - b. Are there any common or organizing themes in the museum?
 - c. "cabinet of curiosity" will bring things together
 - d. Where do people spend the most time in the museum?
 - i. Send them there using the pamphlet
7. What is the best way to describe the exhibits in our pamphlet?
 - a. Find an organizing framework for the museum and describe how they are relevant to that framework
 - b. Find connections between ideas and exhibits
8. Do you know anywhere that has this type of pamphlet?
 - a. Nantucket: Walking tours
 - b. Mont-shire, Vermont, museum with sewage treatment in bathrooms
9. Is there anything else we should know?
 - a. An IQP needs an Academic context and should deal with museum theory!
 - b. Pull the museum out of its antiquated view of the world and give it a behaviorist approach to learning

APPENDIX E: INTERVIEW WITH PROFESSOR CREIGHTON PEET

PERSONAL COMMUNICATION WITH CREIGHTON PEET

Tuesday, Feb 8, 2011


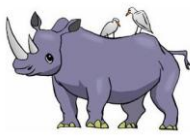
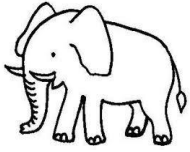
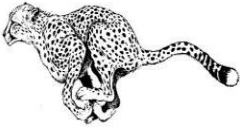


1. What are the conditions like at the museum and where should we focus?
 - a. National museum-under resourced in terms of staff
 - b. Improve all exhibits and general area
 - c. Need to be culturally appropriate engaging exhibits
 - d. Lots of potential- no explanation texts; (almost anything we do will be an improvement)
 - e. Pick specific exhibits that we care about and work hard on those (do a lot to a little not a little to a lot)
 - f. Pamphlet theme only about one thing, and then talk about that one thing in each exhibit in order to build a story
2. What are your thoughts on creating a bathroom exhibit?
 - a. Bathroom area is very plain and not very attractive; respond to locals and meet their needs, local students will probably use this bathroom
 - b. The museum has a low budget so must be economically feasible project
 - c. Needs to be educational and fun (for students working on it)
 - d. Creativity should be focused on the Namibian culture
 - e. Designing has a technical aspect
 - i. you are doing more than “just re-doing a bathroom”
 - ii. must do proper research
3. What kind of concepts should we be researching?
 - a. Look into cultural domain analysis(Russell Bernard- Research methods in anthropology)
 - b. Design aspect as well as social aspect
 - c. Renovations and respect for the space
 - d. Innovation, attracting visitors, how visitors approach topics like natural history
 - e. Museum theory: how to attract visitors and repeat visitors
 - f. How to help a community feel like it owns the museum
 - g. Case Studies-Museums that have implemented what we are doing successfully enough to get more visitors.
 - h. Background of Owela; challenges faced (size, finances) what they are hoping to do
 - i. Look at a museum that has used blank space to create a reason for visitors to come.
 - ii. Look for a museum in South Africa but not one created by Afrikaans (Johannesburg natural history museum)
 - i. Designing collaboratively with the community;
 - j. Add color and mosaic sections to appendixes
4. Any ideas for possible designs?
 - a. Try out lots of ideas/designs, then gauge reactions
 - i. Schools/art school/polytechnic- ask all for their opinion on the toilets

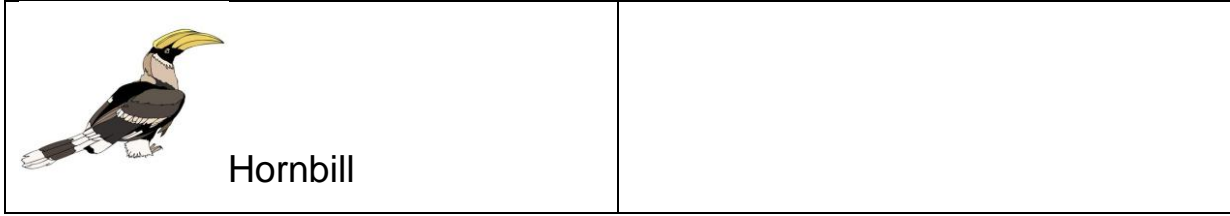
- ii. Traditional color schemes (ex: flag)
 - b. That really isn't for you to decide now. It should be done in D term, but:
 - i. San wall painting (idea for a theme. The San are known for their cave paintings)
 - ii. Integrate culture and animals together in the toilet display
 - iii. Desert Research Foundation- fish river basin, how water was used.
 - iv. Not enough water to have flush toilets. Toilet make in Okahanzu, that is dry. Could incorporate into toilet display
 - v. Dry toilet designs. Habitat research and development center (in Windhoek)
 - vi. Vacuum system toilets (like an airplane) uses little water but lots of energy
- 5. What kinds of things should we be trying to do now in addition to our proposal?
 - a. get background information
 - i. Do the walls need any prep before we work? Paint? What color are the walls right now? What are they made of?
 - ii. What is locally available? (both people and things)
 - b. Talk to someone here that works with museum
 - i. Boston Natural history museum (still hands on, even though we don't have those resources)
 - ii. Erin Disilva- used to work at museum of science (now works at CDC) ask for a contact
- 6. What can we do to have better interactions between the museum and community?
 - a. Get locals to help implement- more sustainable and more culturally appropriate
 - b. Ask Ms. Veldman for contacts with the schools (middle school and high school)
 - c. Get board approval. Get design wanted by the locals! And implemented by the locals! So that they come back to the museum and are proud of it.
 - d. Get designs from College art students, then implement by secondary school students
 - i. "Paint by numbers" made by art students for secondary students to fill

APPENDIX F: PAMPHLET WORKSHEETS

Animal Scavenger hunt

Use the pamphlet to find which exhibit houses each animal listed below and collect the given information at the exhibit. Once you have all the information rank them in each of the boxes below.

Animals:	Exhibit #:
 Zebra	
 Rhino	
 Elephant	
 Cheetah	
 Springbok	
 CapeFox	



	<i>Weight</i>	<i>Height</i>	<i>Speed</i>
Smallest:	_ _ □ _ _ _ _ _	_ _ □ _ _ _ _ _	_ _ _ _ _ □ _ _
	□ _ _ _ _ _ _ _	_ _ □ _ _ _ _ _	_ _ _ _ _ □
	□ _ _ _ _ _ □ _	_ _ _ _ _ □	_ _ _ _ □
	_ _ □ _ _ _ _	□ _ _ _ _ _ □	_ _ □ _ _ _
	_ _ _ _ □	_ _ _ _ □	□ _ _ _ _ _ _ _
	_ □ _ _ _	_ _ □ _ _	_ _ _ _ □ _ _
Largest:	_ _ □ _ _ _ _	_ □ _ _ □ _ _	

Unscramble the letters above to find the themes of three different exhibits...

1 _____ 2 _____ 3 _____

Culture Puzzle

- Besides the Kavango, name one tribe that uses poisoned arrow heads? _____
- What style of dress did the Herero women adopt in the 1850s? _____
- Name the tribe that are blacksmiths by trade, but also have lots of goats and sheep?

- What tribe uses Ant Seeds? _____
- Music is a balance between humanity and _____?
- What is the traditional back apron of Nama girls made of? _____
- What language do the people known for cultivating Omahangu speak? _____
- The Mbalantu and the _____ use pottery for trading?
- What group fishes for its food along the Okavango River? _____

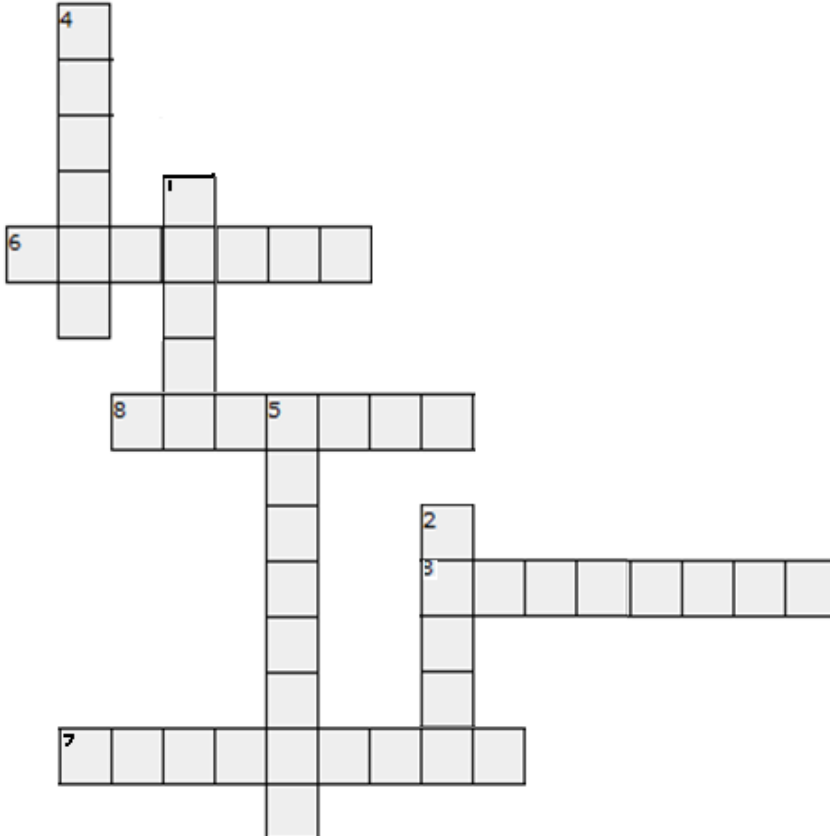
Find the answers to the questions above in the word Search below.

P	C	E	N	I	U	G	V	S	H	E	E	P	S	K	I	N	S	P
B	Q	E	C	Z	F	D	E	G	L	T	K	I	Z	E	W	N	U	K
D	O	T	H	K	Y	U	C	K	Y	W	H	P	C	G	J	K	Y	H
A	L	G	N	F	J	E	M	X	L	K	A	V	A	N	G	O	T	E
M	N	P	U	O	G	T	C	O	T	U	R	X	T	H	F	W	V	S
A	D	V	F	N	L	H	U	A	D	N	I	M	K	U	D	Y	N	X
R	F	R	N	A	T	U	R	E	F	X	B	C	F	G	Z	G	O	H
A	S	O	N	S	D	W	T	V	S	L	I	L	X	V	M	L	T	W
K	C	U	H	K	J	I	C	I	J	H	W	I	C	I	V	I	H	U
U	T	J	P	I	X	V	E	K	N	U	V	P	U	C	D	Q	W	N
N	K	V	Y	R	Z	R	R	Y	E	E	Z	O	J	T	C	K	A	P
S	W	Q	I	H	K	A	V	Q	F	N	K	U	E	O	R	X	G	D
K	A	O	D	U	P	F	P	K	X	P	O	V	D	R	F	M	O	K
T	M	J	V	H	U	A	T	N	I	H	X	J	T	I	P	W	A	D
C	B	I	C	W	G	S	C	S	A	N	V	D	R	A	C	Y	J	Z
Z	I	E	F	T	M	E	E	R	N	F	G	L	J	N	V	H	N	H
U	F	G	L	I	V	O	G	U	V	B	K	E	E	G	M	I	F	D
D	J	W	U	P	X	J	Z	Y	S	O	S	H	I	V	A	M	B	O
Q	M	Y	V	Q	T	S	H	W	U	M	U	X	S	K	P	Q	S	E

APPENDIX G: REVISED ANIMAL WORKSHEET

Animal Cross Word

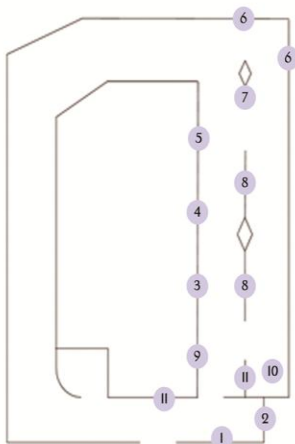
1. This animal is black and white and can run at 64kph.
2. This animal weights around 1000 kg
3. This animal weights 2.23 kg and stands 54 cm tall.
4. This place is home to Zebra, black rhino, and black faced impala
5. This animal weights between 3000 and 5000 kg
6. This animal is the fastest land animal and can run 120kph
7. This animal only weighs 32-36 kg, but it can run up to 80kph
8. This animal lives both on the Coast and in the desert and can run at 72kph



APPENDIX H: FINAL PAMPHLETS

Animal Pamphlet (Outside)

MUSEUM LAYOUT





1. Monteiro's Hornbill
2. Kap Kreuz (Cape Cross)
3. South Kalahari
4. Ruacana
5. Etosha
6. Cheetah
7. Snakes
8. Rhino
9. Khomas Hochland
10. Elephant
11. Welwitschia Mirabilis

ANIMALS IN SOME LOCAL LANGUAGES

English	Elephant	Rhino	Cheetah
Lozi	Tou	Sembele	Linau
Khoekhogowab	khoa.bs	!Naba.sb.	!aru.b
Banderu	Ondjou	Onjati	Otjitetongwe
Rukwangali	Nzovhu	Simpanda	Ehumbu
Afrikaans	Olifant	Renoster	Jagluiperd
German	Elefant	Nashorn	Gepard

WILDLIFE TOUR





The Owela Display Centre
 18 Lüderitz Street, Windhoek
 Postal: P.O Box 1203,
 Windhoek, Namibia
 Phone: +264 61 276800
 Fax: +264 61 2286363

Open Monday-Sunday
 Summer: 9h00-18h00
 Winter: 9h00-17h00
 Closed Public Holidays

THE OWELA DISPLAY CENTRE

Animal Pamphlet (Inside)



1. MONTEIRO'S HORNBILL

The Monteiro's Hornbill ranges from Windhoek, Namibia, to Benguela, Angola. They are from 54 to 58 cm in length and can be found in pairs or non-breeding flocks of up to 50 birds. They prefer arid, rocky, and hilly country with savanna woodland. Monteiro's Hornbills build a nest in either a rock face or a tree and the nest is completely sealed except for a vertical slit; this process takes up to 2 weeks to construct. The breeding season is from February to March. Although the Monteiro's Hornbill bounds on the ground, it has a direct approach to flying which alternates between flapping and gliding.

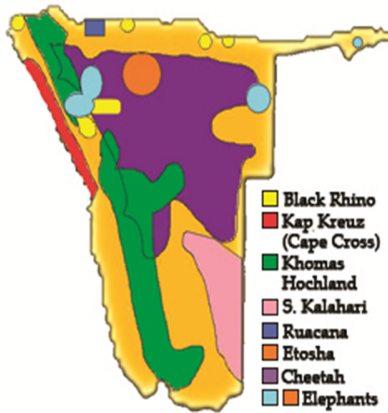
2. KAP KREUZ (CAPE CROSS)

Cape Cross was named after the Padrao, or cross, placed there in 1486 by the Portuguese explorer Diego Cao. While the original cross is now in Germany, a replica was created and erected in 1980, in the exact location of the original cross.

Cape Cross is most famous for its population (estimated to be between 80,000 and 100,000) of Cape Fur Seals, which are a species of sea lion. The males are an average of 2.15 m long and 187 kg in weight (but get up to 360 kg before the mating season). The females are 1.56 m long and weight 75 kg. The Cape Fur Seal can be found from Cape Cross in the North, to the Cape of Good Hope in the South and have a range of 160 km. While adults eat 2 to 3 kg of food daily, young seals up to 10 months have been known to eat rocks, supposedly to aid in diving and for dietary reasons.

3. SOUTHERN KALAHARI

The Southern Kalahari is located in South-Eastern Namibia. The Kalahari is a large desert that stretches across Namibia, Botswana, and South Africa. One prominent animal in this region is the Springbok, which is in the antelope family. They are herbivores, eating grass and leaves of bushes and can go for some time without water by getting moisture from their food. Their predators include cheetahs, leopards, and lions. When startled, they do what is called pronking: with an arched back and head held stiffly down, they jump continuously about 2 meters off the ground.



4. RUACANA

Ruacana is located in northern Namibia along the Kunene River. This region is mostly made up of inland wetlands making it the perfect habitat for Earth's largest carnivore: the Nile Crocodile. This crocodile is the only type of crocodile in Southern Africa. It ranges between 4 and 5 m long and can weigh up to 725 kg. The Nile Crocodile kills its prey through the "grip and rip" method, where it grabs onto a limb of its prey and rips it off with its powerful jaws. It will sometimes resort to drowning its prey to make the killing process faster. The Nile Crocodile can

5. ETOSHA

Etosha was named in 1911 because of the great salt deposit left when the salt lake dried up. These salt deposits are what attract the wildlife to the area, including the Black-faced impala which is only found in Etosha and only some 800 remain. Etosha is also home to over 300 species of birds, including the flamingo of which there are some 2.5 million. The mountain Zebra also resides at Etosha, and is distinguished by the "grid-iron" bands across its hump. Some 1500 animals will visit a watering hole there in any one day. Etosha is also home to cheetahs, rhinos, and elephants (see exhibits 6, 8, and 10 respectively).

Culture Pamphlet (Outside)

MUSEUM LAYOUT

1. Omahangu Cultivation	7. Weapons
2. Kavango Fish Culture	8. Damara Ant Seeds
3. Pottery	9. People of Namibia
4. Musical Instruments	10. Tobacco and its Use
5. Leather and Skinwork	11. Camping Scene
6. Blacksmith	12. Clothing

GREETINGS IN SOME LOCAL LANGUAGES

English: Hello, how are you?
Lozi: Kucwani
Khoekhoegowab: Matisa
Banderu: Kora
Rukwangali: Morokeni
Afrikaans: Hallo, hoe gaan dit met jou?
German: Hallo, wie geht es dir

CULTURE TOUR

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Culture Pamphlet (Inside)



1. OMAHANGU CULTIVATION

Omahangu is known as one of the most important cultivated crops in Africa because it can withstand drought and still grow with minimal rainfall. It is used primarily to make porridge because it has more protein and higher nutrition than other crops. Although agriculture is important, cattle form a more important part of economic and religious life. Cattle for breeding are kept to increase the owner's wealth. Those kept for sacrificial purposes are slaughtered during death lamentation and during ritual sacrificial ceremonies.

2. KAVANGO FISH CULTURE

The Kavango people live along the Okavango River, which they depend on for various reasons. Although there are five different tribes, they all fish for both food and for trading. Small fish are dried to save for the rainy season when the river is too deep to fish in. The fish are caught using nets, traps, bows and arrows, and spears. The women catch fish in large cone-shaped baskets, as seen on the wall on the right. River reeds are collected and used for baskets and mats. These mats are often

3. POTTERY

Mbalantu and Kwambi are sub-tribes within the Ovambo tribe of Northern Namibia. These tribes survived by using the natural resources on their lands to trade with other tribes. Both the Mbalantu and the Kwambi settled on lands with good natural resources for making pottery and therefore made pots for storage, cooking, serving food, etc. as their means of trade.

4. INSTRUMENTS

Music was woven into every part of daily life, from birth to death and influenced by a variety of things, including religion, nature and emotions. Music was a form of both diversity and unity among the tribes since they all had their unique songs, yet the same passion for music. Instruments were made of everything from

5. NAMA AND SKINWORK

The Nama settled in south and central Namibia. They are known for their sewing and leatherworking skills. They make rugs and blankets from the skin of goats, sheep, springbok, duiker, and jackels, often by sewing together several skins. Clothes and small bags are also made from leather, including the traditional back apron for girls, which is made of sheep skins. More information on the Nama can be found in the



This is a traditional homestead of the Oshivambo people. This layout can be seen on the wall opposite the Omahangu Exhibit, #1 in this tour.

6. BLACKSMITH

The Thwa are considered to be a part of the Herero. While they are blacksmiths by trade, the Thwa have many goats and sheep as they are often paid with these animals. The furnaces used by the Thwa are unique such that the air tunnels which connect the bellows to the furnace are made from the horns of gemsbok. Clay is then used to protect the horn tips from the extreme heat.

7. WEAPONS

While the specifics of arrows, such as their head shape, vary by region based on what they are hunting (see right panel), their construction is quite similar. Several groups, such as the San and the Kavango use poisoned arrows. Another important attribute of many arrows is the inclusion of a weak section near the head so that it breaks off and cannot be dislodged by the animal.

8. DAMARA ANT SEEDS

The origins of the Damara-speaking people in Namibia have been traced to the western Bantu stream through genetic research, although they speak a Khoisan language. The Damara have traditional laws for the harvesting of grass seeds from ants, honey combs from bees, and eggs from ostrich nests. Ant nests are considered the property of women, who in turn must leave enough seeds for the ants to continue collection. The women must also close the nest after taking seeds. Bee hives and ostrich nests are harvested by males and must also be treated in a sustainable manner. Hives are passed down in families and only half of the combs can be harvested at a time to ensure that the bees do not abandon the hive.

APPENDIX I: SURVEY

Owela Display Centre Pamphlet Survey

We are engineering students from Worcester Polytechnic Institute in the United States. We are working with the Owela Display Centre to help improve their displays. Your participation in this survey is both voluntary and confidential. None of your personal information will appear in our research reports. The results of this survey will help us to improve our pamphlets.

Hometown _____

Age _____

1. How many times have you visited the museum before? _____
2. Which pamphlet(s) are you evaluating? (please circle)

Wildlife Culture Both
3. Did you have trouble finding any of the exhibits? If so, which exhibits proved difficult and why.
4. Did you find the pamphlet informational and interesting? If not, which part(s) would you like to see improved and why.
5. Were there any sections of the pamphlet that you had trouble reading? What section(s) and why?
6. Do you have any suggestions or additional comments for the pamphlet(s)?

Thank you for your time!

Your answers are valuable and will directly improve the Owela Display Centre.

APPENDIX J: PROGRESSION OF NAMIBIAN FLAG



DAY 1



DAY 2 MORNING



DAY 2 AFTERNOON



DAY 3



DAY 4



COMPLETED

APPENDIX K: ADDITIONAL PICTURES

Masonry/ Painting

Puzzles



GROUP PICTURES



APPENDIX L: ARTICLE AND PICTURES SUBMITTED TO THE NAMIBIAN AND THE REPUBLICAN

A stylish latrine for the Owela Display Centre

The National Museum of Namibia has been in partnership with Worcester Polytechnic in the USA for the past three years. This year they decided to renovate the Owela Display Centre's restroom. The project involved four engineering students, Nigel Cochran, Caitlin Quinn, Victoria Howland and Lauren Edwards from WPI; the Family of Hope Services; Tile Africa Windhoek and the Curator of the Owela Display Centre, Anzel Veldman.

Family of Hope Services is a community based non-profit organization located in Katurura, currently caring for 450 children, who need financial support. The public may contribute by sponsoring a child or giving a donation. The children from the FHS were invited to the museum for a fun and educational experience where they assisted in the execution of the exhibit designs. Fiobe Silvanus, the communications director of FHS said of the experience, "It was good for the students to be involved in this project; it boosted their self-esteem and confidence knowing that they completed this work and left their mark on Namibia's National museum.

The designs include painted murals depicting a sunset with mosaics of Camelthorn trees and animal silhouettes. The branch manager of Tile Africa Windhoek, Mr. Jacques – Pierre Gouws donated unused tiles to the museum for the mosaics, and for that generosity the museum will always be very thankful! "The restrooms are very beautiful and I look forward to doing more projects like this in the future," said Mr. Gouws.

Without the contributions of all parties involved, the museum would not have this new restroom exhibit. The public is more than welcome to visit the Owela Display Centre which is free of charge.



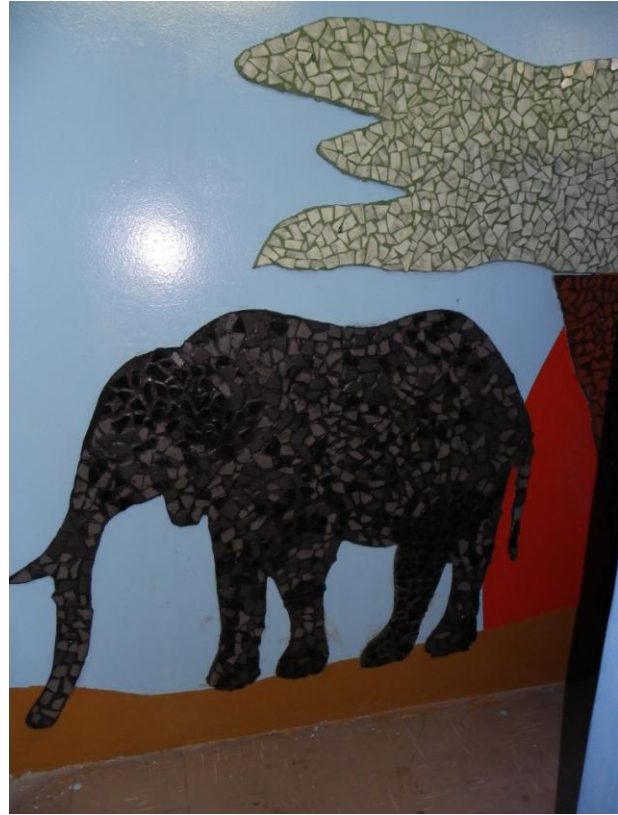
Top, Left to Right: Lauren Edwards and Victoria Howland from WPI; Foibe Silvanus and Abigail Bachopi from Family of Hope Services; Jacques-Pierre Gouws from Tile Africa
Bottom, Left to Right: Nigel Cochran and Caitlin Quinn from WPI; Anzel Veldman, curator of the Owela Display Centre



Nigel Cochran and Lauren Edwards working with students from the Family of Hope Services



Left wall of the Restroom



Right Wall of the Restroom