Evaluative Measures: Assessing the Effectiveness of Exhibits and Programs in Zoos

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EVALUATIVE MEASURES: ASSESSING THE EFFECTIVENESS OF EXHIBITS AND PROGRAMS
IN ZOOS

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Drew Johnson

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Abstract:

This thesis examines program and exhibition evaluation as pertaining to zoos and aquariums in the United States from the 1960’s to the present. Research conducted for this thesis focuses on the design, implementation, and evaluation of zoological programs and exhibitions. Also examined are studies of zoo and aquarium visitors related to audience research, informal learning, and psychographics. Case studies as well as published procedural and evaluative methods from zoos and aquariums across the United States are used to identify best practices. In addition, two evaluation tool kits are presented to assist the Seneca Park Zoo with evaluative measures for exhibits and programs at the zoo. In practice, the findings are intended to provide a framework for this institution to evaluate the effectiveness of educational programs and exhibitions, their impact on visitors, and to expand the scope of visitor studies and audience research at the Seneca Park Zoo.
I. Introduction

Exhibitions and programs are developed and implemented by the staff of cultural institutions owning collections, including zoos, with the intent to provide a service to their viewers. Whether the service’s purpose is to further education or to provide entertainment or leisure a planned benefit to the visitor is intended as part of the exhibition and program development process. This study documents how zoos evaluate the effectiveness of exhibitions and programs at providing those benefits and offers a case study of one such evaluation.

To begin, this thesis approaches the evaluation process by synthesizing literature from the fields of exhibition design, program design, and, further, offers a brief history of theory and practice. Choice literature has been included in order to provide historical reference to what practices were undertaken in the fields of program and exhibition evaluation as well as the larger field of visitor studies. Scholarly literature also documents transitions in exhibition theory for the exhibition of live specimens. Following this historical introduction, reports, and case studies and other publications produced over the last ten years are examined. Building upon this examination of the field, this thesis then examines one organization's approach to visitor studies.

Building upon the literature review and field experience conducted during an internship during the Spring and Summer 2015 at the Seneca Park Zoo in Rochester, New York, the intent of this research is to yield two evaluation toolkits – one document for exhibitions and one for programs. Although their intended use is evaluation conducted at the Seneca Park Zoo, the toolkits may have broader application across the area of zoo evaluation. It should be noted, too, that for the purposes of the study, the emphasis will be
upon zoos, although many conclusions are drawn from, and may apply to, aquarium literature and practices as well.

Part 1: Literature Review

II. Exhibition Development

The stewardship of captive animals has been part of human culture since early nomads began domesticating animals millennia ago. As humans settled and civilizations grew, capturing and housing exotic animals grew in popularity as a way of displaying status and providing entertainment. Factors that continue to influence the husbandry of captive animals to this day. Examples of captive animals displayed for public and private entertainment can be traced to Ancient Egypt and Roman empires, with popularity expanding through the ages. Despite this, the history of exhibition design for the use of this paper will be limited to Victorian periods and forward.

Modern zoos gained acceptance and prominence beginning about 200 years ago in the form of menagerie style display of taxonomic collections. These institutions focused on the scale of species displayed, often containing a large number of species housed individually in sterile pens, typically tile and concrete, designed to give the visitor a taxonomic appreciation of the species held within. Although these institutions housed a large variety of species, the purpose of these collections was primarily public recreation. Such display methods paid little concern for the well-being of the individual animal and more on the fact that the animal was visible, as exotic species were considered a novelty by

many citizens. These types of display methods are considered the first generation of exhibition styles.

Second generation exhibition styles were developed through the nineteenth and twentieth centuries as a method of allowing more space for the animals as well as better viewing opportunities for visitors\(^3\). Typically these enclosures were designed with the same sterile, easy-cleaning design but accepted that small cages were not acceptable for the housing of previously wild animals. Many exhibits of this type sought to provide a natural barrier between the species held and the viewers, creating the illusion of a natural habitat for the animal. These barriers allowed for the transition from naturalistic barriers to fully naturalistic enclosures.

Shifting to the 21\(^{\text{st}}\) century, the third generation of exhibition style began to take hold. Third generation exhibitions, or immersion zoos as described by Coe, began to be realized by professionals and visitors alike as a more appropriate method of housing and displaying captive animals\(^4\). This type of exhibition focuses on providing a naturalistic environment for the species held in the enclosure while allowing for access for visitors to view the animal. As research in to animal psychology and findings related to the impacts on captive animals became more widely studied and circulated to the public, visitors no longer accepted menagerie style, and to a lesser extent second generation exhibition, as an acceptable method of housing captive animals. As such, zoos were pressured in to


developing exhibitions that met the viewing expectations of the public as well as the psychological and physical needs of the animals the zoos were charged to care for.

By visiting many contemporary zoos, one may contend that menagerie and second-generation exhibitions have been phased out and all that remains in the repertoire of zoo exhibition design are third generation naturalistic exhibitions. While this may someday be realized, menagerie and second-generation exhibitions are still widely used throughout the United States and the rest of the world as a largely accepted and practical way of displaying captive animals. This is not to say that the minimalistic enclosures of the Victorian era are still the standard. Naturalistic elements as well as novel, un-natural elements designed to imitate a natural commodity in the animal’s natural habitat, distractions have been incorporated into these exhibitions as a way of improving animal behavior and health. These elements have been incorporated over the years as further research comes to light detailing the physical and psychological needs of a particular species. While the size of the overall enclosure may not have changed, due to any number of institutional factors, including expansion limitations, particular land resources may be better suited for another species, behavioral characteristics of the species displayed, and others, an enclosure may still be enriched despite the enclosure remaining largely the same structure.

Exhibition evaluation is inherently complex because rather than focusing solely on the visitor and whether or not they have gained anything from their viewing experience; the zoo must also take in to account the effects the viewing environment has on the animal contained with in it. Arguably in exhibition design, the impact on the animal must be considered first and then the impact the animal’s behaviors have on the viewer, and finally the educational and viewing materials provided to the visitors. This mentality is displayed
at the Seneca Park Zoo as indicated by an observed conversation between the hyena keeper Mary Ellen, and a young child around the age of ten. A scheduled feeding demonstration program was expected at the hyena enclosure, but in this particular instance the hyena decided not to participate. At this point a child questioned, “Why they didn’t just make the hyena come out and eat?” To this query, the keeper replied that the zoo never makes the animals do something they are uncomfortable with just for a program.

It should also be included that the actions taken by zoos using data gathered from exhibit evaluations cannot be applied in the same manner as other cultural institutions. Institutions with living collections must make considerations in to the well-being of the animals in their care when considering to alter an exhibition spaces, because the exhibition space is the species habitat.

III. Program Development

Whether designing a program or exhibition, the institution must identify the key themes or messages that they want the project or exhibition to convey. For zoos the key message of many programs and exhibitions is to educate the public about a specific species or conservation issue5. With the development of key themes and desired outcomes, the institution now has defined goals which the program or exhibition is expected to achieve. As important as the message, the institution must also have a specific audience (e.g. age, education level, family types) in mind at the early stages of development. As rudimental as

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5 John H. Falk et al., "Why Zoos and Aquariums Matter: Assessing the Impact of a Visit to a Zoo or Aquarium" (Association of Zoos and Aquariums, 2007).
it may sound, having a defined target audience can ensure that the materials developed can be highly grounding\(^6\).

**IV. Evaluation**

Zoos, by nature and action, are institutions that promote education and awareness of issues facing their animals. A survey of zoo mission statements reveals that education and conservation are at the forefront of many institutions’ mission. With such important issues at hand, institutions like the Seneca Park Zoo are striving to understand whether or not their programs and exhibition materials are presenting the messages planned by staff. Not only does the institution want to know whether or not the visitor is receiving their message, but whether or not the audience has learned anything. The way to accomplish this is through evaluation, but summative evaluations are only one step of the evaluation process.

Evaluation, as defined by the National Science Foundation’s Joint Committee on Standards for Educational Evaluation, is the “systematic investigation of the worth or merit on an object.”\(^7\) This definition originated in 1994 and has since been revised to include “the systematic investigation of the quality of programs, projects, subprograms, subprojects, and/or any of their components or elements, together or singly.”\(^8\) The scope of investigation in terms of zoo programs and exhibitions can refer to the attractiveness of a particular element in an exhibition, the legibility of printed materials, or if an exhibit had

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prompted measurable change in a visitor’s conservation behavior. Evaluation generally follows two to three stages: the formative evaluation, preparation, and summative stages (Bitgood, Wells, Westat). However, three stage evaluation plans have been combined in recent years to reflect a more streamlined process, focusing on pre-installation and post-implementation, or formative and summative evaluations. Evaluation in each stage of the process involves many different possibilities based on the individual project. In order to convey the sheer scope of possible evaluations, the information provided in this literature survey will be quite broad.

The evaluation process serves many purposes for zoos. Not only may evaluation shed light on the particular effectiveness of an exhibition or project, evaluation can also be used as a tool for understanding a particular issue or concern, as shown in Hood’s work in response to voter acceptance of proposed funding increases9. Whether the proposed evaluations occur as part of development or are conducted as a response to an institutional phenomenon, evaluation is a continual process that relies on the gathering of data and its application towards improving the project. Throughout this process careful consideration should be heeded to the: formulation of key goals and objectives, research, intended audience, stakeholder concerns, budget, planned benefits to visitors, animal care, planned short- or long-term affects on visitors. By conducting evaluation as part of project development process, the institution can formulate specific objectives and ensure that the planned objectives are reaching visitors as intended.

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V. Formative Evaluation

Formative evaluation focuses on the design process and pre-installation changes of the program or exhibition. Is the institution identifying key objectives, outcomes, stakeholders, and methods by which the institution will translate the message? As mentioned previously, defining clear goals and objectives as well as a target audience are vital steps in developing a project or program. When developing an evaluation plan for the project or program, the institution must ensure that the goals and objectives laid out for the program are measurable and the methods that will track the efficacy of the project. Also important is the identification of key stakeholders. As with many other plans developed by an institution, the evaluation plan identifies the key objectives as well as the people who will be affected by the project and how they will be affected.

In order to identify a target audience the zoo or aquarium should take steps to identify who in the community already visits their institution as well as the potential audience of the institution. In the case of the Seneca Park Zoo, as well as most other zoos, the visiting audience consists of primarily families including children. Although this may be the largest represented group visiting most zoos, it is certainly not the only group. In order to understand the greater audience visiting the institution, a zoo or aquarium may engage in demographic studies, quantitative measurements of the ethnographic and socioeconomic groups visiting their institution. Identifying the demographics of visitors already attending the zoo can be accomplished fairly simply through the usage of surveys designed to inquire about patrons race, marital status, children, and potentially income. These types of surveys can be designed and administered by zoo staff on grounds or mailed.

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to members and other visitors who have previously acknowledged that they would like to receive institutional mailings. In order to identify possible visitors of the institution, similar surveys can be administered through the use of purchasable mailing lists as well as the use of market research groups that the institution may already be collaborating with. With this information the institution can develop programs tailored in complexity to their target audience.

Formative evaluation follows the project through its design phases and continues to assess the development and intentions of the project until its completion. As described further in this document, during the design stages of the interactive observational study completed at the Seneca Park Zoo, the evaluation staff continually revised the evaluation tools during preliminary testing. Tools were designed and tested during trial observations to determine the tool’s efficacy; in some instances tools were re-designed to better accommodate visitor actions. The main purposes of the formative evaluation process are to document and evaluate the institution’s progress in following the approved development plan and documenting any changes\(^{11}\), how the exhibition or program development is keeping pace with planned benchmarks, and whether or not the project will have a measurable impact or affect on its viewers.\(^{12}\) Each of these components are vital in maintaining progress and bringing any ineffective elements of the design to light so that they may be adjusted before the implementation.

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VI. Logic Model

A valuable component of formative evaluation is the formulation of a logic model. This model is developed as a plan that outlines strategies and desired outcomes and provides the basis for surveys and other measurement tools. More precisely, a logic model represents the “theory and assumptions underlying the program. A program logic model links outcomes (both short- and long-term) with program activities/processes and the theoretical assumptions/principles of the program.” Typically a logic model is built upon five categories: inputs, activities, outputs, outcomes, and impact. Each of these categories relates to specific facets of the planning, installation, and post-implementation process.

When considering the inputs and resources that go in to an exhibition or program it is important to identify the amount and sources of funding being used for a project, as well as external labor required in construction and staff time. The inputs section is intended to identify all the sources of funding and costs associated with the development process. Donors, grants and other sources of funding all come attached with an organizational or personal opinions or requirements as to how their money will be spent. Making sure that these spending requirements are met can make sure the project continues without any controversy. The input section also takes in to account any external costs that may be

accumulated over the course of the project, from contracting outside firms for assistance to construction materials for developing models. Simply documenting and budgeting planned expenses allows for tracking over the course of the project. This information is important in evaluating the development process and identifying any areas that may be inefficient or require additional resources. Staff time also must be accounted for as this expense provides a measurable benchmark of hours in which areas of the project should be completed.

The next area of the logic model is intended to translate how each input is being utilized. The activities section determines the specific activities that will be used to reach the project’s intended outcome. This includes which funds are being allocated to which areas, a plan of work for staff, as well as what tools will be used to accomplish the project. Activities also refer to any services that will be provided in order to complete the project. Depending on the nature of the project the services included may vary from distributing notices at the entrance to conducting teaching sessions with area educators. Identifying these activities and their expenses allows the evaluator to compare how funds are being used versus how the funds were intended to be spent as well as making sure that pre-implementation programs and services are operating as intended.

These areas of the model account for the institutions activities related to the project. The following segments, outputs, outcomes, and impacts, are all intended to describe the intended consequences that occur as a direct result of the implementation of the project.

Outputs of the project refer to the expected and intended results and experiences that a user will demonstrate while interacting with the project. This area contains the expectations of the institution and what they are hoping to achieve with the project being

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developed. Outputs, however, is not a measure of the quality of the project but rather a description of what the project accomplished and what was used to produce these outcomes. Another way to consider outputs is that they describe what the institution has produced through the development of their project\textsuperscript{18}. The efficacy of the project’s implementation will be determined through the evaluation of these sections. As important as the goals labeled here may be for the institution, they are equally important to evaluators who now have a tangible benchmark with which to compare the results of the project.

Outcomes and impacts are two sections, which may be combined in some cases and left separate in others. For zoos, these sections’ separation may prove more beneficial in the planning process due to the general nature of these institutions’ programs and exhibitions, conservation education. Outcomes define the immediate impact of the program or exhibition on the visitor after viewing. Impacts on the other hand attempts to define what long-term affects the viewing of the program or exhibition would have on the visitor. These sections, unlike those previously mentioned, are largely predictive. This is not to say that the information in these areas is falsified, but the true outcomes of a project will not be understood until visitors interact with the installation and provide feedback. Similarly, impacts cannot be measured before a visitor has experience with the exhibit or program, nor can they be measured, typically, before a visitor leaves the institution. The statements and information gathered in these sections during the development process are the basis for summative evaluation once the development has been completed.

\textsuperscript{18} “Getting Started With Program Evaluation” (Georgia Council for the Arts, National Assembly of State Art Agencies, 2007).
VII. Evaluation in Practice

Using the logic model as an example of the project planning process, this portion of the paper will discuss the various evaluation opportunities available in each stage of the evaluation process. Some of the methods presented henceforth may appear rudimentary and obvious, but it is important to remember that most evaluation procedures are conducted while a visitor is on-site, and largely unexpected by the visitor upon arrival. With these considerations in mind it is the goal of evaluators to study visitors with minimal interruptions into their zoo experience.

Before returning to our logic model, it is again important to remember that the creation of the logic model itself is the first stage in the evaluation process. Also, techniques and strategies presented may be applicable to multiple sections or between sections. Having a detailed model of how each element of the project interacts with each other is crucial to understanding how the project operates and what areas of development may be evaluated at which times. It would be unreasonable, as an evaluator, to evaluate how stakeholder funds were implemented at the conclusion of development and spending, when clear obligations may be attached to the funds in how they may be used.

Focusing solely on the input section of the logic model there are not many factors to evaluate, yet. During and before the input section the main roles of the evaluator focus around understanding the project. Reviews of literature, internal documents, and other relevant documents are crucial to understanding the information behind the project. Understanding the concepts that fuel the interpretation by staff allows the evaluator to
formulate their questions to reflect the information that visitors are exposed to beyond just what is presented in the exhibition or program. Reasons for doing this are quite simple, the evaluator needs to be able to differentiate between feedback that resulted due to exposure to the exhibit or program versus pre-visit knowledge. Other forms of evaluation in this area involve the stakeholders of the project. First and foremost, the evaluation staff and development staff should identify the potential stakeholders in the project and seek their input. Correspondence between the evaluator, or development staff, and stakeholders identifies what funders, visitors, staff and community partners can provide towards the project as well as what these various audiences would respond favorably to upon installation. The interactions can take place through various forms of communication, email, phone calls, interviews and even social media. The findings of these interactions may identify a central figure for a group of stakeholders through which they may communicate, particular accessibility issues facing a particular group, and what types of information stakeholders may expect to be presented with. Also in this section, evaluation staff should identify which stakeholders would benefit from the findings of the evaluations and which departments should receive reports.\textsuperscript{19}

Before and during the development of the development model, staff should consider the main goals and objectives of the proposed project. From these main goals and objectives, the evaluator, along with staff, can synthesize the project proposal in to measurable objective that can be tracked and analyzed further on.\textsuperscript{20} The key to understanding whether or not a project has accomplished what it was intended to relies on the collection and analysis of data. To understand what types of data are required to

validate a project, the synthesized goals and objectives must be formed into a construct, or a measurable concept. This process requires deconstructing the main goals and objectives and identifying the specific outcomes the project should translate to the audience. If the question of, “How can the institution understand whether or not these outcomes are occurring?” is stirring, the answer to this question is through the use of indicators. Evaluators, along with staff, consider the specific outcomes and identify which types of data, indicators, are required to prove that an outcome has occurred. Indicators also assist in identifying who, how, and what should be studied to collect the data. With these elements identified, evaluation questions can be developed to identify if the particular element caused an outcome. Take for example a zoo planning a redevelopment of a major exhibition, much like the Rocky Coasts exhibit at the Seneca Park Zoo. In this case, the zoo intends to run a marketing campaign to promote the exhibition opening with the intentions that circulating promotional material will attract “non-visitors,” or visitors who under ordinary circumstances would not attend the zoo as part of their leisure spending. A construct of this plan would be “increasing non-visitor attendance”, or possibly “effects of promotional material on attendance”. Indicators of these constructs would be visitor responses identifying that the visitor is/has, a first time visitor, received promotional material about the exhibition, promotional material was the sole purpose for choosing to visit. Through the development of concise and simplified goals and objectives observable and measurable data can be identified and defined for all staff.

Moving to the activities section of the logic model, the institution begins producing materials and developing components of the exhibition or program. With the upswing in

21 Rockman and et al, “Constructs & Indicators” (Rockman et al. & The EdVenture Group, 2006).
production, the role of evaluator takes on a seemingly managerial role. This is not to say that the evaluator assumes the role of project lead and dictates the progression of the project moving forward, rather the evaluator refers to the established plans, deadlines and budget of the project and documents their progress. Are scale models being produced on schedule? Are exhibit materials being completed for review as planned or are there delays or content issues? These issues may seem more relevant to the project manager, but are equally important to the evaluator in determining the progress of the project as well as documenting changes and progress for stakeholders.

Other responsibilities during this section revolve around the materials and design elements of the project and stakeholders, or audience, perceptions of them. By presenting preliminary materials, prototypes, scale models, sample didactic panels, to stakeholders and planned audience members during the development phase, evaluators and staff can identify and possibly change elements of the project before installation. In order to do this, the evaluator and staff should identify which materials should cause and impact and develop questions around these elements. The questions should not, however, guide the answering party towards an answer and should be as open ended as possible. Such as, “Which area of the display did you [the visitor] notice first?” “Second?” If a particular picture or text grouping was planned to be seen first, an indicator response would identify that element as the primary focal point on the display. Depending on the project, the methods for obtaining this information may vary but commonly rely on focus groups and individual interviews with stakeholders and audience members. With this information, the evaluation and development staff may make adjustments, improvements, or reallocations during the remainder of the development process.
Building upon this literature review, the thesis continues with Part 2 which considers the history of the Seneca Park Zoo before turning to the Internship Experience in Part 3. The appendix includes the survey instruments (blank) and the completed surveys obtained in June and July 2015.

VIII. Summative Evaluation

Similar to the activities section, the evaluator’s role during the outputs section of logic model is largely to assess visitors’ reaction and interaction with the project once it has been implemented. The differences between the activities section and post installation evaluation are the scope of the audience studied as well as the setting. No longer are focus groups interacting with individual elements of a project and conveying their preferences, now the evaluation team must evaluate how visitors are interacting with the project as a complete entity as well as their reactions. There are many possible tools for this type of evaluation, with the intention of being concise this section will focus on on-site visit evaluation practices, post-visit evaluation techniques will be discussed in further sections.

To understand how visitors are interacting with a program or evaluation, there must be some interaction or observation between staff and visitors.

Firstly, it must be stated that when attempting to identify behavioral characteristics that occur as a result of exposure to an exhibit or program, a comparison between individuals or groups must be made. One group must be exposed to the exhibition or program as intended for general audiences, the other group, as similar in general composition as possible to the control group, should be exposed to the exhibition with a singular change. “The task is not only to show that the outcomes occurred, but to make the
case that the outcomes can be attributed to the intervention and not to some other factors.”

In the case of Pattison’s work at the OMSI, instructive kiosks were left on, or turned off and covered with a didactic panel which displayed the same information, depending on which group was being observed. These kiosks were identified as being a potential factor in determining level of interaction and visitor time spent engaging with the exhibition.23

Secondly, when conducting observational studies of visitor engagement and interaction it is important to maintain random sampling. The purpose of this is to ensure, attempt, to represent the majority of the viewing audience based on the actions of a selected few. Techniques for maintaining randomness during evaluation involve systematic random sample, in which a number of visitors (n) is selected, with little consequence on the actual number, and every nth visitor is observed. This technique causes the evaluator to focus on a single visitor for the length of their interaction with the exhibition and then selecting the next nth visitor who enters the defined exhibition space and observing their interaction.

With these two concepts in mind, the actions of evaluators vary depending on what questions are attempting to be answered. Some questions may rely on multiple data collection techniques, both qualitative and quantitative. In many cases observations may be required to understand how visitors are interacting with an exhibition. In order to accurately record the data, an observer must have a method of keeping time such as a watch or smart phone as well as a way to record the data, on paper or through recording, although recording visitors for the purpose of a study would require consent or simply

prior notification depending on the uses of the recordings. Definitions of what constitutes an interaction, engagement or a stop at an exhibition must be determined before observation occurs. This is to ensure that, unless planned, a passing glance at a display case is not counted as an interaction with an exhibition. Also, a defined exhibition space should be determined, this is important in zoos due to their lay out which may have overlapping exhibition spaces depending on the display of animals. Having a defined exhibition space allows the evaluator to accurately determine who should be considered for observation. Similar to the observation of an individual are tracking or pathing observations. As documented by Bitgood et al., these observations track visitors’ circulation around the institution and may be used to reposition signs and indicators to increase visitor attention to a particular area of the park. These techniques are based in the concept that “time sets the precedent for and is indicative of many desirable outcomes.” This statement infers that there is a direct correlation between time spent engaging with material and amount of learning occurring.

Other forms of on-site evaluation can occur through the use of surveys distributed to visitors prior to, or after engaging with the exhibition or program. If a change in behavior is being studied, surveys conducted both before and after exposure may be required in gain the data necessary for evaluation. Even if this is not the case, survey design should remain relatively constant. On-site evaluations should be conducted in a way that will limit potential institutional bias while remaining sensitive to the visitor’s time constraints. To achieve this, survey questions should remain concise yet still seek a clear objective.

Answers to these questions could be open ended or based on a Likert Scale, a scale which assigns a numerical value to preferences. Unlike Likert-style responses, which are already presented in a numerical value, open-ended responses should be interpreted in terms of a numerical value in order to allow for comparisons. To achieve this the responses must be coded; which involves assigning a numerical value to each response based on keywords, or perceived understanding of the exhibition or program based on the usage of project specific language. With the responses now coded, the evaluation staff can begin to interpret and track changes in the data.

These methods provide the basis of summative evaluations. As before, the outputs section and impacts section will be combined as many of their techniques overlap and may be used to gather similar information. The data gathered during these stages attempts to prove that the affects that zoo or aquarium staff identified as objectives and goals during the development process actually occurred. As discussed by Falk, a visitor may not fully understand the impact of their experience until long after they have left the physical ground of the institution. In order to accomplish this the institution must have a method of contacting visitors after their experience, this can be obtained by prompting visitors to voluntarily provide contact information on a previous survey or at the entrance with the explanation that the data may be used for research purposes. Techniques for obtaining this type of data relies again largely on the distribution of surveys. Either in paper form, or electronic, surveys allow for detailed open-ended response of questions as well as the opportunity for additional quantitative data, such as demographics. Again, the questions

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should be designed to limit institutional bias and focus on a singular topic. A sample of these types of questions may include, “Were there any parts of the exhibition or program that appeared to have a targeted message?” This type of question acknowledges that the institution attempted to convey a particular message through the use of specific elements and asks the visitor to respond with which elements, indicators, of the exhibition, in their opinion, had a purpose other than visitor entertainment. Similar to surveys, interviews with visitors after their visit can provide a more detailed account of the impacts of the zoo experience. With interviews, similarly to surveys, questions should be open ended to allow for elaboration, but there should be even greater refinement of the questions to best eliminate institutional as well as interviewer bias.

Building upon this literature review, the thesis continues with Part 2 which considers the history of the Seneca Park Zoo before turning to the Internship Experience in Part 3. The appendix includes the survey instruments (blank) and the completed surveys obtained in June and July 2015.

Part 2. Case Study: Seneca Park Zoo

IX. Seneca Park

The history of Seneca Park Zoo stretches back over 100 years to 1888 when lands were purchased for the original Seneca Park. Over the next five years, the F.L & J.C Olmstead Firm, led by Frederick Law and John Charles Olmstead, designed the architecture for the park, which opened to the public in 1893. A year later the Seneca Park began to display captive animals, mostly local fauna including birds and deer. Around the turn of the twentieth century the park constructed permanent housing structures for one hundred and
fifty species in the lower park near Trout Pond. Three years later, in 1905, the park completed the construction of an aviary designed for the flight patterns of three hundred birds.

The first major zoological addition to the park accompanied the construction of the Main Zoo Building. This was the first building in the Northern portion of the park and allowed for the menagerie style display of exotic animals. In addition to many other exotic species, this building became the home Jimmy the Chimp, who at the time of his death 1985, was the oldest chimpanzee held in captivity. By 1937, the structure of Seneca Zoo, as we know it, began to take shape, and the housing of animals became more centralized and located away from the lower park, which the zoo currently does not use. The construction of this Main Zoo Building, located on a natural ridge above the lower park, began the zoo’s transition from exhibiting in lower Seneca Park around Trout Pond to their current locale.

X. Seneca Park Zoological Society

It was not until 1957 that the State of New York recognized and chartered the Seneca Park Zoological Society as an educational institution that warranted support from the state. Since that time, the Seneca Park Zoo has developed into a fully functioning and accredited not-for-profit organization. As part of the community, the development of the zoo’s collection and grounds relied heavily on support from local patrons and businesses. To exemplify this support, the acquisition of two polar bears in 1975 was led primarily by

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charitable efforts of local school children.\textsuperscript{29} Again in 1986, the zoo partnered with locally based Wegmans Food Markets to create the ZooMobile program that brings educational opportunities to area schools to this day.

With the acceptance of the Seneca Park master plan by Monroe County in 1991, the zoo and county entered a period of unprecedented growth and innovation for the zoo. In 1993, with assistance from the county, Seneca Park introduced its first landscape immersion exhibition, Genesee Valley Trail, and the Discovery Center. This partnership continued in 1997 when Monroe County provided $7.75 million to aid in the redevelopment of artic marine habitats, named the Rocky Coasts Exhibit.

Part 3. Case Study: Internship Studies

XI. Internship

Beginning in Spring 2014, I was in contact with the Seneca Park Zoo about potentially collaborating with the institution in developing some form of evaluation tools for the zoo’s various programs and exhibition spaces. During the period of January 2014 to February 2015, numerous emails and meetings were exchanged between myself and zoo staff including Kenneth Nelson, Interpreter, Bart Roselli, Director of Education and Interpretation, and Emily Coon-Frisch, Manager of Program Development, about the possible directions my thesis could go. Initially plans were that this paper as well as the internship would result in the development of both an exhibition tool-kit as well as a program evaluation tool-kit. Due to the primary focus of the internship revolving around exhibition evaluation, my exposure to zoo programs was limited to one ZooMobile program.

and four days assisting with school camp programs. For this reason, the program evaluation tool-kits will primarily include the observed similarities in planning between the two.

XII. Survey Parameters: Research Question

During my time working with the Seneca Park Zoo, I developed a survey targeted at understanding non-visitor motivations in regards to their lack of attendance to the zoo. This survey looked at several factors including demographics, socioeconomic status, as well as primary mode of transportation in attempts to identify any correlations between these factors and a visitor’s attendance. The development of this survey largely drew on the work of Marilyn Hood, which has been described on page 7. Furthermore, questions were included that asked the subject to self-identify any accessibility needs they may require. This type of question was deemed particularly important due to the rising levels of Americans with disabilities. According to the United States Census in 2000, 49.7 million Americans reported some form of disability. This number rose in 2010 to a reported 56.67 million Americans.\(^\text{30}\) Continuing with the survey, questions continued towards identifying the subject’s motivations for leisure spending and the types of activities they consider when doing so. With these questions answered, the survey turned to the subject’s perceptions of zoo’s in general. For some subjects, there is the potential that a negative experience with animals or a previous zoo has in some way affected their desire to visit a

zoo. Finally, subjects are asked about the types of services and roles a zoo plays in the community and the types of services and programs the subject would ideally appreciate an institution to provide.

As part of this survey, local institutions and groups, which deal with adult education and community engagement, were identified as possible areas to solicit subjects for the survey. These groups included media centers such as WXXI as well as school districts like Monroe County. Also, other cultural institutions such as the Memorial Art Gallery and George Eastman House were identified for their periodic existing collaborations with the zoo and their adult informal education programs.

Although this survey was developed, the survey has yet to be implemented in a study for the institution and therefore the data is not available. Had this survey been implemented, a small sample of subjects would have been tested with the survey and, based on reactions and responses from subjects, the survey would be evaluated for its efficacy before complete testing occurred. By evaluated for efficacy I mean, based on subject responses towards certain problematic questions such as income bracket and level of education, these questions or their offered range of potential answers may require changing.

With the non-visitor profiles survey completed, my internship duties transitioned to developing an exhibition observation study for the interactive elements within the A Step into Africa exhibition. The focus of this study was to attempt to understand the extent to which visitors interacted with and engaged the interactive panels, cases, and casts throughout the exhibition area. This included eight individual panels as well as 2 additional panels in the baboon hut which were combined due to their low frequency of use as well as
their close proximity to each other, these panels were located on opposite sides of the baboon enclosure’s viewing glass.

In order to begin the study we, Mr. Roselli, Ms. Frisch and I, were tasked with identifying a research goal. In this case, the zoo wanted to understand “How are visitors using our interactive elements?” With this question in mind we identified a target exhibition for study, in this case the Step into Africa exhibition area. From there, Ms. Frisch and myself, along with Mr. Roselli, compiled a list of potential interactive elements for study which was then narrowed down to the nine elements previously mentioned based on institutional preference. Upon selecting the target interactives for study, we met and discussed the possible methods for study. After deliberation it was determined that a combination of observations and surveys given on-site, could be reasonably completed within the time frame and limited personnel devoted to the task.

XIII. Survey Parameters: Observed Interactions

After selecting the interactives for study and deciding which methods would be used for collecting data, it was time to begin designing the study. Because the research question used to develop this study looked at visitor use of the interactions it was important that, during the development process, the evaluation staff made no attempt to draw conclusions about learning from the study. For this reason, the study focused primarily on the observed interactions between visitors and the interactive panels. While the survey asked the question, “What did you [the visitor] learn from using this interactive?” the intent was to determine whether or not the visitor believed there was an educational component
associated with the interactive. This was a significant query for the institution because the many of the interactive elements were designed to provide some educational purpose—whether that be learning to observe differences in specific baboons as in the case of the Baboon Identification Panel, or communicating the scientific belief that elephants communicate through vibrations in the ground absorbed through the pads in their feet as in the case of the Elephant Listening Tube.

In order to answer the question of how visitors use the interactives, it was first determined that the evaluators assigned to the study, understood the interactives from both a visitor perspective as well as the institution’s perspective. In order to accomplish this, I, along with Ms. Frisch developed a list of the intended uses for each interactive. To do this, I spent roughly two hours attempting to engage with each interactive from the point of view of a first time visitor. During this time, Ms. Frisch aided in gathering the planned purpose for each interactive from institutional records. With the information on intended uses, along with observations done during my time engaging with the interactives, the evaluation staff developed an engagement rubric. This rubric attempted to use a Likert-style scale to gauge visitor engagement on a scale of one to seven (1 – 7), with a value of one representing no engagement with the interactive and a value of seven representing a highly engaged facilitator\(^{31}\) style engagement with the interactive element. A facilitator type engagement was selected as the highest level of engagement due to the numerous camp groups and families observed visiting the zoo, as well as the belief that being able to disseminate information to a group after limited exposure with an interactive element

showed a high level of understanding. This belief was influenced by Falk’s work on the facilitator visitor identity described earlier in this document.

Related, an observation sheet was created and intended for use in gathering observations. I quickly realized the limitations of the observation sheet while conducting observations and relied instead on recording observations in a composition book. The observation sheet was developed using the engagement rubric which already factored in time of engagement as a criteria for level of engagement. This was problematic because each visitor is an individual and may not require the same amount of time to engage with an interactive as someone else. With this realized, time of engagement as well as any engagement actions were recorded in lieu of the level of engagement as prescribed in the rubric. Another limitation of the observation sheets were the number of sheets required to complete observations each day. Copying dozens of sheets each morning was not only time consuming but costly and environmentally damaging, and thus discontinued after only three days. Left over sheets were distributed to ZooTeens to conduct observations on while assisting with the study.

In addition to observations, surveys were a component of this study. Surveys were designed to identify visitors’ member status and their group demographics. Information was also gathered about psychographic factors that may have contributed to the visitor’s engagement with the interactive. This information included: reason for visiting the interactive area, reason for visiting the enclosure associated with the interactive, perceived educational benefit, satisfaction, and the opinion about the Zoo’s intention for installing the interactive.
Finally, a schedule was designed to observe each interactive element. In order to collect reliable data on visitor usage during a shortened time frame, I created the schedule with the intention of observing each interactive element during each hour of the day while the main gates were open for entry for one full weekday as well as one hour of weekend activity. This meant observations needed to be conducted from 9:30 A.M – 4:00 P.M. This resulted in 7.5 hours of observation in total for each interactive area over the course of the study.

XIV. Data Gathering

By observing each interactive area for a full day while gates were open, I was able to create a composite of a full day's use of each interactive. When this data is paired with the total attendance numbers from each day of the study, it provides a strong indicator of how many visitors could be expected to use the interactives. (Assuming that each visitor who enters the gates proceeds through the entire zoo. This, however, is not always true for each visitor and therefore introduces error in to the percentages.) The combination of an institution-wide tracking survey with this study would reduce the amount of error.

XV. Summative Evaluation of the Study

In terms of the evaluation procedure of this study, the evaluations were largely summative. The reason for this is that the exhibit was already developed and in place for several years upon my arrival to the institution. However, there were formative evaluations conducted while planning and developing the survey and engagement rubric.
These tools were designed and then tested prior to their implementation and revisions were made based on the tools efficacy during the test observations.

Throughout the course of this study there were several complications discovered while implementing the observation sheets and engagement rubric. Firstly, I incorrectly assumed while creating the engagement rubric that the rubric would remain unchanged throughout the study. This was not the case. Upon observing full groups for a short period of time it was evident that I had not taken play into account when creating the rubric. Children have a talent of turning almost any object into an object of play. Although the children may be playing to a degree, the children are also engaging with element and potentially learning in doing so. With this in mind I needed to revisit the engagement rubric towards the end of the study and make adapt it to reflect the types of engagements observed rather that my own personal engagements. Additionally the observation sheets I created during planning only held a section for level of engagement rather than including engagement time as well. This was due to my previous assumption that the engagement rubric would remain unchanged during the study, which was not the case. Therefore, observations we recorded in a composition book to more freely record all the observations of the group, rather than just those I had created spaces for on the observation sheets.

The observations sheets were useful during the study, however, as a teaching tool with the ZooTeens and Mike Wagner. During the study I was made available the assistance of the ZooTeens program and fellow intern Mike Wagner. While working with the ZooTeens, the program participants would work with me for a half hour during their scheduled one hour shift at a table within Africa. During this half hour I used the observation sheets to quickly summarize the purpose of the study and how to record
observations. At this time I had already realized the limitations of the observation sheets and had the ZooTeens write time of engagement rather than level of engagement on their sheets. After about four days of working this way the extra help became more of a distraction instead of the assistance it was intended to be. Due to the large number of ZooTeens in the program as well as the rotating schedules it was highly unlikely that I worked with the same ZooTeen more than once or twice. This meant explaining the study and observation techniques repeatedly. I believe that an informal training session with a large group of ZooTeens would have been highly beneficial to streamlining this process but was a possibility during the time of the study due to the ZooTeens program beginning during the second week of observations. This belief was affirmed while working with Mike. Due to his similar schedule we were able to sit down for roughly a half hour to an hour and I was able to explain everything fully and answer any questions Mike had in a setting where I was not trying to explain the study at the same time as observing. Mike adapted to conducting observations quickly and was incredibly reliable in his observations. To the point where during times when make up observations were being conducted I had no reservations about dividing duties. I was able to conduct surveys throughout Africa while Mike recorded observations at an area for half an hour and then we could switch. This came in particular help when supervisor meetings were occurring and cut into observations by twenty minutes or so.

The structure of the study also lent to the ease of introducing multiple observers. Originally I thought I would be the only observer for the majority, if not the entirety of the study. As such, I developed the schedule and tools to be conducted by a single individual. This provided scalability to the program. But when multiple observers were introduced to
the study, the areas once covered by an individual on one side of the exhibition space could now be covered from multiple angles and increase the odds of observing all visitor activities.

XVI. Implications

With this study completed I believe there is now a basis from which I may draw conclusions on the efficacy and potential for further study. During the course of observations and summative evaluations there were components of the study and scheduling that required changes based on visitor behaviors and unforeseen circumstances. During the planning stages it was assumed that three weeks of constant observations would be satisfactory to complete the study. This, however, was not entirely the case. There were some days during the study when fewer than one thousand visitor arrived throughout the course of the day which lead to very sporadic observations and low data values. It was my belief that these days did not represent an accurate portrayal of a day's use of the interactive and so observations for these days were repeated when attendance was higher. This meant that the study extended in to the weeks that were originally designated for data analysis. This being stated, I would highly suggest that, during the planning stages for further studies, an attendance number be selected, based on average attendance. With an attendance number selected the evaluators can compare daily attendance statistics and observations to determine whether or not a particular day's observations truly represent an average day's attendance.

By actually conducting the study, I found complications with the scheduling in terms of conducting observations and surveys at the same time. Due to the fact that during the
majority of the study there was only one observer, conducting surveys while attempting to do observations was simply not an easy task. Visitors tend to move away from an enclosure after they have interacted with the panels and viewed the animals. As such, the observer would typically have to follow the visitors to the next enclosure in order to conduct a survey and be required to move from the observation area. This meant that during the survey time several observations could be missed if there were a high number of visitors. Towards the end of the study the surveys were separated and conducted outside of the area’s observation time. This meant two things occurred. Due to the declining amount of time, the interviewee could visit multiple areas during an hour and conduct surveys at different areas depending on their use. Also, the third and fifth engagement requirement, described on the survey, were suspended. This was accepted because the interviewer was moving around the entirety of the Africa exhibit and therefore was maintaining the randomness that would have been granted with the engagement requirements.

A suggestion for further study that arose during the course of this study involved the relocation of one of the guide panels near the elephant watering hole. During the study it was observed that many visitors interacted with the tracks panel while seemingly unaware of the connection between the panel and the imprints of tracks in the cement at their feet. Additionally, visitors seemed to look around the guide panel located on the right side of the area in attempts to see the elephants in the back of their enclosure near the woods. The guide panel in question was intended to bridge that disconnect and encourage visitors to use the track panel and then, using what they had learned with the panel, attempt to identify the imprints on the ground. It should be noted that to the left of the panel was a berm on which children would climb and potentially be able to fall behind the
first set of fences designed to keep visitors out of the enclosure. My suggestion for a follow-up study would involve moving the guide panel from the right side of the viewing area on to the berm. The belief behind this is that with the guide on the berm, children would be less likely to climb on the berm and that the guide panel would better encourage visitors to make the connection between the panel and the track imprints on the ground. The images for this area are located in Appendix H.

Overall, I believe the study was a success. Based on the initial research question of “How are visitors using our interactive elements?”, the study identified typical visitor interactions with each element as well as the visitor’s length of stay. This data is presented further in the appendix of this document.

Part 4. Toolkit

XVII. Conclusion

Throughout my research and case study I have realized how evaluation can shed light on the known issues of an institution as well as expose issues that may not have been recognized by the staff. Although the entire study was not developed around the logic model, the logic model’s sections influenced large portions. In particular, the input section was essential to understanding the exhibition area and developing the intended uses of each interactive. Internal documents, which were created during the development of the interactives, provided an insight into the intentions of the staff when developing each interactive. This also helped in understanding what possible outcomes may have been expected at their inception.
The instruments used and the data collected during this study are included in the Appendix of this thesis. The two instruments are the: Survey for A Step into Africa Interactives and the Observation Sheet used in the study. Also included is the intended uses sheet. In addition, the final version of the rubric that was used to evaluate the observation is included. Finally, scans of all surveys 28 surveys conducted and 45 pages of observations recorded over the duration of the study. In addition, the demographic study is included, even though this was not utilized during the exhibit evaluation.

First and foremost, the design of this study and its administration may be repeated with any exhibit in the Seneca Park Zoo. To that end, the Step into Africa Interactives Study may serve as the basis of a visitor studies tool kit. That is to suggest that this study could be replicated by: determining the intended uses for each interactive, observing visitors at each interactive, and evaluating visitors’ behaviors based upon correlation to a rubric keyed to each interactive. These three elements were used in this study at the Seneca Park Zoo and could be developed specifically for any other exhibit in the zoo, or another zoo entirely. Of course, with the introduction of a different research question, alterations would be required to each tool to specifically address the research question at hand.
Appendix A

Observation Sheet

A Step Into Africa Sample Observation Sheet

Interactive Area: __________
Observer: _______________________
Date/Time of Observation: ________________

# of Group Members: __________
   Adults: __________  Age: 20-29  30-39  40-49  50-59  60-69  70-79  80+
   Children: _______________

Level of Engagement: _______________

Engagement Actions Observed: __________________________________________________________
________________________________________________________________________________

Group Interactions: _________________________________________________________________
________________________________________________________________________________

Type of Group: ________________________________________________________________

Other Observations: _________________________________________________________________
________________________________________________________________________________

Weather Conditions: _______________________________________________________________
________________________________________________________________________________

Crowd Conditions _________________________________________________________________
________________________________________________________________________________
Appendix B

Survey

Survey for A Step Into Africa Interactives: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

*Hello my name is _______.
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?*

*Area at which survey took place:*

*Are you a member of the zoo? Member Non-Member*

*When was your last visit to the zoo? ________________________________

*Why did you visit this enclosure today? ________________________________

*What made you use the interactive? ________________________________

*Do you think this element enhanced your visit today? ________________________________

*What did you learn from using this interactive? ________________________________

*What do you think is the purpose of this interactive? ________________________________

Date: ________________________________

Group Details: ________________________________
Appendix C

Interactive Intended Uses

A Step Into Africa Interactive Intended Uses
Drew Johnson

Maasai Guides – Provide visitors with directional instructions and suggestions for engagement, which aim at improving visitor experiences within the zoo.

Maasai Video Hut – Visitors are intended to watch the different videos about common Maasai items. After watching, visitors may attempt to locate the objects within the area. Panel prompts encourage the visitor to link items to those the visitor might use at their home.

Big Cat/Little Cat Lion Paws – Casts of paw prints as well as skull remains of house cats and lions are compared. Along with didactic panels, the cases serve to illustrate the similarities and differences between the species.

Lion Leap – Didactic panel as well as measurements on the ground encourage visitors to test their leaping ability against that of a lion.

Dig Zone – Visitors are intended to use location panels to locate and excavate buried specimens. After locating a sample, visitors can use didactic panels and the field notebook to identify their specimen. Additional information about geologic time found on panels also helps visitors identify the time when the specimen would have lived.

Baboon Identification – Visitors are intended to use the flip panels to help identify certain baboon facial expressions.

Baboon Abacus – Visitors are intended to observe the baboon enclosure and keep track of specific behaviors that they observe.

Baboon Panel – Skeletal samples of different primates are displayed in attempts to show visitors the similarities between human samples and closely related primates. Evolutionary timeline also shows visitors where evolutionary distinctions between species occurred.

Watering Hole Elephant Tracks – Casts of animal and human tracks are displayed on the didactic panel by the elephant watering hole. Impressions of the tracks are also found in the cement around the area. Visitors are intended to use the didactic panels to identify the creatures that left the tracks in cement.

Elephant Listening – Visitors are intended to place one hand on the Tyvek cover inside the tube while another visitor makes a sound in to the open end of the tube. The vibrations felt on the cover mimic the effects of the pad on an elephant’s foot.
# Appendix D

## Engagement Rubric

<table>
<thead>
<tr>
<th>Levels of Engagement</th>
<th>No Stop 1</th>
<th>Minimal /Glan ce 2</th>
<th>Minimal /Stop 3</th>
<th>Intermediate Engagement 4</th>
<th>Intermediate Activity 5</th>
<th>Extensive Engagement 6</th>
<th>Extensive /Facilitator 7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maasai Guides</strong></td>
<td>Visitor does not stop at element. No attention to interpretation materials.</td>
<td>Visitor looks at element but does not stop. May pause briefly, &lt;5 s, or casually motion at panels.</td>
<td>Walking read of element.</td>
<td>Visibly stops and reads sign. Does not follow engagement prompt.</td>
<td>Visitor visibly stops and reads sign. Goes in to either baboon hut or uses watering hold interactive.</td>
<td>Visitor visibly stops and reads sign aloud. Visitor goes in to baboon hut or interacts with watering hole panel.</td>
<td>Visitor visibly stops and reads sign aloud. Visitors talk about panel and follow engagemen t prompt.</td>
</tr>
<tr>
<td><strong>Maasai Video Hut</strong></td>
<td>Visitor does not stop at element. No attention to interpretation materials.</td>
<td>Visitor looks at element but does not stop. May pause briefly, &lt;5 s, or casually motion at panels.</td>
<td>Visitor stops at element for a short period of time, &lt;30 s. Quick reading of panels, plays in area.</td>
<td>Quickly presses through video buttons, &lt;10 s per video. Does not locate the objects.</td>
<td>Watches 1-2 videos fully, may locate objects.</td>
<td>Watches 3-4 videos fully and locates objects. References to household items or personal use.</td>
<td>Watches 3-4 videos fully and locates objects. Interprets information to other visitors in group, demonstrates understanding of connection s to animals.</td>
</tr>
<tr>
<td><strong>Big Cat/Little Cat Lion Paws</strong></td>
<td>Visitor does not stop at element. No attention to interpretation materials.</td>
<td>Visitor looks at element but does not stop. May pause briefly,</td>
<td>Visitor stops at element for a short period of time, &lt;30 s. Quick reading of panels,</td>
<td>Briefly reads panels, &lt;1 m. Observes skull and paw casts, &lt; 30s. May touch</td>
<td>Appears to read majority of interpretive panel. Observes and compares casts and specimens. References to other</td>
<td>Fully read both text panels. Observes and compares casts and specimens. References to other</td>
<td></td>
</tr>
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</tbody>
</table>


<table>
<thead>
<tr>
<th>Visitor</th>
<th>&lt;5 s, or casually motion at panels.</th>
<th>may touch.</th>
<th>May touch.</th>
<th>species or related materials.</th>
<th>for others in group. Demonstrates understanding of specimen comparison.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lion Leap</strong></td>
<td>Visitor looks at element but does not stop. May pause briefly, &lt;5 s, or casually motion at panels.</td>
<td>Visitor stops at element for a short period of time, &lt;30 s. Quick reading of panels, activity not attempted.</td>
<td>Does not read panel, completes activity anyway.</td>
<td>Reads panel and attempts activity. Appears casually engaged and participatin g for fun rather than understandi ng.</td>
<td>Reads panel and attempts activity. Appears engaged and interpreting for group. Communicates purpose of activity.</td>
</tr>
<tr>
<td><strong>Dig Zone</strong></td>
<td>Visitor looks at element but does not stop. May pause briefly, &lt;5 s, or casually motion at panels.</td>
<td>Visitor stops in area, use the area for play, no engagement with elements in area.</td>
<td>Walks around edge of area. May briefly read panels or flip through field book, &lt;1m. May enter dig site briefly, &lt;1m. Appears casually engaged, participating for fun. No identification of specimens found.</td>
<td>Reads panels briefly or flip through field book, &lt;1m. Enters dig site briefly, &lt;1m. Appears casually engaged. Locates 1-3 specimens. Does not attempt to identify specimens.</td>
<td>Reads panels and field book at length, &gt;2. Enters area and locates 3-5 specimens. Uses interpretive materials to identify specimens.</td>
</tr>
<tr>
<td><strong>Baboon Identification</strong></td>
<td>Visitor looks at element but does not not</td>
<td>Visitor stops at element for a short period of time. Briefly reads panel, &lt;1m. May casually point at enclosure.</td>
<td>Reads 1-2 identifications. Makes limited attempts to identify.</td>
<td>Reads 2-4 identification panels. Appears engaged and</td>
<td>Reads 2-4 identification panels. Appears engaged and</td>
</tr>
<tr>
<td></td>
<td>Interpretation Materials</td>
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<td></td>
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<tr>
<td>------------------</td>
<td>--------------------------</td>
<td></td>
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</tr>
<tr>
<td><strong>To interpret</strong></td>
<td><strong>Materials.</strong></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>stop. May pause</td>
<td>&lt;5 s, or casually motion at panels.</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>briefy, &lt;30 s. Quick reading of panels, no interaction with element.</td>
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<tr>
<td>but no apparent positive identification. Does not make repeat attempts to identify.</td>
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<tr>
<td>individuals. focused. Makes repeat attempts to identify individuals. Demonstrates basic observation and research actions.</td>
<td></td>
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</tr>
<tr>
<td>focused. Communicates research ideas to members of group. Makes repeat efforts to identify individuals.</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Baboon</strong></th>
<th><strong>Abacus</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Visitor does not stop at element. No attention to interpretation materials.</td>
<td>Visitor looks at element but does not stop. May pause briefly, &lt;5 s, or casually motion at panels.</td>
</tr>
<tr>
<td>Briefly reads panel, &lt;1m. May casually interact with element. Appears like play, no apparent observation activity by visitor.</td>
<td>Visitor stops at element for a short period of time, &lt;30 s. Quick reading of panels, no interaction with element.</td>
</tr>
<tr>
<td>Visitor stops at element for a short period of time, &lt;30 s. Quick reading of panels, no interaction with element.</td>
<td>Briefly reads panel, &lt;1m. Interacts with element. Displays limited engagement, correctly identifies 1-4 behaviors.</td>
</tr>
<tr>
<td>Briefly reads panel, &lt;1m. Interacts with element. Displays limited observation activities. Correctly identifies 5+ behaviors. Apparent understanding of research activity.</td>
<td>Reads panel, &gt;1m. Appears engaged with element. Displays observation activities. Correctly identifies 5+ behaviors. Apparent understanding of research activity.</td>
</tr>
<tr>
<td>Reads panel, &gt;1m. Appears engaged with element. Communicates research activities to group. Correctly identifies 5+ behaviors.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Baboon</strong></th>
<th><strong>Panel</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Visitor does not stop at element. No attention to interpretation materials.</td>
<td>Visitor looks at element but does not stop. May pause briefly, &lt;5 s, or casually motion at panels.</td>
</tr>
<tr>
<td>Visitor stops at element for a short period of time, &lt;30 s. Quick reading of panels, may touch.</td>
<td>Briefly reads panel, &lt;1m. Observes skeletal cases. Appears casually engaged, no apparent understanding of relationship between samples. May touch.</td>
</tr>
<tr>
<td>Briefly reads panel, &lt;1m. Observes skeletal cases. Appears casually engaged but focused. Apparent understanding of relationship between species. May touch.</td>
<td>Briefly reads panel, &lt;1m. Observes skeletal cases. Engaged and focused. Displays understanding of relationships.</td>
</tr>
<tr>
<td>Reads panel, &gt;1m.</td>
<td>Reads panel, &gt;1m. Engages with skeletal cases. Engaged and focused. Communicates understanding of relationships between species.</td>
</tr>
</tbody>
</table>

<p>| <strong>Watering</strong> | <strong>Elephant</strong> |
| Hole Tracks. |             |
| Visitor does not stop at element. No attention to interpretation. | Visitor looks at element but does not stop. May pause. |
| Visitor stops at element for a short period of time, &lt;30 s. Quick reading of panels, may touch. | Briefly reads panel, &lt;1m. Appears casually engaged. No apparent use of flip boards. |
| Briefly reads panel, &lt;1m. Appears casually engaged. May quickly use flip boards or | Reads panel, &gt;1m. Appears engaged and focused. Interacts with flip boards and |
| Reads panel, &gt;1m. | Reads panel, &gt;1m. Appears engaged and focused. Interacts with flip boards and |</p>
<table>
<thead>
<tr>
<th>Elephant Listening</th>
<th>Visitor does not stop at element. No attention to interpretation materials.</th>
<th>Visitor looks at element but does not stop. May pause briefly, &lt;5 s, or casually motion at panels.</th>
</tr>
</thead>
<tbody>
<tr>
<td>materials.</td>
<td>brief, &lt;5 s, or casually motion at panels.</td>
<td>Visitor stops at element for a short period of time, &lt;30 s. Quick reading of panels. May play or do activity incorrectly.</td>
</tr>
<tr>
<td>of panels, plays with element.</td>
<td>notice of ground tracks, interaction with casts.</td>
<td>Briefly reads panel, &lt;1m. Appears casually engaged. Does not read, completes activity correctly.</td>
</tr>
<tr>
<td>of touching casts.</td>
<td>Attempts to locate impressions.</td>
<td>Briefly reads panel, &lt;1m. Casually interacts with element. Does activity correctly.</td>
</tr>
<tr>
<td>casts.</td>
<td>Locates samples on ground.</td>
<td>Reads panel fully. Completes activity. Demonstrates understanding of element's connection to vibrations felt in elephant pad.</td>
</tr>
<tr>
<td>casts.</td>
<td>Locates samples on ground.</td>
<td>Reads panel fully and completes activity. Demonstrates understanding of element's connection to vibrations felt in elephant pad.</td>
</tr>
</tbody>
</table>
Appendix E

Non-Visitor Profiles Interview

Survey Questions:

What is your name?
How old are you?
Do you have any children?
What is your level of education?

For questions that may be sensitive to some people, the interview staff should agree on broad classifications as possible responses.

For instance:
  a) No response.
  b) High school or GED
  c) College
  d) Further Education: [Advanced Degree’s]

How long have you lived in Rochester?
What is your income bracket?

May be a sensitive topic to some people, prepared possible responses for the subject could be useful.

What is your primary method of transportation?

This question may prove useful in determining whether or not certain amenities or services could be created for those with limited mobility of the area.

For example, subjects who may rely on sharing a single vehicle, walk or use public transportation.

Do you require any accessibility services?

The number of citizens in America with disabilities is increasing and so is the potential for limited access by patrons. Understanding the accessibility needs of the community is very useful information when considering programs, development and spacing.

What do you typically do in your free time?

Open ended questions such as this may be responded to at length. Interviewers should recognize when a subject begins to lose focus of the question and promptly shift focus back to the interview.

How do you decide your leisure spending?

Questions about how and why a subject chooses an activity may provide insight in to common services or traits of those activities that may be beneficial to the zoo.

How much would you say you usually spend on those activities per month?
What types of activities would you consider for that spending?
Would you consider an educational opportunity for that spending?
When do these activities generally occur?

Understanding when adults have free time may show why the subject may not have visited the zoo.
What types of services do you look for when deciding on an activity?

Have you ever visited a zoo?
What were your impressions?
Were you aware of the Seneca Park Zoo here in Rochester before our meeting?

**Elaboration in to how the subject had heard of the institution can show what promotions are reaching this audience.**

What were your impressions?
What types of services do you think a zoo, in general, provides?

**Responses to this question should provide an understanding of this audience’s perception of the role of zoos in society.**

What types of services do you think a zoo should provide?
Are there any concerns you have regarding zoos?

**Responses to this question may be the result zoo visits during periods when zoo’s were not as established. This information may be a way to attract an older audience with similar experiences to show the improvement zoos have made in animal care and visitor services.**

What types of services do you think a zoo should provide?
What types of programs do you think a zoo provides?
What kinds of programs would you be interested in exploring at a zoo?

**Responses to this question may prove useful when attempting to develop programs or materials.**
Appendix F

The scans of all 28 surveys conducted as well as the 45 pages of hand-written journal observations have been attached as a .pdf document.
Appendix G

Program Tool-kit

Due to my limited exposure to the programs of the Seneca Park Zoo, this section will remain brief. The similarities I personally observed between the development of programs and evaluations are as follows.

- During the planning stages it is vital to identify all stakeholders and potential inputs of knowledge, funding and staffing.
- Development of a logic model which identifies the inputs and their direct and indirect influences on the program as well as their conditions for involvement.
- Identify the expected outcomes a visitor may experience as a result of exposure to the program.
- Create or modify a tool to reflect that outcome.
  - The one program I sat in on was a camp lesson for school children aged 4-7. In this program children were taught a different lesson about animal adaptations each day of the week. Each student was also given a notebook in which they drew images of the animals they learned about that day. In order to determine whether or not the children were comprehending each lesson I would suggest a short questionnaire (designed for grade levels Kindergarten to First Grade) that would act as a quiz. At the end of each day or the end of the week, the instructor could go through the answers and record the information.
• Identify the institutional goals related to the particular program and track progress over multiple iterations of a repeat program.

• At the end of each program period conduct a review will the involved staff to discuss findings and brainstorm further improvements to the program. (Summative Evaluation)
Appendix H

Photographs

Baboon Guide Panel

Elephant Watering Hole Guide Panel
Elephant Watering Hole Tracks Panel

Elephant Listening Tube
Bibliography


http://senecaparkzoo.org/page/beginning.


References


**Survey for A Step Into Africa Interactives:** Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

_Hello my name is _______.
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?

**Area at which survey took place:**

**Are you a member of the zoo?**
- Member
- Non-Member

**When was your last visit to the zoo?**

**Why did you visit this enclosure today?**

**What made you use the interactive?**

**Do you think this element enhanced your visit today?**

**What did you learn from using this interactive?**

**What do you think is the purpose of this interactive?**

(Date: 7/24/15)

**Group Details:**

Woman, Older Daughter, Younger Daughter, Younger Son
Survey for A Step Into Africa Interactives: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

Hello my name is ____________.
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?

Area at which survey took place: ____________

Are you a member of the zoo? Member ____________ Non-Member

When was your last visit to the zoo? ____________

Why did you visit this enclosure today? ____________

What made you use the interactive? ____________

Do you think this element enhanced your visit today? Yes ____________

What did you learn from using this interactive? ____________

What do you think is the purpose of this interactive? ____________

Date: ____________

Group Details: Parents + Small Child
Survey for A Step Into Africa Interactives: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

Hello my name is ________.
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?

Area at which survey took place: E L

Are you a member of the zoo? Member Non-Member

When was your last visit to the zoo? 2 months ago

Why did you visit this enclosure today? To see the elephants.

What made you use the interactive? The zoo teens told my son to come and feel the vibrations.

Do you think this element enhanced your visit today? Yes

What did you learn from using this interactive? The elephants can hear with their feet, as the design says.

What do you think is the purpose of this interactive? To teach

Date: 7/22/15

Group Details: Mike aged women, son around 4-6 yrs old & a baby in a stroller.
Survey for A Step Into Africa Interactives: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

Hello my name is ____________
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?

Area at which survey took place: GT

Are you a member of the zoo? Member [ ] Non-Member [ ]

When was your last visit to the zoo? [ ] My first visit

Why did you visit this enclosure today? Elephants are my daughter's favorite animal.

What made you use the interactive? My daughter wanted to compare her feet to an elephant's feet.

Do you think this element enhanced your visit today? [ ] Yes

What did you learn from using this interactive? Elephants have small feet for how big they are.

What do you think is the purpose of this interactive? To show feet size

Date: [ ]

Group Details: [ ]
**Survey for A Step Into Africa Interactives:** Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

*Hello my name is __________.
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?*

**Area at which survey took place:** EL

**Are you a member of the zoo?**

- Member
- Non-Member

**When was your last visit to the zoo?**

- __________

**Why did you visit this enclosure today?**

- Child
- Adult
- Family
- Other __________

**What made you use the interactive?**

- Exploring

**Do you think this element enhanced your visit today?**

- Yes __________

**What did you learn from using this interactive?**

- Elephants Earth can absorb vibrations and detect our feet and voice when something is getting close

**What do you think is the purpose of this interactive?**

- Provides way to teach visitors about elephant habits

**Date:** 7/2/21

**Group Details:**


**Survey for A Step Into Africa Interactives:** Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

*Hello my name is __________.*

*I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?*

**Area at which survey took place:**

**Are you a member of the zoo?**

<table>
<thead>
<tr>
<th>Member</th>
<th>Non-Member</th>
</tr>
</thead>
</table>

**When was your last visit to the zoo?**

<table>
<thead>
<tr>
<th>To years</th>
</tr>
</thead>
</table>

**Why did you visit this enclosure today?**

<table>
<thead>
<tr>
<th>Good day nice weather</th>
</tr>
</thead>
</table>

**What made you use the interactive?**

<table>
<thead>
<tr>
<th>Curiosity</th>
</tr>
</thead>
</table>

**Do you think this element enhanced your visit today?**

<table>
<thead>
<tr>
<th>Elephants for</th>
</tr>
</thead>
</table>

**What did you learn from using this interactive?**

<table>
<thead>
<tr>
<th>Fact how I do Elephants have bigger</th>
</tr>
</thead>
</table>

**What do you think is the purpose of this interactive?**

<table>
<thead>
<tr>
<th>Educational</th>
</tr>
</thead>
</table>

**Date:**

<table>
<thead>
<tr>
<th>7/3 12:24f</th>
</tr>
</thead>
</table>

**Group Details:**
Survey for A Step Into Africa Interactives: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

Hello my name is _________.
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?

Area at which survey took place: ______

Are you a member of the zoo? Member Non-Member

When was your last visit to the zoo? ______

Why did you visit this enclosure today? ______

What made you use the interactive? ______

Do you think this element enhanced your visit today? ______

What did you learn from using this interactive? ______

What do you think is the purpose of this interactive? ______

Date: 7/29

Group Details: Family of 3
**Survey for A Step Into Africa Interactives:** Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

*Hello my name is __________. I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?*

**Area at which survey took place:** D2

**Are you a member of the zoo?** Member [ ] Non-Member [ ]

**When was your last visit to the zoo?** [ ] Last year

**Why did you visit this enclosure today?** Exploring, part of the trip, children like bugs [ ]

**What made you use the interactive?** Children love the sand box, like to dig for things [ ]

**Do you think this element enhanced your visit today?** [ ] Yeah, kinda enjoy

**What did you learn from using this interactive?** [ ] Supposed to dig for treasure

**What do you think is the purpose of this interactive?** [ ] Appreciation for nature and exploring different ways to do it.

**Date:** 7/31

**Group Details:** [ ] Parents [ ] kids
**Survey for A Step Into Africa Interactives:** Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

*Hello my name is ________.*
*I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?*

**Area at which survey took place:**  

**Are you a member of the zoo?**  
*Member*  
*Non-Member*

**When was your last visit to the zoo?**  
*Years ago*

**Why did you visit this enclosure today?**  
*Grandson/Exploring*

**What made you use the interactive?**  
*Child ran over, saw other children using, kids attract, stains*

**Do you think this element enhanced your visit today?**  
*Yes, child enjoyed*

**What did you learn from using this interactive?**  
*Learnt about koalas yet*

**What do you think is the purpose of this interactive?**  
*Have kids explore for things, came over and figure out what they’ve got***

**Date:**  
*11:45*

**Group Details:**  
*Grandparents + Child*
Survey for A Step Into Africa Interactives: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

Hello my name is __________.
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?

Area at which survey took place: DE

Are you a member of the zoo? Member Non-Member

When was your last visit to the zoo? Last year

Why did you visit this enclosure today? See lions and tigers

What made you use the interactive? Kids wanted to

Do you think this element enhanced your visit today? Yes kids fun

What did you learn from using this interactive? Covered to dig leopards

What do you think is the purpose of this interactive? Teach kids about the animals and their habits

Date: 7/3

Group Details: 
Survey for A Step Into Africa Interactivs: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

Hello my name is __________.
I am working with the zoo on a study about the use of our interactivs, would you mind answering a couple questions about your visit today?

Area at which survey took place: D2

Are you a member of the zoo? Member Non-Member

When was your last visit to the zoo? Last year

Why did you visit this enclosure today? Love animals, actually the most attendance

What made you use the interactive? Wanted to find fossils, kid response

Do you think this element enhanced your visit today? Yes will break

Two animals and a new experience

What did you learn from using this interactive? To dig up and identify

Some of the facts

What do you think is the purpose of this interactive? To show different

Jobs and how long animals have been around

More creativity area

Date: ______________________

Group Details: __________________
**Survey for A Step Into Africa Interactives:** Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

*Hello my name is [Handwritten Name]*
*I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?*

*Area at which survey took place:*

*Are you a member of the zoo?*

<table>
<thead>
<tr>
<th>Member</th>
<th>Non-Member</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Handwritten: Member]</td>
<td>[Handwritten: Non-Member]</td>
</tr>
</tbody>
</table>

*When was your last visit to the zoo?*

[Handwritten: 2 weeks]

*Why did you visit this enclosure today?*

[Handwritten: Child wanted to dig]

*What made you use the interactive?*

[Handwritten: Favorite part]

*Do you think this element enhanced your visit today?*

[Handwritten: Yes, it's child-friendly]

*What did you learn from using this interactive?*

[Handwritten: Supposed to learn about bug and animal facts]

*What do you think is the purpose of this interactive?*

[Handwritten: Give the kids another area to explore and relax]

*Date:*

[Handwritten: 7/11]

*Group Details:*

[Handwritten: Father and young children]
Survey for A Step Into Africa Interactives: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

Hello my name is __________.
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?

Area at which survey took place: DZ

Are you a member of the zoo? Member Non-Member

When was your last visit to the zoo? 10 years

Why did you visit this enclosure today? From

What made you use the interactive? Reminded of beach child

Do you think this element enhanced your visit today? Yes

What did you learn from using this interactive? Kids - maybe learn sharing

What do you think is the purpose of this interactive? Give kids an activity

Date: 7/8

Group Details:
Survey for A Step Into Africa Interactives: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

Hello my name is _______.
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?

Area at which survey took place: MV

Are you a member of the zoo? Member Non-Member

When was your last visit to the zoo? 1 month

Why did you visit this enclosure today? Just wanted to see

What made you use the interactive? Walking through got my

Do you think this element enhanced your visit today? Neutral

What did you learn from using this interactive? I'm better at them

What do you think is the purpose of this interactive? To teach visitors

Date: 7/31

Group Details: Grandparents + 2
**Survey for A Step Into Africa Interactives:** Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

*Hello my name is ________ .
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?*

**Area at which survey took place:** [ ]

**Are you a member of the zoo?**
- Member
- Non-Member

**When was your last visit to the zoo?** [Last year]

**Why did you visit this enclosure today?** [Eating, looked interesting]

**What made you use the interactive?** [ ]

**Do you think this element enhanced your visit today?** [Yes]

**What did you learn from using this interactive?** [Know more about the zoo]

**What do you think is the purpose of this interactive?** [Not entirely sure]

**Date:** __________________________

**Group Details:** [Family]
**Survey for A Step Into Africa Interactives:** Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

*Hello my name is ________.*
*I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?*

**Area at which survey took place:** AFR

**Are you a member of the zoo?**

- [ ] Member
- [ ] Non-Member

**When was your last visit to the zoo?** NEVER

**Why did you visit this enclosure today?** just exploring

**What made you use the interactive?** curiosity

**Do you think this element enhanced your visit today?** yes it was fun

**What did you learn from using this interactive?**

- [ ] Gives a small perspective of baboon habitats
- [ ] These monkeys

**What do you think is the purpose of this interactive?** To help people understand

**Date:** 7/13/15

**Group Details:**
Survey for A Step Into Africa Interactives: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

Hello my name is _________ .
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?

Area at which survey took place: Lp

Are you a member of the zoo? Member Non-Member

When was your last visit to the zoo? Last month

Why did you visit this enclosure today? To find the lions

What made you use the interactive? I wanted to see if our fat housecat really is as big as a lion.

Do you think this element enhanced your visit today? Yes, I guess.

What did you learn from using this interactive? There is a lion in there

What do you think is the purpose of this interactive? To teach

Date: 7/20/16

Group Details: A husband (wife) little boy & girl
Survey for A Step Into Africa Interactives: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

Hello my name is __________.  
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?

Area at which survey took place:  

Are you a member of the zoo?  
Member  
Non-Member

When was your last visit to the zoo?  

Why did you visit this enclosure today?  

What made you use the interactive?  

Do you think this element enhanced your visit today?  

What did you learn from using this interactive?  

What do you think is the purpose of this interactive?  

Date:  

Group Details:  
Parent + Student
Survey for A Step Into Africa Interactives: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

Hello my name is _________.
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?

Area at which survey took place: CP

Are you a member of the zoo? Member Non-Member

When was your last visit to the zoo? 1/12

Why did you visit this enclosure today? Observe

What made you use the interactive? Comparison

Do you think this element enhanced your visit today? Yes

What did you learn from using this interactive? Similar but different

What do you think is the purpose of this interactive? Further knowledge

Date: 7-10-15

Group Details: Solo
Survey for A Step Into Africa Interactives: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

*Hello my name is_________.  
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?*

**Area at which survey took place:** UP

**Are you a member of the zoo?**  
[Circle] Member  [ ] Non-Member

**When was your last visit to the zoo?**  Two weeks ago

**Why did you visit this enclosure today?**  To see the lions up close

**What made you use the interactive?** To compare our hands to a lion's paw and the skull looked interesting.

**Do you think this element enhanced your visit today?** Yes

**What did you learn from using this interactive?** That a lion is really big.

**What do you think is the purpose of this interactive?** To teach people about lions.

**Date:** 7/29/15

**Group Details:** Older woman with granddaughter.
Survey for A Step Into Africa Interactives: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

Hello my name is _________.  
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?

Area at which survey took place: **Lion Leap**

Are you a member of the zoo? **Member**

When was your last visit to the zoo? **Last week**

Why did you visit this enclosure today? **My son wanted to see the lions**

What made you use the interactive? **My son’s favorite animal is the lion, and anything about lions he wants to do.**

Do you think this element enhanced your visit today? **Yes**

What did you learn from using this interactive? **How for a lion can jump**

What do you think is the purpose of this interactive? **To teach kids about the zoo’s animals**

Date: **1/22/15**

Group Details: A young mother and her son, 6 year old son maybe 6 years old and the mother area in her high 20s - low 30s
**Survey for A Step Into Africa Interactives:** Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

*Hello my name is ________________________________.*
*I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?*

*Area at which survey took place:*  
Lion Leap

*Are you a member of the zoo?*  
Member ________ Non-Member ________

*When was your last visit to the zoo?*  
5y

*Why did you visit this enclosure today?*  
Day at the zoo, just curious

*What made you use the interactive?*  
Seeing the sign: jump 35 feet, but only marked 25 feet, thought it was interesting.

*Do you think this element enhanced your visit today?*  
Yes

*What did you learn from using this interactive?*  
How far a lion can jump.

*What do you think is the purpose of this interactive?*  
To teach distance.

*Date:*  
7/17/15

*Group Details:*  
Set of grandparents, 40's 50's 60's, mother, young daughter
Survey for A Step Into Africa Interactives: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

Hello my name is __________
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?

Area at which survey took place: 

Are you a member of the zoo? Member Non-Member

When was your last visit to the zoo? 

Why did you visit this enclosure today? Walking by and to see the lions

What made you use the interactive? My son said he can jump 10 feet

Do you think this element enhanced your visit today? Yes

What did you learn from using this interactive? That my son can jump 10 feet

What do you think is the purpose of this interactive? To show how far lapes

Date: 7/28/15

Group Details: Middle Age Woman, 2 younger kids, and 2 10-12 y/o, one was a son and one looked like a friend.
**Survey for A Step Into Africa Interactives:** Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

*Hello my name is __________.*
*I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?*

**Area at which survey took place:** 🚑

**Are you a member of the zoo?**
- Member
- Non-Member

**When was your last visit to the zoo?** Never

**Why did you visit this enclosure today?** Exploring the zoo

**What made you use the interactive?** The cut out got my attention

**Do you think this element enhanced your visit today?** Yes, very much

**What did you learn from using this interactive?** How far away you need to stand from a lion!

**What do you think is the purpose of this interactive?** To help kids learn about and admire the natural fauna of our planet

**Date:** 7/6/15

**Group Details:** 1 adult
Survey for A Step Into Africa Interactives: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

Hello my name is __________.
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?

Area at which survey took place: BP

Are you a member of the zoo? Member Non-Member

When was your last visit to the zoo? 6/7/13

Why did you visit this enclosure today? Child wanted to see it

What made you use the interactive? Child ran over so we talked about it

Do you think this element enhanced your visit today? yes

What did you learn from using this interactive? interesting to see the similarities between the sides

What do you think is the purpose of this interactive? Maybe to show how things have been passed down

Date: 6-30

Group Details: family Grandparents Child
**Survey for A Step Into Africa Interactives:** Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

*Hello my name is __________.*
*I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?*

**Area at which survey took place:**

<table>
<thead>
<tr>
<th>Are you a member of the zoo?</th>
<th>Member</th>
<th>Non-Member</th>
</tr>
</thead>
<tbody>
<tr>
<td>When was your last visit to the zoo?</td>
<td>1 month</td>
<td></td>
</tr>
<tr>
<td>Why did you visit this enclosure today?</td>
<td>bring child</td>
<td></td>
</tr>
<tr>
<td>What made you use the interactive?</td>
<td>show different in hands</td>
<td></td>
</tr>
</tbody>
</table>

**Do you think this element enhanced your visit today?** Very much so

What did you learn from using this interactive? Oh just that the hands are similar

What do you think is the purpose of this interactive? To show that all animals are similar, kind of

Date: _____________________________

Group Details: __________________
Survey for A Step Into Africa Interactives: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

Hello my name is ____________.
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?

Area at which survey took place: B?

Are you a member of the zoo? Member Non-Member

When was your last visit to the zoo? 2 weeks ago

Why did you visit this enclosure today? Walking by on our way to the elephants.

What made you use the interactive? I have never noticed that it was here before.

Do you think this element enhanced your visit today? Kind of, but it should be more noticeable.

What did you learn from using this interactive? Size difference, info.

What do you think is the purpose of this interactive? To show that difference.

Date: 7/24/15

Group Details: Middle Age Lady + 2 daughters.
Survey for A Step Into Africa Interactives: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

Hello my name is _____________________________.
I am working with the zoo on a study about the use of our interactives, would you mind answering a couple questions about your visit today?

Area at which survey took place: Baboon ID

Are you a member of the zoo? Member  Non-Member

When was your last visit to the zoo? Last year Sometime

Why did you visit this enclosure today? To see the baboons

What made you use the interactive? So I could pick out which

Do you think this element enhanced your visit today? Yes

What did you learn from using this interactive? Which monkey is which

What do you think is the purpose of this interactive? To help ID the

Date: 7/17/15

Group Details: One male, one female, and one child. Very short/blunt with their answers.
Interactive Engagement 6-29
5:30 - 9:55 - Guided panels Babson + WH
No visitors
Babson wore fighting
Heavy rain over the weekend/Still overcast
Not many members in early

1005 - 10:55 - Masai Video
Video currently not working. Screen off
6-29 10:40 AM
4 members - Grandparents 2 - 70-79
Children 2
Engagement 4
Ritual/ritual
No interactions / gestures

C-LT 10:48
Family 2 parents 40-50
1 child
Engagement 4

6-29 11:05 - 11:55
On sheets

12:30
Ripped Pants
Reschedule afternoon
6-30 Weather
10:15
BA: No visitors yet
Weekday morning
end of the park
Even attendance might
be lower in mornings simply due
to distance from main gate

10:20
Heard the first yells of
children for the day

10:37 Group of 5 adults, 7 children
mount kids
Walked right past prairie
and passed on baboons
Spent about 6 minutes observing
baboons
Questions about bats tail
No research action

10:50 2 adults, 4+ child
Mom: "Could there hurt you?"
Dad: Points to Read my lip's paper
At teeth: "Oh ya they could"
4:30-10: Placer Vason

- Elephant walking sign up hill 245
- No visitors entered until 4:58 AM

- 4:50-10:00
- Overcast - raining

- 10:00 - 10:06
- Left after receiving bone

- 10:06 - 10:30
- Visitor asked whether or not the bones were taken from the carcass?

- 10:24 - 2 adults & child enter quickly left after seeing where bones went

- 10:30 - 2 adults + 2 kids entered one adult said "let's go on the bone!"

- 10:44 - 2 adults entered + talked to each other + 30s they moved

- 10:49 - 1 adult & 2 kids in area "let's go on the bone!"

11:12 Lion Loop

- 11:14 adult + 2 children + adult

- Stopped and asked other child if they wanted p 2 kids ran off & near
11:13 1 adult 1 child
   Adult prompted child to try
   activity - no sign read
11:14 1 adult - child in stroller
   Stared while walking past
   12:4 1a 1c
   *Photo got on line
   12:7 1a 2c - Photo got in front
   12:8 1a 3c 1c - 53 glances
   no stop - rest of group no action
   13:3a 5c 2c ran by and
   jumped on play - no sound
   1c completed activity - no sound
   Adults no action
   13:5 5a 3c
   Adult walking glances
   13:25 1a 1c - Photo off

12:1 2c - 20 min
   Walked around post 20 glances
   Went to kelpen area
   13:1 1c 2c
   Kids played for about 3 min
   Then sat on bench and observed
   Another 2-3 minutes of observing
   Get to next exhibit then up

12:22 1a 1c
   Walked by - read “Go ahead
   Do you like 6” glances - 53 glance while
   Walking - kept moving
   10:11 Baboon Panel 7/12
   12:25 1a 1c
   Child entered area - read panel
   10:22S - read on - no adult attention

13:37
   1a 3c
   2 of the kids broke off and
   started using panel - made reference to
   private evolution - interacted 15-20
   14:40 6c
   Highschool kids + siblings 3 read
   panel 20-30s

14:48 1c 5c
   Entered hut and parents pointed at
   picture, while group walked over and read
   20-30s parents pointed out different responses
   14:51 2c engaged panel for 1 min
   "These skills are really big!"

11:12 ET
   Baboon keeper talk - will
   change schedule to reflect
12-1 ET
- 12:07 2 kids entered
- 12:15 2a 2e
  One child used pencil/brush, encouraged mom to let through, did not attempt to dig on ground. 2 min.
- 12:17 2a 2c
  Kids walked over and used pencil/stick while parents looked at enclosure, took 30s.
- 12:17 child walked to panel, parent called them back. Tears:
  20 le 4c
  Older kids flipped through panel.
- 12:17 finished time 30
  12:26 3c 2e
  Kid flipped through panel quickly, touched panel a few times—play:
  3:1 2a 2x
  One adult flipped and took parent of panel:
  1:5 2a 2e
  Mom holding child to see objects:
  Kid walked down to use panel more. 2c flipped through panel, posting, no activity. 3:30
- 3:22 2 groups: 2a 2c 1:16 2c
  10-20 from each group flipped through panel, touched a few times.
  Located at the point on ground n 4.30.32
2:11 2c 3c
6c:1c Flipped through panels ~1 min
1c stayed behind 30s
2:14 2c 5c
1c started every panel, rest of group joined. Adults using tone to direct, C used panels to read, pointed hands to other children ~130-200s
2:48 1c 2c
Other child read panel/taunted, read, pointed
3 c panel ~2 min before lifting lid/chuped
3:3 1-2, BI+A
2c 110, Adult read panel ~30s looked
in down quickly - scanned panel again ~200s
2:14 1c 1c BI
"Do you want to read about them?"
Adult read panel to child, both tried to match
3 min
2a:20 2c 2 teens stepped/looked panel
2c 3c did not engage
2:11 1c 1c
Main read left panel aloud/moved
2c
25 BG Glance 2c
26 BG 4c Glance 2
30 BG 1c 2c Walking read "be you a private" said to child
31 BG 3a Stop/Read 2c extend
44 EG 3a, 2c - 1a stop/Read 5s
33 EG 2a, 1c - 1a stop/Read 5s
35 BG 2c 2c - 1a stop/Read 2c
adult wiped passed under hut-kids went
in before reading grade
Most people noisy loc around grade
because step onto mr. school
139 1a 2e EG Stop read by adult
15s did not use mark passed
47 49 1c 1c Walking grade by adult
was in hunt
29 49 1a 2e Novs Walking/Read did not enter
52 2c walking and pastoral hunt

20:30 BG 1a 2c
Stop on G to wait, children
read panel before turning around 20s
20 3a 4c EG
took part in from of garden
21 BG 3a 2c
1a glanced/read panel while
entering 10s
22 BG 3a group glanced/read
panel while walking by/used side entrance
to hut 5-10s read
9:30-10 ET 7/5
Clear, Sunny
16 Visitors
Morning Meeting Average 0

10-11 CC
Sunny, Clear
108 1a 1c
15 2a 2c
Adult walking read 108
Adult walking glance
76s
24 Adult walking read
108 slowed down but kept walking
106 2a 2c
Mom stopped picture
with outstretched hand/Good
"Do you want to take a pic of the lion?"
53 4a 1c Out of adult

11:12
Sum Piers
Clear, Sunny, Zone Sleeping
rest to 글
11:10 Lots of visitors at area 20+
Most interested with panel yet
Near water fountain
12 One adult glance >3s
15 2a 1c
"What's this?" child - adult "see how by your hands are" placed hands on panel
print - child lost interest ~3s
19 2a 1c
Adult glance
23 Adult glance
28 4a 1c
Child touched Cool cats~3s
Mom read panel 20-30s
32 1a 2c
"Look how big their teeth are!" referring to snake panel
No cause/Cause interaction
35 2a 2c
"Morning look at this?" kid about area - Mom looked 20s went over to him
Presses at group came talked about area
in foreign lang 30s - min went back
to deck "Peppe"
19 1a 1c
Child walked over touched
Just mom pulled them away
1:51 3c touched cents/face picture "Those were lions sturls"
1:52 1a 1c Child said what each item was/point made corrections 3c

1:52 MV
1:53 Adult stepped and looked through gaps of hut
1:54-55 1a 4c 2 adults 2 children approached and used videos
5 videos ~ 1:55 each 3-4 minutes
1:55 2a 1c Walked thru hut showed 15s keep moving no video
1:56 3a 2c pond 2 videos
10-15s child pointed at object on screen (caution only action observed)
1:58 3 adults walked through "I would make this"

1:59 1a 4e proved a few buttons and moved
1:59 1a walk through "This is really cool" no activity

2:05 1a 1c

2:27 1a 1c

2:27 3a

3a

Extended hut looked around interior and exited
3a 1a 1c

Pressed buttons, looked around and visual screen. Watched video, no activity

38 2a 3c

Kids walked in pond 12
Buttons and went to see goats, parents did not enter
35 1c entered and pond 15s

38 1a 2c

Watched 2 videos, did not locate objects ~ 1:30
37 2a 2c

Watched 1 video, kids too young parents prompted to locate, kids didn't
37 2e 5c

3c entered hut, watched video located and exited 1:50s
3a 2a 2c

1a 1c entered adult tried to engage child in activity 2 videos ~ Can you find
Child uninterested
146. 2a 2c
Walking past food court "I won't be here long" "What people"
Walked through Lt, no video/activity
147. 1a 3c
Older child watched 2 videos
2 min younger child played w/ toys
148. 1a 1c
More pointed out a few objects
to special needs child, no video
149. 2c
Watched each other, praised objects, pointed to objects-objects
2 min
Some kids obs using LL
2-3. 6a
8b 2:10 Child walked up and pointed
to sign read of group outdoor hot
8b 2a walked by. One pointed
and spoke, outdoor side 2 hot
8a 1a 2c child pointed to
grape, men stood inside
8c 1a 2c 1c walking and
group entered anyway
BG 22. 2c walking read LL
BG 23. 2a 2c Walking and LL
EG. Elephant ate water by lake visitors
looking around garden to see
flowers, drying clothes by time
BG 37. 7a. Walking read Pooh
BG 37 4a 3c 1c walking read
did not enter
3-4. 6c
1a 14. 16. Soared mom sat
on bench, child searched for somewhere
pointed out objects-3 min
15. 4a 1c see 3 a 1c read
Lands to 3:A through bell book -1 min
15. 2a 3c
Kid entered "This isn't sand, its rocks"
Mom told them to use tools and dry book
got both & located 2 marbles and looked
through bell book 3:30
BG. 6a 1c 1c
Child and book's go through with
book. "A called Canada" "I want to keep
digging for foxes!" 1 min
16. 2c 1a 2c
Younger 2 c look
through room w/ kids in room next to
4 year old playing
LM. Leading back 3:30
35 2a walked through tank
at panels ~1 min
36 2c entered area and ignored
tanks to locate 2 more C joined ~3 min
38 1c 2c
Kids playing
42 2a 1c 1:30
3c 2c
1c adults sitting on
43 2c 2c
Other kid playing in area
no mention of touch, some panels
adults removing kids playing
48 2d 2c
"Stop throwing" x10
Kids playing in area no touch/Daniel
mentioned 3 min
50 3c 3c
Kids n-stroller/drapes playing
in sand. 1 min - Removed by Parent
for throwing

The 10-11 ET

Case (Bevan)
10-10-10 no visitors yet
First visitors arrive at 6:30am 10:45
10:45 2a 2c 50-55 L-straw
2c Other C walked over and touched
paints no stop panel (open on animal) products
no attention to interactive tank
39 1c 2c 30-7
one child touched panel (no engage adult)
31 2c 11-20 Group
Kids flipped panel and touched paints
limited adult interaction 10 min activity to
end paint 2 min
50 2a 2c 40-7 slider
1c walked over and touched paint
wrote 2 panels 10s
49 1c 2c 11 slider
One child flipped through panels rapidly
22s for all touched cards 15s, repeat known
no activity

4 visitors have passed by and
made mention of tracks on ground
and use of panel

Visitor Document

1:54 2c 2c 30s
Children seeing how broad they
can make tape panels wide
*Still a lot in drum*

11:12 AM

02:10 12 2c 40s

Older child read panel aloud.

Adult [completed activity] 2/minute

105 2a 2c 40s 60s

Panel used to interactive

"No turns to talk this time!"

10s activity ran off

06:10 2c 60s grandmas/pres

Adult read part of panel and interacted

With all completed content

08:10 2c 60s

Did not read panel, child

Attempted solo, went joined, youngest

joined 45s

10:40 2c 30s 40s 60s*

Did make vocals / talk, part in

Lunch

11 2a 40s 60s 3c

Gt attempted activity "Put your hand up" and see if you can feel it." Said

Adult kept moving to be touched in

12:20 2c 2c

Adult instructed instructed young

Peer with activity 40s - hum

115 2a 2bs

Attempted activity, 65 did not

work. I worked using I read game

their left

16 2c 2c 40s 50s

Kids stopped to try activity, completed

without reading. Adult stuck up read inn

16:20 1c 2c 3c

Children stopped and attempted,

more read panel and made corrections

of their activity 415

18 2c 4c 40s

Children attempting activity

"you have to bring on it to feel the

vibration" Woman demonstrated Twice

20:20 2c 3c 40s

Child attempted activity parents

assisted. No reading of panel about

"Put your hand in, put top in" - Man

24 2c

Attempted activity "It feels weird"

35s

25 1c 1c

Completed activity, switched

40s

27 2c 3c 3c

Kids attempted activity. "I can feel your hand in here!" "I don't feel anything"

Switched, changed sound into tape

Worked 3 kindled rotated 1/4 turn

1:30 Panel time area empty

54 1c 3c
Children attempted activity
Varied success/more on lower
146 1c 2c 4c
"It's a bit too high, it's broken"
Kids attempted activity "I can hear car"
148 1c 2c 3c
Children attempted afternoon
Other road panel, adult stopped
150 1c 3c 4c
Adult walking road
Camping at Crush Landing
Overhead
12-1 9c
BG 85 3c 8-50c
One look photo of guides
EG 114 1c 1c 1c
Adults present behind ~10s respond
EA 15 1c 3c
1 child stop/read then let go respond
then QA
BG 16 4c
Stop read, touched panel
C03 had just entered but
EG 17 3c low stop and panel 155
interacted with ET and touched panel
24 1c 1c 3c
BG 36 2c 3c 30s
ET started but read guide ~15 min.
25 2c 1c 50s-70
BG led adults walking glaze +35
32 1c 1c 3c
BG Walking road, adult bent
EG Same walking glaze at point (6'5 step)
did not use panel
EG 3c 2c 3c 50-70
one child stop and found to elphants
BG 37 2c 3c one adult w/ green bent
BG 40 1c 1c 5c
Adult walking road Child entered
without reading
BG 91 1c 1c 1c
Child w/ adult entered w/ out read
BG 142 2c 2c 40c
Children walking road adults entered
without reading
Elephants vocal and active
Visitors taking pictures
BG 88 2c 2c 30s w/ adult
BG 84 2c 3c 30s one adult
35c read >35c walking road entered
with rest of group
BG 152 1c 1c 2c
Last photo with guides
2:32 MV 20+ teen table away
"08 12 2 35a
Other child watched behind
located near
30:30 pressed buttons for
2 videos watched part, located
items from picture
10 to walk through 20
ill on 89 walk though
20 walked through, press
20 buttons 100 activity
13 12 2 20-30
"I found this on the ground to give the
button" located 2 objects 2mm
engagement of child exactly behind and
located additional objects
14:55 30-40 walked near
2 inside but realized people to engage
17 Child walked, mom pulled
80m
19 12 vacant step lead inside
kept going
19:22 One Child entered watched
part of one video then left
19:25 12 2 30x
Red pressed buttons quickly did
not watch tall and left object 2mm
19:25 2a 40-55
"Walked through. It's really next
in here." Left after activity finishes
"29 12 50 12
Do you want to see the Hawaiian lawn?" A
On walked 1 video, located object from
paved picture. 1930s
31 12 31 20x
"They even have a water can!" Hiding "A
adult"... prompted idea to watch videos/find
objects, but not too interested, made
breakfast with 2am team
31 12 walked into labeled area
men "Do you want an orange?" "Yes" Child
10 2 buttons ran on
35 12 16 35
Walked down, watched fourth
2 videos and located objects from
paved picture
40 12 40x
Watched 3 videos fully, no verbal
only, prob. located item, various, 3:20x
46 2 teens 1c 1c 405
Watched 2 partial video, pointed at 3 objects
pronunciation at 2 items
48 9e 40s Stepped and looked through back wood with door all of it 150 9e entered and pressed button 920s inside, adult stayed outside.

717 DE 10:11 75 9e engaged 1e 2e child "oh crap" 93 9e that later.

54 9e group-retarded—men would not let kids use area.

32 Camp group around 9e 29 22c "by the dog zone."

9e "I don't think this is for you guys." 9e 12 and away.

Members with sea team, 3-4 around, no mention of refraction.

3 minutes: Constant sound.

11:12 714 9e 2a 2c 60s

One right-handed directional panel.

Pumps added away.

93 9e 3c 80s

I could hear above, 920s, did not move closer after observing, read panel.

95 13 9e 9c

13 2a 30s

Read: panel 932.

15 9c 5c 2:30/16 16s

2a stepped: read 20s. 2 children engaged, tossed 10s.

2a 9c 30s 2c stroller.

2a: Stepped + read panel 1-32 moment.

Other adult stayed, touched past panel compared touch 2min.

16 9e 9c 30s 2 kids ran in ahead glanced at test, touched panel 9c

case 20s.
7:00 am.

Child approached 3rd grade.

Observation panel ~30

05 9a 11 8b

Kid walked over tracked area
did follow, explained path + read text

10:00 am.

2:30 ET

32 32 60 14

Lodging walking path on approach
~3:3 Child walked in line 2a

Begin feeding panels and leading cash

10:35 2a 7c 5b

Walking for water in hole "What are

These Flat grass in ground

20 3a 2c 22 10b

Each adult and child tracked
cubs and used 3 panels, prevented
side to shadow animal before roping

1:35 Child returned to lip 30 pm

13 10 30 5a

Both approached, told locked 26a

Head and panel tracked area - many

Before leaving other room

1:56 2a 7c 10 11

Adults heading panel - get

Better view of chimpanzees

1:21 Zoo Camp 3a + 20 kids

Considers engaged panel with 5-6 kids

and explain comparing primate heads before

Many groups - 13 kids used panel.

Monkeys, Tops no prolonged engagement

30 Zoo Camp 2a 7c

7 kids approached and flipped panels

body 15c 2 stayed stuck

Feeding using lip panels and each 2-3 min.

1:30 Elephant Experience

1:42 3 kids from camp began using

1:45 panel again after experience

1:50 30 text before camp left

Not clear, pretty humid. Few

Visitors the expected old day

7/18 Wednesday noon Thursday

Heavy heat. Clear sky, cool.

Not visible today

7:30 am

35 75 visitors in area, most park.

2a walked by looked at area

The tour guide while walking kept young

10:45 ET A

Examine 500 box, no animals

10 Visits asked when babies were in 9A 10 9c

"The keepers are chasing their where - "We

Think where are they - Will "They were doing they hung" - Adult
Keeper meeting all contractors
by Ence
1:17 met with 1a, 1c, 2b 50s
Used BP full interaction and communication of panel concepts to child and bale
1:23 1c, 1l sheriff
Walked through telling for bottom half
1:27 Camp group down through talking
A bottom
1:56 Bottoms
1:57 Camp group returned, 1 kid back
at 12am 5s 5s before opening so went
1:59 Camp group 14 kids 2c
One camper sat next to 10 panel and read 5c at attempt to locate

Best to Wednesday
12/15
12 1c 50s
Standing in observation playing videos, 100 bottom pointed
2 children pointed and prayed
Videos bottom activation from 30
12 1c, 3c, 2b
Kits pointed 1 bottom, kids vs medic
2 videos above
20 2 children extended passed
Bottoms watched called them away from tent corner

:25
1a, 1c 40s
Walk through ~15s looking
For other child, fingers at instead
:26 4b, 2a, 7c
4 children extend, began walking
And lovely, 2 more then hand one and parent joined - Read the sign and love what it about ~Men
~2min all 1c 3min just kids, kids mentioned "please"

:30 1c, 30s extended, observe
And looked at panel 30.5min
:30 3c entered looked through loud
And loudly, walked through 3c
:32 3c, kid points repeatedly
And only watched 5s of videos, 1c stayed behind and watched videos, while looking around lot 1min
:34 1c extend seated watches
About one/moving of.Men all 1t
:35 3c 2c extend and watch
2 videos 4:45s
:36 1a, 3c, 3c
Adult point 2T about hit, entered
But all o, i used videos 2:5 and tried
to point - Zowie
Chester's rear, came across
Away from hit to home
:39 1c extend and started going on
Time - 30s,
40. 4c entered older area
penciled 1 button, tried to watch
with, stepped younger from hitting
all buttons - written:
41. 2c entered, watched 1/2hr
partially, friends came & got there
45.
49. 2a & 2c - left
1a & 2c passed button & watched
briefly before rejoining group 45s
172 BP = 7th
167. 3c camping group
Touched panel, said "talk", etc.
168. 1a & 2c - 10a
1a & 2c appeared & touched panel "why are they all pushing" etc. came
15. 1a & 2c group 1, 3a & 2c
1a, 2a approached panel "what is this?" etc.
A "responded with each idea & reading panel
405
12. 1a & 2c - child stepped back
from panel & told panel "wait a min"
21. 2c was established in aid glanced at
skill case
32. 1c - the stepped - 2a took 2 pmcs
at skill case
123. 2a & 1c
1 child separated, looked at care panel
15
before rejoining
24. 2a & 3c
2 children separated and used panel case
305 "do you know buttons are like our
values?" etc
27. 2a & 3c
Group data photo by care, etc. - shout
"found to read panel" care 355
30. Care was held up and read
panel from this list, did not engage care
33
32. 1a in walker, step back 155
before eating
37. 1a & 3a & 1c
Older walking back at care while
eating, took 5-10c, child did not
39. 3a & 1c
1c - 3a walking closer at care while
eating
10
45. 1c and panel and moved care
for 30s before moving over to panel
44. 2 tons entered and paused to
read and stared at it & 1c did not
go over to panel
46. 1a tells read panel and
observed care for min
1:2 3c 5c 4d-6a
4k engaged care/touched, read
panel briefly ~10s.
1a held small child and pointed
to care ~30s before all moved
away.

2:3 LP
1a 2a 3a 4d-7a
4k approached, chatted and
played around with rest of group
and touched cards R5.
1a 2a 3c 4d-6a
Child separated and stood apart
while touching cards ~10s.
Child did not engage, Child pointed out
child played on each, group stopped read
~15

4a:30-30min entered in 2:30am
entered, "back off please on entry
1a 2a 3c
Young children approached over
panel, touched cards
1a 2a 3a 4a
8 kids approached and talked
cow, touch ~42s.
1c 1a 2c 4c
Children card panel aloud.

Several questions about cubes
and counting items shown
1b 2b 3a 4a 5a 6a 7a 8a 9a 10a
child approached and touched
cards/panel playfully, while reading

panel ~35s

Ear moved from one to top of
stick, 2b 3c 4c

All engaged panel and touched
cards while read. 2b cart had book
and panel motioned around cart at time

4a long group 10a
2b engaged all group and touched
cards/panel quickly ~20s.
1a 2a 3a 4a 6a 7a
1c separated and touched from parts
quickly before returning to group

Female 10 returned to cube
and sat near glass, lots of water photos
1b 2b 3a 4b 5a 6a 7a
2b walked over and compared
hand to her print, called other child
"This is your photo" child touched
"Which is a mom and which is a house cat?" Then
All adults touched prints only older adult
And panel food
10-11 EL
10:32 Remy + Bernard
6 total visitors have passed
by no usage/locks
Descend by elephant
house
36 la 34 Zk
1c walked up and bit
mama corner +200, did not react
32 la 56 Zk
child bit down corner +220
adult read panel but did not correct behavior or react
40 la 2e 3e
B Mono read panel, total child
to do activity, backward and helped
44 la 3k 10
1c walking, look +5a
45 Camp group +5a
1 walking, look +3a
48 - 49 group around child
walked up and read book in tree
before leaving off
49 la 1e 50s
1c read part of panel aloud
child read, both bit outside
1 min

11-12 Gill
Really raining
now, limited No vision of elephant
gallery
14 la 3e 5s
Adult walking, glance, allowed to
into hut
16 3a 2e
1c to walking look at
Key Control
21 Club car parked in front of
BBQ at Baboon Experiences
22 2 teens walking, glance
did not enter hut
30 2a 1c
1c walking, glance, the other 1c
walking, read +10s
19 la stopped and read
while walking, the group did not
enter hut, "exhausted" +10s
14 visitors there, had the
potential to glance toward ElG
panels - more moved from ElG
area to treetop panel
39 30 3a 40-70s
1c walking, glance, on their
way in the hut
11/12 AM
3:20 50-70 adults discussed parents entered and looked around hit, speaking Spanish - 1:30
entered and asked around last
"Did they have a TV" pressed buttons
and he same time and didn't stay
for whole video - 2 min
1:33 2a, 9a, 2c
part of video - 2 min
1:33 2a, 9a, 2c entered watched
part of video - 30 sec
1:33 2a, 9a, 3c walked through
1:35 2a, 9a, 3c, complaining that the
other one keeps changing the video
1:35 2a, 9a, 3c entered, child pressed
buttons quickly, tried to explain objects - 1 min
1:35 2a, 9a, 3c entered and watched
2 videos totally before leaving couldn't not
see other haunting objects
1:37 2a, 9a, 3c
Dad put hand on shoulder, asked
if we had a "better" idea and look
cani to you?"
1:37 2a, 9a, 3c
増加 group
Watched part of video in groups
of 2 2a, left. 4-5s 9a, 11-15 20 sec
1:38 2a, 9a, 3c
Can read group kids walked
up individually and left quickly - 10-15 sec
11 1a 3a walked halfway
and some kind of 11. Better forget
there
15 4a 5c

"No I want them off." "They
don't go off kind." 11 Kids complaining
about switching videos. 2a circus
trying to keep control objects, worked
for 7 min in list.
18 1a 3c 4b walked through
proof by hand button. followed
by proceed out

23 1a 4l stroller

Walked through 4s
24 3c entered 1 watched
30 of video, other 2 looked and
left vs 10s
27 1a entered and looked around
left, vs right, vs 10s.
18 2c 11teen entered
and looked around, pointing, pointing
to objects vs 10s.
32 1a entered, stopped and
looked vs 15c.
34 2a 3c 5 proved 1 button

35 2a 4c walking works from
bad court getting area
46 1a 3c 4b 1b teller
Children entered that followed by
dad and 11 siblings, left vs 20s, kids
watched part of video and complained
of proving each other button. 12s.
47 2c with 5d walked through

143 1a entered stroller

20 gray 1e 2c 7a, passed, passed
without not recognizing when screen was
5b, walk through
443 2e 3c 3a 2b watched 2 watched
videos. 1e 2c left 14s. 1e 1c stayed
and pointed at objects not referring to panel
15s

96 2e 202 25 camp group
watched 14s at vid. we talked
tilted looked around left after turn
17 1c entered and looked around
no videos vs 30s.

38 different kid same thing
52 2c entered from bad court looked
around left vs 20s.
53 2c 5d 3e left 2c
Walk through
Visitor approached me and said, "You're doing a great job here." The child walked over to me and said, "Hi!"

Teacher explained game and adult explained game's rules and answered kids' questions. 2 min.

Teacher asked kids to find their 3s.

Teacher asked kids to find their 5s.

Teacher asked kids to find their 10s.

Teacher asked kids to find their 20s.

Teacher asked kids to find their 30s.

Teacher asked kids to find their 40s.

Teacher asked kids to find their 50s.

Teacher asked kids to find their 70s.

Teacher asked kids to find their 90s.

Teacher asked kids to find their 100s.

Teacher asked kids to find their 200s.

Teacher asked kids to find their 300s.

Teacher asked kids to find their 400s.

Teacher asked kids to find their 500s.

Teacher asked kids to find their 700s.

Teacher asked kids to find their 900s.

Teacher asked kids to find their 1000s.

Teacher asked kids to find their 2000s.

Teacher asked kids to find their 3000s.

Teacher asked kids to find their 4000s.

Teacher asked kids to find their 5000s.

Teacher asked kids to find their 7000s.

Teacher asked kids to find their 9000s.

Teacher asked kids to find their 10000s.

Teacher asked kids to find their 20000s.

Teacher asked kids to find their 30000s.

Teacher asked kids to find their 40000s.

Teacher asked kids to find their 50000s.

Teacher asked kids to find their 70000s.

Teacher asked kids to find their 90000s.

Teacher asked kids to find their 100000s.

Teacher asked kids to find their 200000s.

Teacher asked kids to find their 300000s.

Teacher asked kids to find their 400000s.

Teacher asked kids to find their 500000s.

Teacher asked kids to find their 700000s.

Teacher asked kids to find their 900000s.

Teacher asked kids to find their 1000000s.

Teacher asked kids to find their 2000000s.

Teacher asked kids to find their 3000000s.

Teacher asked kids to find their 4000000s.

Teacher asked kids to find their 5000000s.

Teacher asked kids to find their 7000000s.

Teacher asked kids to find their 9000000s.

Teacher asked kids to find their 10000000s.

Teacher asked kids to find their 20000000s.

Teacher asked kids to find their 30000000s.

Teacher asked kids to find their 40000000s.

Teacher asked kids to find their 50000000s.

Teacher asked kids to find their 70000000s.

Teacher asked kids to find their 90000000s.

Teacher asked kids to find their 100000000s.

Teacher asked kids to find their 200000000s.

Teacher asked kids to find their 300000000s.

Teacher asked kids to find their 400000000s.

Teacher asked kids to find their 500000000s.

Teacher asked kids to find their 700000000s.

Teacher asked kids to find their 900000000s.

Teacher asked kids to find their 1000000000s.
51 1c, 2c, 2 groups
2c 40s 3c
1c 2c 3c
Each child walked over, touched
posts/leaves 20s before leaving
back to groups
52 2c 2c
Each child read the Name card
to different adult 20s
54 1c 1c 60s Giant Child
Adult identified specimen to
child who touched posts/touched
at skull - 1 min
E-2 2c
3c 2c 3c 3c 5c
Each child climbed on count out
for picture, 2 read Name, 3c
Red activity
55 1c 1c 10c Camp group
3 touched, sat out, "See if
can a low jump and one stand
56 2c 40s 50s 1c
Stumped, took picture at child
in front of cut out
59 1c walked up
"How far can a low jump?" and one
ahead, led activity only one
59
10 3a 3c 5c 1c
Walking point at cutout
12 1c 50s
1 stepped, read panel 55s
34 1c 1c in stroller 40s
Stumped and took picture with
cutout
15 - went to tree, Camp group to dry
glove
16 2c 2c in stroller
Stumped to take picture at tree
19 1c 1c 2c 2c group
Stumped and read panel, both
Red activity
23 2c 1c 40s Child walked
why here tree to jump other could
ever most/child toward did not jump
24 1c 3c 40s
Children checked out cut out, noon
Red panel 55s
30 1c 3c 5c
Kids separated and ran back
To jump before activity
44 2c 1c Step/land 30s
44 3c 20-30s Step and/or jump
55s
45 1c 2c tree. Tree can
jump really far"
48 7c 3c 3c
Stepped to take picture
51 Camp game Tc & Ec
Walking back by 3c

50 - 10 5L
60 9c 30-60
la Walking look at pond
-5c
60 1c 1c 9c
Both stopped and wondered did activity, mom read 30.
51 la walked up and stopped
With openings while riding, look and
behavior
Part of group joined 3c, 50-60.
All children tried activity

Before going tubes on canyon
35.1 9c 2cm 1c 2c + 1c 3c
5c la 1c 3c
Child approached and read panel
Did jungle activity. "Can you tell vibration?"
"2cm "you think my feet can hear this too."

ET FL 10-11 BP
4G 1c 1c 4G
LP FEA
MV Ed?
Gill
DZ
18 1c 60s

Stepped and observed one - 20s

"Stop look at the El Rancho"
27 2c 1c 3c
la walking glance 25c
30 1c 3c Stop read main panel
and observed cag, did not touch 1:30
32 2c 1c 3c
Child asking "What is the question about
panel and cag, adult asked kid 45 a 1PC
35 Walker requested a writer hitting
glass in box case - went to check it out.
Decent pouring of glass up here playing
40 Illusion took picture of
case on each person
44 la 60s Stop read - 45s
46 2c 1c 8c
la approached case - read panel

452 2c 2c 50s Stop/Read
in printed case, 60s cag talked
about panel face, we touch
12:1 Dug Zone

12-12:30, kids played by 3 more adults and more children. 2 to 3 stayed in DZ area. Kids used nets to dig while adults observed from side. 2:20 left Z.

1:10 Le + Le entered, carried examined box specimen for "Dig this!" 1:20 Brian, both left to beach ~35.

1:3 Camp group Le + Fe.

Combed net on beach. Kids used "Shovel to capture."

"Now I found Dinosaurs!" said Leu. 1:30.

2:0 Le + Le did not enter.

D3, stood near edge, did not want to go down. 2:4 Le + Le went down. D2 left.

3:0 entered and began digging. No first of issues, more play.

昨天:

2:30 Le & Le did not enter.

D3, stood near edge, did not want to go down. 3:0 Le + Le went down. D2 left.

3:30 entered and began digging. No first of issues, more play.

4:30 Le & Le 40.

Play, not scavenging. Scouts around or using nets. 1:30 kid went under water.

Dinner 1:30.

Kids playing "Super Awesome Camp Group 2 x 10."

4:5 kids playing " wink swing.", no point.

4:50 kids playing " at last."

4:6 kids walking around.

5:0 le 3 x 60.

Adult working at holes to locate. 5:20 kids left interest. 2:00 playing. 3 other adults from group chase to observe fire. All adults talked about goats and lizards in walls to gather.

1-2 ET:

07 1 Le 2 x 2c

1 child used 2 x 2c panels ~30.

18 2 x 2c 43-60.

Children playing with panels/men running. 2:00.

7:10 Le stepped on head 2L kid came.

Point 1-2 x 2. Kids of group 2 x 10. Point brand before leaving ~130.

2 Le (expanding) approached and flipped pan and quickly left after. 2 x 10.

The other stayed and went through point ~130.

14 Le 40 Le 2c.

All three found panel. Cast talked to each other after flipping up.

Point 2 next one.

16 Le 60 Le 1a walking around.
17 2c 4c 93
2c a used panel and touched
93:24 2c 3c 195
2c a used panel and touched
93:25 2c 3c 195
Children used panels/195
93
2c a approached and read
93
2c before returning to George
93
2c Camp group 1
93
c a used flip panels rapidly
93 before turning to elephant

38 2c 2c 3c
Other child used flip for car sticker
93
pout foot up to elephant cart
93
45 5c 1c 4c
Parents used Elmo, then child used
93
alone white parent raised "What is the one"
93
Audience - young e learning to read 2
93
45 1c 2c 5c
Younger child approached and touched
93
panels, poem asked "Which is the elephant"
93
child pointed out panel. 93
93:45 2c 2c 5c
Hens
approached and used flip panels together
93
2c before aborning etc
93
50 2c 2c 5c
I child approached panel and touched
93
2c 1c 5c before aborning the etc
93
Other child moved over to panel both
93
used all flaps - 93
93
50 2c 3c 5c
Other child began using panel/ took 2 tips
93
rest of group joined and went through
93
whale panel - 195

Discount between tracks on
93
2c
No visitors have unded the
93
2c
24 3c 2c 4c 6c
3c another red button matched the
93
not to bread pan on panel - other
93
adult stoped bread panel - 2c
93
2c 3c 2c

Man called over child to see
93
panel all touched each/ips name
93
and walked
93
33 2c 2c 4c 6c
1 child approached and used 3 panels
93
and returned to group
2-3 G2
8/1 2c 3b 3c
Kids playing 7 min
or 1a 3s 2c
Kids playing 6 min

32 2a 4x 3c
1a + 3e digging for sampler
Goes "We found a treasure box!"
and points to identify it helpless
Adult of first group 3rd "I feel like this spot is the most interesting
drive parents when the kids don't want
to get out"

24 2a 5c 4c
Children digging, adult read
Cost panel by name fully 1:30
"We found a treasure box!" - C
adult also looked through hand book
2:05 in area 8 min

27 2c 2e 5x 6c

Kids playing, adult observing
12s 2a 1e 30x
Young child - 2 playing 16 m
Adult began searching for sampler
and using tools 14 min
Child dog adult walked
around

3-4 G11
8a:12 la walking read followed
group up to hut 3a 4c
8b:16 1a+1c child stop/read 10s
8c:27 2a 1e 2c
Walking read la, entering
through their door
8a:30 2a 2c 1a walking glance 2x
8a:30 2a 4x 3c
1a+1c stop read 10s
10: f1rse (Just about empty)
8 visitors in Elephant House, none
in queue ever
8g:50 2a 3x 1a walking read 13
8b:50 2a 14s 1k walking read 5x
7/14 11-12 ET

Overcast, windy, forecast rain.

African fairly scattered, mention of lots of rain, bench, presence.

One car, one group, kids in the park.

1:14 1e, 2a, 3c in camp group

Counselor assisting children, playing around near 455.

1:15 2a, 4b, 7a, 2c

Adults playing with 2c.

Child complained his feet to coach, coach.

1:18 2a, 4b, 2c

Little using pencil, adult assisting around 455.

1:18 1e, 2c, Camp group 3b.

Group quickly flipped I pencils and read on 3b.

1:20 1e, 2a, 4b, 2e

Child flipping pencils back, noon.

1:22 1e, 1c, 2a, 3b, 3s.

Tested cards and used 2a, pencil did not match 2c, tested 3c.

1:22 1e, 3c, 5c.

3c flipped pencils, quickly, noon.

Tested cards and used 2a, pencil did not match 2c, flipped them back.

1:30

2c, 3c, 2a, 3e, camp staff.

1c tried to stop and use pencil.

Counselors called them back.

27 2a, 2b, 3c.

Both adults touched cards - panel - prompted.

Kids in the same 2e.

1:26 1a, 6a, 1c, 1b.

Open and another group at panels, touched cards + 45b, read 3b, 2c, island ~ 455.

1:32 1e, 2c, 3c.

Walking back from all members 3-10.

No engagement.

1:33 9c, 2c, islands.

Kids used over to panels, with it tried.

It's near 3b, ~ 45b. 1e went to observe else.

Began using 1e for play ~ 25.

All 3 engaged + touched pencils cards ~ 20.

1:36 2a, 3d, 1c, 1e, 1n.

Dad, holding child, using 1c, trying to explain panels, child held down and touched cards.

1:40 1e, 2e, 3d.

Child comparing that to touch cards.

1:45.

"Hey what are these?" Referring to.

Tracks on ground, le built down to compare land. Dot not use panel.

1:42 1e, 2c in stroller 405.

Stopped stroller and kids touched cards ~ 505.
12-1 78 + 4
:01 2a 65s 1c
Adult "look they have names." Rand names
and do child - child ran over to 87 - 15s
12 1a 60s
Stopped and read ABC panel - 40s
and PHL panel - 1S
:18 2a
1c Step and ID panel en route
2S
:2G 2a 3c
10 + 1c read panel briliantly - 2S, old
read aloud 2 names - dad & sames
:3S 1a 3S
Child and others to play - 2S
:41 1a stepped - read ID panel
2S
:5S No move interesting
Start ted to rain around: 12:4S
:58 2a 2S
Poor wind seems from - according
as action they observed in enclosed
"What we did see that 2 growing when
we come in" - 1a
1:2 EL

05 2a 5b 8c Camp Group

Kids take turns walking off

cards, pointing, demonstrating

counselors said to move after 1:30

1:35

07 2a 2c

Stopped Read panel book

Read Activity 3am.

14 1a 1c 4a

Child began moving back while dad

read, child stepping on drum cover,

didn’t feel anything “We’re not

to hurry in to the other end” A-5

Child corrected “at all” 1a 2b

34 2a approached - read 35s

Read Group 4a 2a 4b

Children all attempted activity

Did not read - left after - hour

11:12 EL

08 1c 4b 2e

2 children completed activity finished

Read observed - read panel 35s

11 1a 4b 5c Camp Group

6 children gathered around 1b

Read books - Switched on drum

Cover and ran #6 - 6 swapped

Time completing activity 1:55

13 1a 2b 11m

Child looking at pictures and

looking at other panel - put hand

on drum cover - no activity Zain

15 2a 10 2e

“Can we do that?” C pointing at tube

“Do you feel vibrations?”

C thumps - 1a completed 14:35

16 3a 5c - 10m

Can read panel back to kids

And - tapped over times - 70s

20 1a 1b Camp Group

4c approached and - completed

activity - Read panel quietly - 15s

Group moved to other room

21 (5c - 4b) kids spread

23 1a 6b Camp group

Counselor observed with 6

So did activity “Did you hear?”

Kids connecting each other 11:50
2:55 6a: 40s, 2c: ML

2c led Go Camp

"What's this?" C
Kite flying on tennis court (1D)
Others trying to be current. (1L)
6a: ML

2:27 1c: 30s: 40s

"What's this?" 1c woven red panel.
1c: "Look at kite right in activity"
"You have to aim."
1c: "1c helped and 1c led"-team re-doing activity.

3:00 2c: 50s, 2c: 5s

3:15 1c: 40s - paper activity
"We just have to put your head over here." 2c: Adult observing 115

3:30 2c: 13c: camp group
7 kids sitting on down covering

he reading at panel - corner was stood with other kids at Elephant bone

4:12 1a: 30s: 6c

"Don't see northern" 1c kids asking many questions to same thing

4:25 1c: right or reading 45s

4:30 8 c: tier camp 4 anem
C c: attempted flipping cover and then "I need help, I read and got confused."
You need to hold your hand then make sound

4:47 Camp group 1c: 2c
1c: led separated and hung on

4:58 1c: led separated and read panel
1c: explained to 1c: kids led activity

4:59 1c: "can you feel it?"
1c: group led explain to next group 2c: read

5:00 2c: 3c: 5c: approached
Kids came up to other group who explained and answered kids took move down corner

5:30 2c: 13c: read

1c: 1c: approached and read great joint-kids swapped activity panels read

joint in to barn 1c: 2c
3-4 MV
06 12:40 1e
This is a magic house. -e
No orders to wash them.

7 3a 6c
20s watch 2 videos
Group lost interest after watch.
Began talking about other activities.

1:30 in bed

20s left separated from
gap @ guests - entered looking at
inside over 10:15

1:09 Different child from

Children table group - same action

1:18 1e 1e 3d
Child entered - "Dad tried to call
away, to go home in the car." Watched video before leaving - Dad
called saying 4:45 in town 4:51 town

1:22 2a 4c 44b
1e entered but looked around house
present 2 videos - watched mostly

1:23 1e 1e 4d
Entered, watched remainder of video
and looked around but - 4d.

2:41 1e
Child stood in doorway and looked around before leaving and walking off

10s:22 7a 2a 3a 8a
"Here's a home right there!" pointing

27 1e 1e 39
Adult looked around house and inspected inside - no video - child played while

man looked - 1 min in bed

34 7a 2a 3b
Youth be wanted and passed

video button "I want to see the TV"
no location of objects 1:35

"What do we do now?" I stepped in
and explained the interactive to more 2 groups.

Group worked together to locate and watch
video 1 at a time - spent another 2:45 doing

2:50 2a 3b 4a 4b 6
Child entered and looked around - 4a
Watched and played - did not watch

more kids

52 1a 3a 2c
Child did school project on Harris

Entered with group and explained a bit
about entire Sound lesson

55 2a 2a 3a
Kids passed button, watched 30s at
2 videos tried to hit button first
21 1a. 728 3e
Children (5-7) looking in case - at panel
-45  painting at pictures
23 1a 728 4b
Then looked at panel or out, one painting
Child pulled case - teacher case - compound
Brand'at. 35a
24 5a 1e 239 5a
Then 1c. approached case - looked at teacher
Sampler - before going back to group
24 2c 1e 272 239
12 + 1e = stroller - Did you see these pictures e - 2c
Other adult woman, pointed at panel and another
At sleep 40a - e taken pictures - 20s
28 2c 28a
1a stopped and panel - 30a
32 2a 5c 719 49a
1 child approached and looked at case - 30s
"Do you guys want to see some TV?" gip didn't
for
32 2a 728 1c
1e stop and 45a
33 1a 728 4c
2c ran near - touched case before gup
Back to group - 325
36 1e 728 52
"We're all related! "What are these black monks?"
Association: 1c, 1d - highly engaged
115
38 1a 2c 48
Walked in, walking around
Panel by A-child approached
and touched case - 253
39 1a 4b 1c
"These are crayons." - Adult
Answered question about case - 455
40 1a 5d
 Asked what would happen if there
were no tonsil - Reduced him to tears
to see health/hands - Sport 1.5d
Inspecting case panel
41 2a 2c
1c approached case, looked around
13
41 1a 1c
Dad looking, child touching case
52
42 1a 7c 455
4c walking, back and face case panel
on exit
43 1a 1d 50s
approached case on entrance - A read
observed case, child touched case - told
46
50 1a 10m
Dad stops + took pic of
Panel and case - 23
51 1a *approached + run and fell in shoe
Case - 355
54 1c entered - box is case - Adult
called from outside Lt - ran out
1-2 MV
504 8 to 1a entered - orange gap
A staged - 20s. Be proud. Swirl pattern
and looked around LT 1.15
505 1a 60s 1c
Watched 1st family - read directions
prior to pointing to objects - 1/10
507 1c from outside "What in
line?" - Got group - 1a Be told to
cat and looks around box - 415s
As watched and already on - 2c buttons
screened objects in box
14 1c Walks thru screen 1s
10 1c Orange gap 146 3a
"Can you find those objects?" He read
around - most gathered and left quickly
325 4 stayed and watched until - mins
12 4c enter 2 knitting button
quickly. "I turned off the TV." Adult
getting annoyed trying to watch video
Adult took picture of both made box
2 seconded re-entered 3 times joint
led to how to 2 - both repeat
15 le 45 le

Watched all videos ~ 28 s

Each ~ 2 s from last gag still holding

Objects - group left ~ counted objects

on panel painting 1.45 inches

18 le 38 s 2

Watched - looked around but

"Can you imagine being here?" 2

Did not recall panel look for objects

Watched around; did not move any.

1:45

24 le 45 le 4

Children pressed red button for

play 2 s from second music. 3 s from

Denis playing on the right

26 le 45 le 31 s 2

What is here? Kids playing to locate

objects - added 1 video ~ 34 s - stayed

and took pictures through 1:25

28 le extend and looked around

Red - repeated structure ~ line

29 le extend - looked around

for objects - "I had that on instrument

or something." Watched 2 s from 2 m

31 le 2 m

Walk through 25 s

32 le extend - stepped

Buttons a second

Just there to look button

"I'm Wingy" - 1 count
23 ET 7/9

04: 1st 483 C
Child walked over to panel - 35
lady read sign - turned card.
:08 2B 388 2:16
Adult 3:2 used panel behind parents.
Red requested on 2 cards. Read panel on 35.
:09 2C 78 1:20
Both students read panel - 255 three.
Both children called.
:11 2D 110 3:45
cold reading panel.
took student on 2 cards - rejoined group on the right.
:12 2E 783. Stop and read.
Please use at 1P32. Did not touch 120.
:15 2F 783. Stop.
Child using 15 pri. the play.
Now stand to step - how to read word for.
:17 2G 683 7:33 1:46
1st used cards read panel. Adult.
also made connection between ground + panel.
From 13C from other group read 10 last.
:35 2H 38 9/6
Child walked over to panel - read 2.
1st rejoined parents 20.

26: 1C approached and read panel.
Helped before going back to group.
27: 1C Dropped 1C read 4 lips 251.
31 2C 483 6
16: 1C read 2 lips - child continued.
card not clipping 4.
:32 1A 618 3:23
Card from 618 rest of group.
One sitting on 2nd rest in other group.
3:45 panel panel.
:46 2E 38 2:12
All touched at once.
None used lips for kids - kids read aloud.
:49 2F 78 3:20
3C 2E 3:23
Be approaching - started reading.
check - both adults joined - kids reading to
each other.
2C from other group joined all reading together.
2:26 last of.

41 2C that joined - by 28 78 2P9 1:46
Be talking to adults, pointing 4 counts.
2C 28 3:14.
9 lip 9 lip.
:44 1E 2C camp group.
2C among lips while reading from behind.
:46 1F 78 2:14
8 lip.
Card panel - 30's completed.
hand to 2 cards before going back to group.
:47 1G 618 3:20
Walking back.
:53 1H
I then made signs at elephant trach with hands.
"Did you see how big they went on?"
<table>
<thead>
<tr>
<th>Time</th>
<th>Action</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>09</td>
<td>Adult read panel aloud - kids did activity - switched</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>adults read instructions about when kids were doing it correct/incorrect</td>
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<tr>
<td>15</td>
<td></td>
<td>&quot;What is this?&quot; adult read panel</td>
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<tr>
<td>17</td>
<td></td>
<td>panel for adult group - kids did activity wrong - adults corrected kids and began</td>
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<tr>
<td>20</td>
<td></td>
<td>panel - read</td>
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<tr>
<td>21</td>
<td></td>
<td>2c 2b 1c child went and tried activity solo - adults observed</td>
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<tr>
<td>35</td>
<td></td>
<td>&quot;(Different instruction)&quot;</td>
</tr>
<tr>
<td>50</td>
<td></td>
<td>1c did activity - panel read aloud</td>
</tr>
<tr>
<td>1:25</td>
<td></td>
<td>2c + 2b walked up + read panel</td>
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<tr>
<td>1:30</td>
<td></td>
<td>2c + 2b panel read aloud</td>
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<tr>
<td>1:40</td>
<td></td>
<td>2c + 2b panel read aloud</td>
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<tr>
<td>1:45</td>
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<td>2c + 2b panel read aloud</td>
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<td>1:50</td>
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<td>2c + 2b panel read aloud</td>
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<tr>
<td>2:00</td>
<td></td>
<td>2c + 2b panel read aloud</td>
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<tr>
<td>2:15</td>
<td></td>
<td>2c + 2b panel read aloud</td>
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<tr>
<td>2:30</td>
<td></td>
<td>2c + 2b panel read aloud</td>
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<tr>
<td>2:45</td>
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<td>2c + 2b panel read aloud</td>
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<tr>
<td>3:00</td>
<td></td>
<td>2c + 2b panel read aloud</td>
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<tr>
<td>3:15</td>
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<td>2c + 2b panel read aloud</td>
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<td>5:00</td>
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<td>6:00</td>
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<td>2c + 2b panel read aloud</td>
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<tr>
<td>6:45</td>
<td></td>
<td>2c + 2b panel read aloud</td>
</tr>
<tr>
<td>7:00</td>
<td></td>
<td>2c + 2b panel read aloud</td>
</tr>
</tbody>
</table>
1/22 7c 1c 40s
21 bead - other assigned child
sleeping normally 1:15 switched
54 1c 10s 3c adult read
passed to adult, kids on 1st
1:15

7/17 12 p.m. Keep
Mostly cloudy, T-storm expected
this afternoon
13 8c 14c camp group
Corrode painted at her car with
tape, kids 3:5
15 1c 4c 7c
4c running jump on pizza
10 read
15 7c 7c 40s
Child painted to cut out 'Oh Snap'
play a good photo op - 7:21
Other adult took pictures of both 2:00
25 le stepped on rock, le jumped 5:35
22 7a 30s step/red faced 3:55
25 7c 60s 7c - Stopped by
adult, both kids jumped 5:55
26 1c 30s 1c kids run
over to take picture of guest next 3:00
20 7a 20s /c
took picture of center 1m
32 7c 40s 60s le stepped + took
picture 5:00
34 Camp gpp 9c 9c
3c ran over toward end of
1:50 7c 7c 1m<br>noticed markers on ground first
10 did activity 1:15
39 7c 40s gets up step/picture
3-4 J&P Zestime Set up -

8:25
- 58 4c 7c 3c 5c - 70
Stopped and took position of 3.

- 42 4e 4h 48
Stopped + took pos at 4c and 4h

- 42 2c 3b 5c
Stopped + took pos at 2c + 5c

- 15 in 4b 2a to rain over
and ground cut out

- 4s 4a 9b - 9b 9c - 2c
Stopped + took position of level.
Adolescent panel prompted kids
to try activity along last 3:30

- 5d 4e 40 - 4a - 4c + 4h
Adult stopped panel 4h.
All outside - Walked out 35th at Park
"That really impressive, this is long
85 st "

- 5b 1a 5b 2a kids' tipped
Along 2nd workings - More read
Parked at panel #25 "That's like 7 daw!"
Some fired equipped

- 1-2 J&P Mike Safe
Fires surveys

7/28 3-4 Jt+A J&P
Very hot, wines, not many visitors
lots of camp groups here earlier

- 103 1a 5b - Based on care taking,
at another J&P

- 01 3a 5b - read panel looked through
care, group panel for all read panel care

- 1-4o group - 35 J&P

- 4s 4a 4c + 4d
Stop lead - 1:15

- 0c 4c J&P Camp group
Children stop read, touched care +

- 08 4c 4d 5b
Adolescent panel, child touched care

- Full picture 35
9/13

9:30 - 10: 2 zoo visitors
Elephants walking sign up

9:50 Warm Sunny Class
lots of visitors expected today
8:30 First visitors to African Entrance

CL 12-1
06 3c 3a 32
Baby approached, touched "up" at Ebola, child attempted activity 35
07 2c 3e 26 2a
Adult observed of group, child attempted activity, took Forms 12-12
08 3c 3a 32
1a walking光荣
10 3c 5e 5c
2 children approached, then to be
adult read panel aloud, children take turns
12 long group 2e 15c
4 a walking glory
14 long group 2a 7c

1 child came over and died activity on the
19 camp 1a 5c
"am i do this?" this time elephants here"
Children read panel, completed activity
18 3a 2a 5a
1a approached, read panel
children completed activity
5a
120 1a 4
Be ran over and attempted activity 35a
20 camp group 1a 3a
102儿童 read panel aloud
children completed activity
22 3a 6a
3a ran over, attempted activity 1 did correct, others hugging on table 5a
25 2a 6a
completed activity, read panel
40
24 camp group 2a 4a
children went, lantern, connect
read panel aloud, make sounds for kids
46 3a 5a
2a stop read, completed
45a
16 "ok i see that " 3a
ran over and did activity 4a
27 "grandma got you read in this"
1a 2a 4a
All completed activity.

2:22 1a 3a
Adult read panel quickly, children completed activity 5a
27 3a 5a
Adult observed, read panel, child did activity solo
31 camp group 2a 7a
"i can read the rhythm " 5a
2a ran over read panel, group joined child activity, turn
32 1a 6a 5a
Cube was cut in half, adult read panel, instructed kids 3a
34 6a 3a
approached, did activity 36 1a ran over and did activity
44 2a 5a
34 1a 1a
completed activity, no read 2a
35 2a 6a 4a
1a 2a attempted, no read, hide playing 47 1a then completed activity 5a
41 1a 5a
16 showed completed task turned 4a
42 camp group 7a
attempted activity, using tape as done
1 pointed at panel, 2a completed
2:15a
1m. 2e completed activity

1e. 2e ran over post hand

2s. in tube, read part of panel, left

2a. in tube

Stop, read panel, complete post completed activity panel 40s

5e. 1e 4e

1e ran over, 3e followed

3e completed activity 40s

5e 1e 7e

2e ran post hand in tube

Adult observed

8s camp group 2e 1e

11e. adult ran, stopping on tube, yelling in wrong dir. "Okay everyone get off it." Camera

1:35m

5e 1e 3e camp

Kids giving instructions, read panel

Wall group completed "can you get 1e?" 1:25