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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IN PARTIAL FULFILLMENT OF THE
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IN MUSEUM STUDIES
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BY
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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 Choice literature has been included in order to provide historical reference to what practices were undertaken in the fields of program and exhibition evaluation as well as the larger field of visitor studies.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 organizations 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.\(^1\) Although these institutions housed a large variety of species, the purpose of these collections was primarily public recreation\(^2\). 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\(^{st}\) 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

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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 issue\(^5\). 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

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

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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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.\(^{10}\) 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

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\(^\text{11}\), 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\(^\text{12}\). 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.


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

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 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.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.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 stake holders 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.”

22 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 over lap 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

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.\(^\text{28}\) 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

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. 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\textsuperscript{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.

\textsuperscript{31} Falk, John H. 2009. 	extit{Identity and the Museum Visitor Experience}. Walnut Creek, Calif: Left Coast Press.
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 into 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 /Glance 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 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 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 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>Fully read both text panels. Observes and compares casts and specimens. Interprets information</td>
</tr>
</tbody>
</table>

- **No Stop 1**: Visitor does not stop at element. No attention to interpretation materials.
- **Minimal/Stop 3**: Visitor looks at element but does not stop. May pause briefly, <5 s, or casually motion at panels.
- **Minimal/Stop 2**: Visitor stops at element for a short period of time, <30 s. Quick reading of panels, plays in area.
- **Intermediate Engagement 4**: Visibly stops and reads sign. Does not follow engagement prompt.
- **Intermediate Activity 5**: Visitor visibly stops and reads sign. Goes in to either baboon hut or uses watering hold interactive.
- **Extensive Engagement 6**: Visitor visibly stops and reads sign aloud. Visitor goes in to baboon hut or interacts with watering hole panel.
- **Extensive/Facilitator 7**: Visitor visibly stops and reads sign aloud. Visitors talk about panel and follow engagement prompt.
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<tbody>
<tr>
<td>Baboon Identification</td>
<td>Visitor does not stop at element. No attention</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. 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 identifications. Appear engaged and attempts to identify</td>
<td>Reads 2-4 identification panels. Appears engaged and</td>
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<tr>
<td>Tablular Data</td>
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<tr>
<td><strong>Baboon Abacus</strong></td>
<td>Visitor does not stop at element. No attention to interpretation materials.</td>
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<tr>
<td></td>
<td>Visitor looks at element but does not stop. May pause briefly, &lt;5 s, or casually motion at panels.</td>
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<td></td>
<td>Briefly reads panel, &lt;1m. Visits skeletal cases. Appears casually engaged, no apparent understanding of relationship between samples. May touch.</td>
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<td></td>
<td>Visitor stops at element for a short period of time, &lt;30 s. Quick reading of panels, no interaction with element.</td>
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<td></td>
<td>Visits an individual. Makes repeat attempts to identify individuals. Displays limited engagement, correctly identifies 1-4 behaviors.</td>
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<td></td>
<td>Reads panel, &gt;1m. Appears engaged with element. Demonstrates basic observation and research actions.</td>
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<td><strong>Baboon Panel</strong></td>
<td>Visitor does not stop at element. No attention to interpretation materials.</td>
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<tr>
<td></td>
<td>Visitor looks at element but does not stop. May pause briefly, &lt;5 s, or casually motion at panels.</td>
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<tr>
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<td>Visitor stops at element for a short period of time, &lt;30 s. Quick reading of panels, may touch.</td>
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<td></td>
<td>Briefly reads panel, &lt;1m. Observes skeletal cases. Appears casually engaged, no apparent understanding of relationship between samples. May touch.</td>
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<td></td>
<td>Briefly reads panel, &lt;1m. Observes skeletal cases. Engaged and focused. Displays understanding of relationships.</td>
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<td></td>
<td>Reads panel, &gt;1m. Observes skeletal cases. Engaged and focused. Displays understanding of relationships between species.</td>
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<tr>
<td><strong>Watering Hole Elephant Tracks</strong></td>
<td>Visitor does not stop at element. No attention to interpretation.</td>
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<td></td>
<td>Visitor looks at element but does not stop. May pause.</td>
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<td></td>
<td>Visitor stops at element for a short period of time, &lt;30 s. Quick reading.</td>
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<td>Briefly reads panel, &lt;1m. Appears casually engaged. No apparent use of flip boards.</td>
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<td>Briefly reads panel, &lt;1m. Appears casually engaged. May quickly use flip boards or</td>
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<td>Reads panel, &gt;1m. Appears engaged and focused. Interacts with flip boards and</td>
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| materials. | briefly, <5 s, or casually motion at panels. | notice of ground tracks, interaction with casts. | touch casts. Attempts to locate impressions. | casts. Locates samples on ground. | casts. Locates samples on ground. Communicates panel to group. |
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.

  o 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


https://www.youtube.com/watch?v=aGAeW4exiXo&feature=youtube_gdata_player.


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: E2

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

When was your last visit to the zoo? 3 months ago

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

What made you use the interactive? My son plays with clowns

Do you think this element enhanced your visit today? Yes

What did you learn from using this interactive? Elephants have 11

What do you think is the purpose of this interactive? Teaching children

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?  Curious to see new

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

What did you learn from using this interactive?  Information scientists

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

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:** EL

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

**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 zoo sign says.

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

Date: 7/22/15

**Group Details:** Middle aged woman, 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: E1

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 counted 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 large they are.

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

Date: 7/24/15

Group Details: Mother, age 40 x 10-year-old 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:**  
CL

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

**When was your last visit to the zoo?**  
[ ] No-No [ ]

**Why did you visit this enclosure today?**  
Child [ ]  Adult [ ]

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

**Do you think this element enhanced your visit today?**  
Yes [ ]  No [ ]

**What did you learn from using this interactive?**
Elephants Earth can absorb vibrations and elephants can feel and sense when something is getting close

**What do you think is the purpose of this interactive?**
Teach visitors about elephant habits

**Date:**  
2/24

**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: ET

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? Good day nice weather

What made you use the interactive? Curiosity

Do you think this element enhanced your visit today? Elephants

What did you learn from using this interactive? Facts how I do

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

Date: 7/3 12:24

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: [ ]

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: 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 us

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 enjoyable

What did you learn from using this interactive? Supposed to dig for toys

What do you think is the purpose of this interactive? Appreciation for digging for toys and exploring different ways to do it

Date: 7/31

Group Details: parents 2 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: DC

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, kid attraction, shade

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

What did you learn from using this interactive? Learning to socialize

What do you think is the purpose of this interactive? Have kids explore for kids to come over and figure out what they're doing

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? [ ]

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: 7/3

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: DZ

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 attended

What made you use the interactive? [Wanted to find fossils - kid response]

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

Few animals and a new experience

What did you learn from using this interactive? [Some of the facts]

[To show different jobs and how long animals have been around]

[More creativity were]

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 [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? Member Non-Member

When was your last visit to the zoo? [Date]

Why did you visit this enclosure today? Child wanted to dig

What made you use the interactive? Favorite part

Do you think this element enhanced your visit today? Yes, it's child's favorite

What did you learn from using this interactive? Supposed to learn about dug and animal facts

What do you think is the purpose of this interactive? Give the kids another area to explore and relax

Date: 7/11

Group Details: 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:**

**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?**

10 years

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

________

**What made you use the interactive?**

Remind of beach child

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

Yes

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

Kids - may see learn sharing

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

Give kids an activity, fun time, they get bored just looking

**Date:** 7/8

**Group Details:**
Survey for A Step Into Africa Interactivities: 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 interactivities, 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

About another culture

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:** Yes

**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: 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: BA

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 habits

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

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: LF

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 cat house is really big as a lion.

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

What did you learn from using this interactive? That a lion is much bigger.

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

Date: 7/21/16

Group Details: A husband (white), 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? Making records

What made you use the interactive? Learning

Do you think this element enhanced your visit today? Yes

What did you learn from using this interactive? Human cats and lions are very similar

What do you think is the purpose of this interactive? Helps the user relate to give people something

Date: 7/11

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? observation

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 fact sheets

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: __________

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: 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 Non-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 fast a lion can jump.

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

Date: 7/22/19

Group Details: A young mother and her son. Son maybe 6 years old and the mother was in her high 20s to 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? 5/5

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

Through the exhibits

What made you use the interactive? Seeing the sign jump 36 feet, but only 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 kids how far a lion can jump

Date: 7/15/15

Group Details: Set of grandparents, 4 extension, 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? ____________ yrs ago

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 cannot jump 10 feet.

What do you think is the purpose of this interactive? To show how far he can jump.

Date: 7/28/15

Group Details: Middle aged woman, 2 younger kids, and 1 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: **7/6/18**

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? **6/6/15**

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 animals**

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:**

**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?**

-  [ ]Bring Child

**What made you use the interactive?**

-  [ ] Show difference in hands

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

-  [ ] Very

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

-  [ ] Are similar

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

-  [ ] To show that 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?** It was here before. I have never noticed that

**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 w/l/wo humans and apes. 

**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 years 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 monkeys

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 panel - Babaan + WH

No visitors

Babaan won't fighting

Heavy rain over the weekend/still overcast

Not many members in early

10:05 - 10:55 - Massai Video

Video currently not working. Screen off.

4 members - Grandparents - C, 70-75
Child - 2

Engagement 4

Rituals Overused

No interactions / gestures

C-25 10:48

Family 2 parents 40-50

Child 1

Engagement 4

6-29 11:05 - 11:55

On sheets

Ripped pants - Reschedule afternoon
6:30 Weather

Overcast

10:15

BA: No visitors yet
- Weekday morning
- End of the park
- All staff attendance might
be later in mornings simply due
- to distance from main gate

10:20

Hord the first yells at
children for the day

10:37 Group of 5 adults, 7 children
- Women kids
- Walked right past prairie
and biased on baboons
- Spent about 6 minutes observing
- Baboons
- Questions about 6 p.m. fur
- No research action

10:50 2 adults, 4+ 1 child
Mom: "Could these hurt you?"
Dad: Points to read any tips packet
At teeth: "Oh yes they could."

10:50
4:50-10 PM: Viewed Elephant Walking Sign area

11:01-11:48

11:49

12:16-218 EL

No stop, read panel ~1 min

while walking

2:05

2 teens stepped, read panel

and attempted activity.

Did not do it correctly

and left after about 1 min

2:00

1 adult group 2

Stepped and read panel ~1 min

no activity

2:45

When Elephants are out and

around pool, most visitors stop at 17

then go back up past

1:48

3 adults 1 stopped + read ~20 s

2 kept going

11:22

Lion Loop

11:41 adult + 2 children - adult

stopped and asked other child if

they wanted to get on the bus
11:13 Adult 1 child
Adult prompted child to try
activity - no sign read
11:14 Adult - child in stroller
55 glance while walking past
12:15 1a 1c
1c photo spot on line
12:17 1a 2c photo spot in front
12:21 2a 3c 1c 55 glance
no stop rest of group no action
12:35 3a 3b 2c run by and
jumped on play no sound
1c completed activity no sound
Adults no action
12:45 5a 3c
Adult walking glanced
12:52 1c phone off

1:02 Dog 2cm
1a 1b 2e 3a 1e
Waved around first 2a glance
wrote to boar pen case
11 1a 2c
Kids played for about 3 min
Then sat on bench and observed
another 2-3 minutes of expiring
before new period began

1:22 1a 1c
Waved by - read "go ahead"
Dog for "55" sniffed - 55 glance while
walking kept moving
10-11 Baloon Panel 7/12
1:25 1a 1c
Child entered area - read panel
10-225 - read one - no adult attention
1:37
1a 3c
2 of the kids broke off and
started using panel - made reference to
private evolution - interacted 1b
camo
1:40 6c
High school kids + siblings 3 read
panel 2a-30

1:48 1c 5c
Entered box and parent pointed at box
case, while group walked over and read
20-30s parents pointed out differences in passion
1:51 2c engaged panel for 1 min
"These kids are really big!"
11-12 ET
Zookeeper talks will
change schedule to reflect
7/5 11-12
3 groups in DE at 11:05
Primarily very young children
using area de second time
2 groups left at 11:15

11:15 2 adults & 2e in area
parents gave children tools to
dig with - kids too young to understand
:21:54 1c 1c
adult sat on edge / child used
DE for play
:22 1c 1c
adult observed whole child
used area
:24 did 2 more 2e groups
with shells arrived
:25 2c 3c
Walked towards field / kids lifted
a paper cone / saw grasshoppers
at ~30s - before going to tanks
:40 Usher asked it display panel
was accurate because they were having
much better results
:49 2e arrived and began
to take care of condition
:59 first 2 children

12-1 ET
12:07 2 kids entered
12:15 2e 2e
One child used peacock / brick, encouraged
more to look through them. Did not attempt
to find on ground. ~2 min
12:17 2e 5c
Kids walked over and used peacock brick
while parents looked at enclosure. ~20 min
12:17 child walked to peacock, parent
called them back / tears
:20 1e 4c
2 older kids flipped through
peacock / lifted from lawn
:26 3c 2e
Kids flipped through peacock
quickly, touched ears - few times - play
:31 2c 3c
One adult walked and said
protection of peacock
:34 2c 2e
Man holding child to see elephants
Kid walked down to use peacock more. ~2 e flipped
through panels, printing, no activity. ~3:30
:37 2 groups 2e 3c 1b 2e
1c 2c from each group flipped through
peacock + touched ears (little from group)
Located a few points on ground. ~4:30
:2 30:32
2a 3c
6a+1c flipped through panels ~1min
1c stayed behind 5c
6c
6c started every panel, rest of group joined. Adults using time to absent eyes
used panels to read, pointed
posts to other children ~185-205
6c 1a 2c
Other drill used points/stacked dots
more points out to children on panel
on location on ground ~130
6c 1a 4c
Kids read panels/turned cards/painted
5a panel ~2min before breaking off/chapl
7b 1-2 BI+A
8c 1122 Adult read panel ~90s looked
to end then quickly scanned panel again ~90s
3a 1a 1c BC
"Do you want to read about them?"
adult read panel to dflk, both tried to read
3min
6c 20 662 teens stopped/read panel
2x did not engage
2c 1a 1c
main read last panel aloud/moved
6c
23 3c 2c - stopped
read 3 times aloud, moved on
47 1c 1c BA
read panel moved group did not
look at enclosure and track. Adult read posts
outloud
4c 1c 1c BA
child played with peace /adult read
panel slightly
3c 1a 1c 2c
2min older read panel to younger/mixed
pieces while reading labeled activity ~75s
3c 2a 2c 3d
1 adult read panel ~90s, pointed out to
other adult "ok figure read other
3c 1a 1c
5th panel ~25s
4c 3e 1c BI+P-MA
child read panel aloud/whole group
attempted to listen ~1min turned around & asked care
some group moved around room
attracting each activity for about ~1min each
let a mixture of activities on absences
but no one connecting activity
1c 2c 1c 2c
child read panel to 10-20s ran
played with peace
6:49 finne
Set and read panel ~1 min
Stayed behind group to observe the painting

7/3 2-3 Gd
Separated by bottom part of center panel, large group big walking 8th obstructing view
EG BG
2:07 EG 1a 2c
Stopped and read panel printed at guidelines/lettered Benson 1st - 20s
2:09 EG 1a 2c
1c glance/read 710s
2:10 BG 1c glance
:11 1a walking glance BG
14 2a 4c BG
2a Stopped and read >20s extended
Hat
:18 1a 4c BG
Stopped by G to wait, children read panel before turning around 20s
:19 1a 4c EG
took pitch in front 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 but 5-10s read

:25 BG, Glance 2c
:26 BG 4c glance 2
:30 BG 1a 2c Walking read "be you a private" said to child
:31 BG 3a Step/read 20s entered
Hat
:31 EG 3a 2c - 1c Step/read 15s
:33 EG 1a 1c - 1c Step/read 5s
:35 BG 2c 2c - 1c Step/read 2c
Adult 1st read printed made 8-10s went on before reading garden
Most people froze to look around garden because they didn't know what
:39 1a 2c EG Step ahead by adult
15s did not use rock panel
BG 4b 1c Walking glance by adult
went in hurt
:39 1a 2c Walking Ahead didn't enter
:52 2c walking ahead passed hurt
10:00 - 11:00

Sunny, clear, 108°F, 16

Adult walking west >03

10:15 2e 2c
Adult walking glance
>03

10:24 1 adult walking north, east
Fronts down but kept walking

10:36 2e 2c
Mom stopped to picture

10:37 4e 16

"Do you want to take a pic of the

10:53 4e 1c

Out adult

11:12 - 12

Sunny, clear

Mom read panel 20-30

11:32 2e 2c

"Look how big their teeth are!" referring to smile panel
no casts or paint interaction

11:35 2e 2c

"Mommy look at this" kid about 30s
Mom looked 40s went over to him

Talks to group came, talked about case
in foreign lang 30s - min went back
to picture "Papa"

11:58 1c 1c

Child walked over touched

Cust mom picked them away
3:51 3c - touched cents/face
Picture: "These were lions they be" 3:52 1a 1c
Child said what each item was/rewrote instructions 3:53

1-2. MV
10:08 Adult stopped and looked through gaps of hit
-15 min - did not enter
11:10 5a 4c
2 adults, 2 children approached and used videos
3 videos - 155 each
3:13 2a 1c
Walked thru but stopped 15s later
At this point, no videos
3:15 3a 2c - pressed 2 videos
10-15s child pointed at object or
screen (un sure if action observed)
18 5 adults walked through
"I could make this"
19 4c
Pressed a few buttons and moved
on
3:22 1a 1c - walked through
This is really cool! no activity

27 1a 1c - More walked through kid pressed
each button, did not watch/look
27 3a
Enter box and looked around
Intervened and exited
33 1a 1c
Pressed buttons, looked around
and viewed screen. Watched video, no activity
38 2a 3c
Kid walked in passed 12
bottom and went to see goats, parents
did not enter
35 1c entered and passed 15s
left
38 1a 2c
Watched 2 videos, did not locate
objects
39 2a 1c
Watched 1 video, kids too young
Parents prompted to locate, kids didn't
43 2a 5c
Be entered box, watched video located
and exited 1:30s
49 3a 2c
1c entered adult tried to
engage child in activity. 2 videos - Can you find
Child uninterested
46 2a 2c
Walking past band court "I want to learn about Mexican People."

Walked through hits, no video/activities.

149 1a 3c
Older child watched 2 videos.

2:50 younger kids played with toy.

More painted a few objects on board. Child also played with a toy.

54 2c
Watched each child, pained and objects. Tired to break objects.

2:50 Some kids left using LL.

2-3 3a 2c
13 2:10 Child walked up and pointed to sign of rest of group external hit.

13 2a 2c walked by. One painted and spoke, external side of hit.

5c 1a 2c Child pointed to quotes, men toward lead.

5a 1a 2a 1c walking and

1c group entering anyway.

BG 22 2c walking and lead.
BG 23 2a 2c Walking and lead.

3:30

EG: Elephant and many beltvisitors

DZ: Dazed, dragged down bag for

3 4 2c
12 1a 23 Painted, mom sat

on lawn. Child searched for specimen.

6b 4a 1c saw 3 a 1c read

1:30:44 A through belt bags - 1 min

1:30:2a 3c

Kid entered "This isn't a seed. It's rocky."

Then told them to wear tools and dig holes.

6b 2a 3c
Child and kids to go through sand.

1c Child: "A called Canvass" If want to keep

digging for fossils. 11 min

BG 1a 2c Younger 2 a 1c

Through can by other children's feet.

10 min youngest

DZ, Digging. Bones 3:30
35 2a walked through tank
36 2c entered area and sized hole to locate 2 more C joined ~3min
1:38 1c 2c

Kids playing
1:42 2a 1c 1:30
3c 3c
no adults sitting on floor
kids playing in area
no mention of touch, none
pawls raising kids playing

1:48 2c 2c

"Stop Throwing" x10

Kids playing in area no touches/pawls

1:50 3c 3c

Kids in stroller/dragons playing in sand 1min - Removed by Parks for throwing

3:31 10-11 ET
Clear (Boundary
10-10:15 no visitors yet
First visitors arrive at 10:15
10:32 2a 2c 50 57 shelter
12 Rider 1 walked over and touched
pawls/no stop panel (open on animal products)
no attention to interactive 
3c 3c 30-7

one child touched pawls/no engage adult
3c 2a 1c-2am group
Kids played pawls and touched pawls
limited adult interaction 1st activity to
adult 2mm

1:42 2a 2c 40-7 shelter
1c walked over and touched pawls
with 2 panels 10c
1:49 1c 2c 1c shelter
One child flipped through pawls rapidly
20s for all touched pawls -15s repeat lungs
no activity

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

Under Documentation
1:54 2c 2c 30s
Children seeing how loud they can make flip panels sound
Still a lot in drum

11-12 EC
3:02 1c 2c 40's
Older child read panel aloud and completed activity 5 minutes
1:05 2c 2c 40's 60's
When used to interactive
"My turn to talk this time!"
1:05 activity ran off

1:06 1c 2c 60's gradually
Adult read part of panel and extended
After all completed content
0:48 1c 2c 60's
did not read panel child
attempted solo, mom joined, youngest joined 0:35
1:04 2c 3c 40's 60's
Dad made vocals to echo part 3c

11 2a 40's 60's 3c
C's attempted activity "Put your hand up and see if you can feel it!" Dad
Adult left memory to do shadow pup
1:22 2c 2c
Adult instructed/assisted young
90's mouth activity 0:02-0:03
1:15 2c 2c
Attempted activity 0:05 did not work tried using 1 read panel
Then left

1:56 2a 2c 40's 50's
Kids stepped to try activity, completed without reading, had left stopped + read back
1:56 2c 1c 3a
Children stepped and attempted, mom read panel and made corrections
After their activity 0:45
1:56 2c 40's
Children attempting activity
"You have to bury it in to feel the vibration. Mom demonstrated how.
20 2c 1c 3c 40's
Child attempted activity parents assisted. No reading of panel about
"Put your hand 1c, till top of - Mom
2:05 2c
Attempted activity "It feels weird" 0:35
2:25 1c 1c
Completed activity, switched 40s
2:27 2a 3c 3c
Kids attempted activity up "one put your hand in here" "I don't feel anything."
Switched, changed sound into the work, 3 kids rotated + left main
1:30 Panel time area empty
34 1c 3c
Children attempted activity
Gained success/lower than fair
16 1c 2c 4c
"Gang it. I think it's broken."
Kids attempted activity 3 times
14h 1c 2c 4c
Children attempted activity after time
Older road panel, adult stopped
1.30
1.50 1c 3c 4c
Adult walking road
Catching up as crowd increased

12-1 3c
BG 9c 3c 850c
One took photo of giraffe
BG 1.44 1c 1c 7c
Adult east Becked ~10s no pendant
5c 1c 2c 3c
1 child stop/look then 3c gazed
2c
BG 1c 4c
Step onto touched paint
BG 3c had just correct but

BG 17 3c 4c stop red panel 15s
Interacted with BG red/looked at BG
1.24 1c 1c 3c
BG erased but read quietly ~15 min.
BG 25 3c 1c 5c 10s-20
BG red/black walking glance 75c
2c 1c 1c 5c
88
Walking road, continued but
BG same walking glance for max (w/ stop)
Did not use papers
BG 3c 1c 2c 5c 10
One child "stop and..." no to elephants
BG 1c 2c 2c 2c one adult w/ extended kit
BG 1c 4c 1c 3c
Adult walking road Child entered
without reading
BG 3c 1c 1c 4c
Child w/ adult entered w/ extended kit
BG 42 1c 2c 4c
Children walking road adults entered
without reading

Elephants vocal and active
Visitor taking pictures
BG 2c 2c 1c 2c 3c 2c w/ adult
BG 3c 2c 3c 7c one adult
20s and 20s walking road entered
with rest of group
BG 1.52 1c 1c 2c
Lost photo with guides
14:57 2a 70s read panel
while 3b do the math panel
wrote later

2-3 MV
1st time table count
1:08 1a 2e 30s
Other child watched 1 more time
located items
1:10 3e pressed buttons for
2 videos watched part, located
items from pictures
1:13 1a walk through 2a3
ill 1a 60s walk through
1:17 2a walked through, pressed
buttons (no activity)
1:18 3e 2e 30s

"I heard this in the group today, the
button" located 2 objects - 2mm
engagement 3rd finger behind and
located additional objects

1:46 3a 30-40 walked up
A. the hit and kicked nurse to engage
1:17 Child walked, mom pulled
down
1:19 2a -ent. Step/look inside
kept going

1:22 One child continued watching
part of one video - then left
1:25 1a 2e 80s
Rats pressed buttons quickly did
not watch all children leave
1:27 2a 40-50s
Walked through "It's really next
in line." Left with activity baskets
1:29 3a 50s left

"Do you want to see the "Marcel" brand"?
A.
left with 1 video, located objects from
panel picture - lavender
1:31 3a 60s
"They have a diamond to hold" A
child prompted to do to watch video/tick
objects, but not too interested made
sandwich with 2a steaks
1:33 3a walked in holding around
more "Do you want ice cream?" "Yes" child
1:33 2a took button - ran away

1:35 1a 6e 30s
Walked through watched partial
2 videos and located objects from
panel picture
1:40 3a 40s
Watched 3 videos fully, no verbal
questions located items usually, 3 b stmt
1:46 2 teens 1c 1a 40s
Watched 2 partial video, pointed at 3 objects
progression at 2 teens
4:45 1e 40s stepped and looked
through back door with some of it
5:00 1e entered and pressed "on" button
20s inside, adult stayed outside

7/7 D7 10-11
10:35 first engagement
1e 2c child "dended" "an can
3g 3t flat liner
1:45 group returned—more would
not let kids use car
3:15 camp group around
1e 2b 2c
"by the dig zone"
"I don't think thesis is good
any of this." 3 12 used eggs
mixed with two tomatoes, 3-4 rounds
fish, no mention of subtraction
3 minutes answer correct

11 2e 10-11
2a 2c 60s
One child headed down after panel
Garments added away
2b 2c 30s
1 2c used above 20s, did not
more power after observing, roof panel

1:27 1e 1e 27
Add: hard motion between behavior
1:32 camp group 14 2c 2a

1:39 1e 1c 39s
Child moving pieces for play
more using BMU panel 39s
1:52 1e 2c
A+C read panel 7 39s, A left
kids used phone to play

2-3 BP
10 2a 3c 39s 2b
2c walked up read panel 30-45s
Re-engaged exhibit, returned to read
panel 1 30s
1:13 2a 30s
Read panel 32s
1:15 3b 3c 2 32-bis 32s
2a stepped + read 25s, 2 children
engaged more touched 32s
2c 3a 30s 2c stroller
2a stepped + read panel 1 32s moved
Other adult stayed, pointed text panel compared trash
2 mins
1:30 3a 3b
2 kids ran in and glanced at
text, touched panel case 30s
08:45 ET
03 3a 3d 60 1a
Lod downstream, plant was approaching.
5:30 Child walked in, led, walked along, playing with pen, and showing carrots to child.
03:00 2a 7c 6c
Walking with watering hole. "What are these?" Parks on ground.
10:30 2a 2c 2a 6a 1a
Each adult and child instead, rats and wild pigs present, prominent role to clamber, animal before jumping.
13:30 Child returned to lip, 3:30.
13 1a 3c 1c
Both approached, little looked 28a.
Wild pigs and children playing with, before leaving for dinner.
16:15 4c 5c 1c
Adults walking on ground to get better view of animals.

10:18 Wednesday, Nov. 14
Hall yard. The sun, cloud, cool.
03:10 DZ
15:15 1kg, 1d, over, 1kg, past.
12:00 2a, walked by, looked at one.
He a few seconds while walking, kept young.
10-11 ET A
Elephant, very calm, 10 animals usable.
10:10 Visit, asked where baboons were. In 12, 00:48
"The keepers are clearing the area." He
"They're where are they." Will "They're clearing the areas." Adult.
Keeper meeting all contractors
by Enclavets

12:09 PM, tea, 2c, 5c

Used BP, all intervened and communicated
at panel, concept 60, adult and kids
12:23, 16, 16, shelter

Walked through, talking at bottom of tent
12:27, camp group, went through tent

Lunch

12:36, bananas, bananas
13:17, camp group returned, 1 kid handed
at stream, 15, 5c before returning to camp
14:19, camp group, 14, kids, 2c

One camper sat next to 10, pearl and
read 30, on attempt to locate

Best to Wednesday
15:17, 1k, 5c

Standing in observation playing
with, no butts, pointed
2 children, joined, food

Video bottoms, yes points from 20
12:16, 3c, 7b
Kids played, 2 bottoms, kids vs women
2 videos continue

20, 2 children, extended, passed

Bottoms, mentioned called them, away
from food, continued

25, 1k, 1c, 4b

Walk through, 15, looking
for other child, glanced at instead
26, 4b, 2c, 7c

4 children, extended, began walking
and teetering, 2 more then had one and parent
joined, read the sign and then what it's about, "Men"
2 more, all in, 3min, just kids, kids mentioned
"meaning"

30, 1k, 3c, Crawford, 1brush, observed
and looked at ends, 30, 1min
30, Sa, entered, looked throughland
had trouble, walk through, 30
32, 3c, hit button repeatedly
and only watched 5s of video, 1c stayed
behind and watched videos while looking
around 1, 1min
34, all adult, passed sections
about 9:00, 1k, "main, Lt
35, 3c, 2c, entered and watched
2 videos, a 45s
36, 1k, 3c, 1c

Adults passed ET about hit; entered
but also c, k used video 10s and tried
to locate - 2min

Chester's roam, drew crowds
away from hit to home
39, 1k, entered and half hung on

Fence - 30s
"40 4c entered, other book
penciled 1 button, tried to watch
wife, stepped younger from sitting
all comforter on line
"41 2c entered, watched 1 minute
partially, seems came + got there
"45 4a 2c in bed
1c 2c passed button + watched
brothers before rejoining group 45c
1:2 BP 71t
1:07 3c camp group
Touched paul, red label, perfect
1:08 1c 2c 10d
1c 2c appeared and touched
paul "why are they all prancing" c "can
look at me" 2:3c 10d
"15 1c 2c group filed 3a 2c
1a 1c approached panel "Where's tine" c
A responded with each time reading panel
"4:05
"20 1c 2c 1 child stepped back
from woman and read panel each time
"21 2c 2c established in and glanced at
skull case
1:32 1c 1c stepped + 2d took 2 pictures
of skull case

28 2c 2c
1 child separated, looked at care + panel
"15 before returning
"24 2a 3c
2 children separated and used panel lane
"305 "Did you know butter is like our
currency?" c 2a
"27 2a 5c 3a
Group took photo by care, sat in front
turned to read panel/care 35b
"30 Children walked up and read
panel from this last, did not engage once
"32 1a in walker step back 15s
before exiting
"37 1a 2a 1c
Older walking back at care while
exiting but ~5-10s, child did not
"39 3a 1c
1c 2c walking in front of care while
exiting 10d
"43 1c 2c and panel and turned care
for ~30s before moving over to panel
"44 2 turn entered + I pointed to
panel and stepped it to 3rd, did not
go over to panel
"46 2a 5c 3a read panel and
observed care for min
2:3 LP

10 2a 2e 40 185

Child approached adult and adult

2:3 2a 2e 6a 56

Child separated and adult

While touching case ~45 in.

2:3 2a 1e 68 185

Child separated and adult

While touching case ~45 in.

10.30 a.m. entered 1e. 2 children

entered. (Making reference to watches.

2:3 2a 2e

Young children approached adult

10 2a 6e 56

3 kids approached and touched

20 2a 6a 56

Childreniral and parental

Touching adult /adult listened

and added on page 1:30

Several questions Great cities

and counting items:

10 6a 20 a 10 2a 40

Child approached and touched

cases and panel playfully while reading

pencil ~35

Then moved from case to top of

rack, 2a 39

All engaged panel and touched

cloth while adult led the east toward

panel. Adult led toward east at corner

of camp group 10a

10 a.m. child with group and touched

cases quickly ~25

40 3a 40 60 1a

12 seconds and touched then posted

quickly before returning to group

2:3a, Sun returned to case

and sat near glass, lots of water photos

10 2a 20a 1a 6a

le walked over and compared

and to her print, called over child

This is your face, child touched

Which is a, from and which is a name of?

Then

All adults touched print only older adult

Read print aloud.
10:30 Raining + overcast
6 total visitors have passed
buy no usage/export
Dusk by Elephant house
36 la 38 2c
1c walked up and bit
now cover ~200y did not react
38 la 1c 51c
child hit down cover ~20c
adult read panel but did not correct behavior or stand
40 la 2c 3c
B Mem read panel told child
to do activity backward and helped
44 la 38 10
1c walking last ~1c
45 Camp group ~8c
1 walking book ~3c
~15-44 group reached child
walked up and read books in the
before leaving off
49 1c 1c 30c
1 walked past of panel ahead
child read, both solid activity
~1min
11-12 Gulf
Really raining
now, limited view of Elephant
golden
14 la 1c 30c
Adult walking glances, allowed 1c
into hut
16 3c 2c
1c le walking; look at
key central
22 Club car parked in front of
BBQ to Baboon Enclosure
22 2 crows walking glances
did not come last
~30 2c 1c
la walking glance's the other le
walking read ~10c
19 la stopped and read
while waiting the group did not
enter but "encouraged" ~10c
14 visitors here had the
potential to glance/read EG
panels - more moved from all
area to treats panel
39 50 3c 40-70c
1c walking glance on their
way to the hut
11-12 AM

:30 BCA 40-70a adult w/ parent entered, looked around heat, speaking Spanish - 1:30
centered and talked around desk
"Did they have a TV?" pressed buttons, sat down, looked around and didn't stay for whole video - 2:30

:30 BCA 2c entered watched part of video - 2:30

:34 BCA 2c walked through

:45 BCA complaining that the other one keeps changing the video

:50 BCA 1c entered, child pressed buttons quickly, tried to explain objects, 1:05 fast on and watched
2 videos talked before leaving could not see their hunting objects

:08 BCA 2c 50s

Dad 1c stand - watched
20s & asked "Do the girl hold candy to you?"

10 BCA 2c camp group
Wanted part of video in groups of 2

48 BCA 40-60c 1:15 2c 2min

41 BCA

Can see group kids walked up individually and left quickly - 10:15
11 3a walked halfway
and same kind of ft. Better got
there

15 4a 5c
"No I won't think of it" c "They
don't go off kind." A. Kids complaining
about switching videos. 2a came
trying to keep hands objects. Kickled
walked around in lot.

18 4a 1c 4b walked through
probed 1rd button, followed
clipped out

23 1a 1.6. shallter
Walked through 165

24 3c entered 1 watched
20a of video, other 2 locked and
left

27 1a entered and kicked around
lot, 5c rode, 5c walked

34 2a 1ten entered
and kicked around generally pointing
at objects

32 1a entered, stepped and
kicked 15c

34 2a 3c probed 1 button
grupo watched 18 before looking
around near and pointing out objects
at on panels in

37 2c 4c walking inside from
head court sitting area

40 1c 3c 4b 1a teller
Children entered next followed by
core and another, both a 20s kids
watched part of video and complained
touching each other bottom twice.

42 2b with 3c walked through

43 14 external controller 4b
put gray 1a 2c 6b paid, passed
without not recalling when screen was
3b, walk through

44 2a 3a 3c match 2 partial
video. 1a 2c left 10b cut 1c stayed
and probed at objects not recalling to panel

45 4b 2c 2a 2b 1c group 4b
put down
put down 1r half, 2a kicked
kicked around around left after turn

47 1c entered and kicked around
no videos

48 Different kid same thing

50 2c entered from head court kicked
around left

53 2c 3a 5c 1c 2c
Walk through
2-1 TP

00 Visitor approached me and said, "We are very impressed with the site. You're doing a great job here." 70 Female.

07 2a 5c 40-60

The child walked over to me and said, "Hi." 

Good morning and the child walked over and talked to the great-grandma and answered both questions. 2 min.

12 1e 2c 40s called stop/line.

15s before leaving after 1 min.

13 2e walked in touched card and exactly ran to left for boys. 30s.

13 2a 3c 1e from group walked over and touched card/face 45s.

13 2e 5c 40s

1e adult stopped and stood back to read card and wave panel.

18 1e 40s

or phone stopped 5s read.

left the same way he entered.

12 Camp group 7e to 25s

2 walked away and painted at 25s 70s

before running after group.

25 1e 2e 1st child walking

look at panel. 10s.

31 2e 1e

Child approached me; "Look at them little guys. I mean, come on.

and checked out case. 70s-

32 In 6e 3 children nothing looked though to meet adult I touched.

Case w/R.

32 Camp group 1e 7e

2e walked away and observed case. 20s before returning to group.

35 3a 3c 20s-30s

Adult took produce, other prompted kids to identify specimens, kids answered questions and touched cards. "are these (heme) lact print?" Group came to 3:30.

42 3-5c 40-30c

6 kids went and touched cards/each

20s before returning to group -no read.

43 1e 1e 40s takes child and adult identified. Stickers are touched card/each. Read panel, but not out loud. Kid did not.

44 1a 3c 40s

1 child ran over "Hey Sara look at this!"

Group painted, adult prompted identification.

1min.

47 1e 40s did not enter 2e entered 1c touched panel, paint briefly.

-10s.
51. 1c. Form 2 groups
   2c. 40c. 3c. 1c. 2c. 3c.
   Each child walked over, touched palm leaves ~20s before moving
   back to group.

52. 2c. 2c.

   Each child read the care card
   in different adult ~30s.

53. 1c. 1c. 60c. Count child

   Adult identified experience to
   child who touched palm ~looked
   at skull ~10m.

54. 2c. 2c.

   Each child climbed on, went out
   for picture, 2 read panels, rem.
   Next activity.

55. 1a. 10c. Camp group

   3 touched, count out, "Everyone
can a low jump and one stand.

56. 2c. 40c. 30c. 1c.

   Stepped and took picture of child
   in front of cut-out.

57. 1c. Walked up
    "How far can a low jump?"

   30c.

58. 10c. 93c. 50c. 1c.

   Walked past cut-out.

59. 30c. 50-60

   1 stepped, read panel ~35s.

60. 30c. 1c. in stellar 40s.

   Stepped and took picture with
   cut-out.

61. 15 went to care, Camp group to play
   glun.

62. 2c. 2c. in stellar

   Stepped to take picture of kids.

63. 9c. 1c. 6c. 2c. 3c.

   Stepped and read panel, back
   next activity.

64. 23. 2c. 1c. 40c. Child exited

   why leave two to jump if cut-out
   ever moved? child thought did not jump.

65. 24. 1c. 3c. 40s.

   Children check out cut-out, rem.
   read panel ~35s.

66. 30. 1c. 3c. 30s.

   Kids separated and ran back
   to jump before picture.

67. 41. 2c. 6c. Stop/jump 30c.

68. 44. 3c. 20-38 step/linear jump

69. 35c.

70. 45. 1c. 2 ears. "How can
    jump really far?"
48 L: 3C 3C
Dispense to taker present
51] Cage group 1A 6C
Walking trend by 3C

50 - 10 EL
40 4.6 30-60
1A: Walking great at speed
-3C
46 4.6 4.6
Both stopped and reached did
activity, mom read on 32.
51 L: walked up and tapped
both openers while reading.

Both behaviors.
Rest of group joined 3C 40-60.
All children tried activity.

before going to bed on 32.
39.6 39.6 39.6
5C L: 39.6
Child approached and read panel
Did joint activity "Can you tell vibrations?"
"Listen "How many ways elephants can
bear with their feet"
Page 1

12-1 BL A
08 1b 1c 2b
Just next to TP panel and
child was pointed into window.
15 Group pushed shelter to left
of window.
23 Group gathered together in front
of structure, use TP panel.
24 1b 1c 2b
Child sat next to TP panel (2nd group)
adult had briefly, tried to fly test piece.
33 1b 1c 4b
Approached panel, both touched piece
then read panel/looked away 12b
28 1b 2b 2c
On top of piece here rear.
14 1b 2b 3b 1c
and all move to children, saw and TP
Position changed - four.
32 1b 20b Walking back & forth
31 2b 3b 30-7b
Can you tell me what is collision? 1c
C- got me? pointed at panel 33s adult read
panel 20s.
47 2b 2c 4b
1 child moved piece and read panel
briefly 2c 2b 3a.
1 child never about "mass foundation"
Perhaps the material of wood & butts.
12:1 DIY Zone

10:30 3c kids, joined by 3 more adults and more children. 
2a + 3c stayed in 72, others kids and toast to bug while adults observed from side - comic relief.

11:15 + 3c entered, chatted, examined box grilling for "PC" then left.

11:15 Bike, bike, bike, bike, bike, bike.

13 Camp group 7a 7c
Canoeed both on beach, kids used to "climb to canopy."

12:00 "I found Treasure Island" and Zappendi

12:30 3c 1c near did not enter 72, stood around edge, did not want to leave, were on their way.

12:45 2a 5c 1r were in 84.

So entered and began digging.
No find of Treasures, more play.

12:45 2a 5c 1r
Play, not saving A species or using panels - adult 303 Water minority manual.

12:45 2a 5c
Kids playing Corn.

1h Camp group 2a 1c

12:45 kids playing next round, no paint used and they swapped 7m

12:45 Camp group 1c 1h
Kids playing at rocks in to sand near - 6 gathered around box panel to look for "PC" before running in to send 1c mention of found "PC."

52 1h, 3c 64.

Adult walking along hooks to locate
Samples of 453 kids first interest - started playing 3. Other adults from group chase to observe two adults talked about boats and flags in water to gather

1-2 LT

12:07 1a, 3c 2c
1 child used 145 panels - 303
12:08 2a 2c 43-60.
Children running each past panels as mom reading manual.

12:10 1c stepped back and panel 127
Panel 1-2c read of group 4a, 3c panel hardly before leaving - 153
12:20 Camp 1a approached and flipped panels quickly, 1 left after 30.
The other stayed and went through panel closely - 130.
12:14 1a, 40c 2c.
All three attached panel - cast talked to each other after flipping up panel to next one.

1h 2a 62c 1a, walking over.

Approximate 12:50.
17. 2a 4c 3b
  2c+ a used panel and touched
cast 49b
19. 2c used flip panel + touched
  cast 1b
21. 2a 2c 50-60s
Children used panels/ touched
  n 30b
24. 2a approached and read
  n 20s before returning to fence
21. Camp group of 12c
4c used flip panels rapidly
before turning to elephant

24. 2c 2a 40-60s
8b. 2c read briefly, matched he
tot byloud print on panel - other
adult stopped loud print - 20s
29. 2a 3b 2c
Mom called over doll - let to see
panel all blank except 3 name
read out loud
33. 2c 2c 40-60s
1 child approached/ used 3 panels
and returned to group

38. 2a 2c 30s
Old child read tips for an elephant
put feet up to elephant cast
35b
14. 2a 1b 40s
Parents used tips, then child read
alone while parents asked "What is the one"
8b. Younger child learning to read 2 min
44. 2a 3b 50s
Younger child approached and typed
panel, room asked "Which is the elephant"
child pointed out panel - 10b
45. 2a 2b 1 min
approached and used flip panels together
60s before leaving 26
50. 1b 2b 50s
Child approached panel - touched
7 casts + flip before leaving the 10b
Other child moved over to panel - both
used all tips - 50s
52. 2a 3b 50s
Other child began using panel/ took tips/ put one group joined and went through
whole panel - 1 min
2-3 DZ
8:47 3a 3s 3c
Kids playing 7 min
or 1a 3s 2c
Kids playing 4 min

18 2a 4b 3e
1a + 3a digging for sampler

Gin: "We found a turquoise!"

Walk past to identify it helps

Adult of first group - 3rd "I feel like this spot is the more interesting
to parents when the kids don't want to get out"

24 3a 2b 4c
Children digging, adult read

Book panel by man fully - 3s

"We found a turquoise!" - C
Adult also looked through field book

20s in area 6 min

27 2e 2a 50-60s

Kids playing, adults observing
128 2e 1e 3s
Young child - 2 playing 16m

Kids began searching for sampler

and using tools - 14 min

Child dog adults walked around

3-41 Gu

34 12 1a walking read followed

Group 2 - to hunt - 3s 4c

39 16 1a + 1c child stop, read 15s

36 27 2a 1e 3s

Walking read 1 a, entering

through their door

30 2a 20s 1a walking glance - 15

29 38 2a 4b 3c

4c stop, read 10 s

10 Atlantic Grotto about empty

50 18 2a, 30 walking read - 12

50 5c 2a 1b, 1a walking read - 5 s
2/14 11-12 ET

Windy, warm, sunny, rain

Adults fairly scattered, most of kids did not move before the rain

Counselor creating children, reading

around ~ 45

:15 2a 76-78 3e

Adults reading with 2e

Child complained his feet to adult later.

:16 2a 58-60 2e

Little using panel, adult asking about clips + painting at far end ~ 45

:18 2a 5e 2e

Group quickly flipped 4 panels and moved on 58

:20 2e 2e 48

Child flipping panels to them, man painting at far end

:22 2e 1e 46-58

Painted more and used 1st panel did not see 2e

:26 2e 5e 58

3c flipped panels quickly, man joined and painted 2e panel, flipping second down 1:30

:28 2e 3a 2a 1a
camp gap

1c tried to snap and use panel

Counselors called them back

27 2a 60-70 3e

Both adults touched each other's panel before

:26 1e 5e 1e 1e

opened another group of panels, touched

ends + 14c, read 3.3.5's band ~ 115

:32 1e 2e 2e

Walking back from all members 5-10

no engagement

:33 9c 2c 3e

Kids used over to panel, briefly tried to guess 10d ~ 45 1c went to observe other

began using tips to play ~ 25

All 3 engaged + touched painting ~ 20

3:36 2a 20-30 1c + 1 installer

Dad holding child using tips + trying to explain panel, child got down and touched

ends 1:20

37 1e 2e 3e

Child comparing tips to touch ends 45

:40 1e 2c

"Hey what are those?" Referring to

tracks on ground; 1c built down to

compare hand - did not use panel

:42 1c 2e 4c

Shipped stroller and kids touched ends ~ 10
2:45 2c 3c 40s
2c using fly panels - reading
1c comparing 2c to cards
2min
2:48 2c 50s
Compared 2c to tracks on ground. "What do you think made those?" 2c did not use panel
30 1c 70s 2c
Whoever used panel - cards - flies
30s 1c stayed and kept reading
1:45 1c 5c Camp group
Kids shopping cents and using
Fly panels as best as possible
Break at C 3:25
Leader stopped them - sound annoying
1:50 1c 60s
Child asked to play - 2c
1:51 1c stepped + read ID panel
2:25
2c 2a 3c
10 1c read panel briefly - 2a ended
and ended 3 am - dad dinner
30 2c 3c
Child used brush to play - 2a
1:41 1c stepped + read ID panel
2:30
15 No more interactions
Start tied to rain around 1:25
1:58 2c 2a
Refound 2c, brush per - according to actions they observed in enclosure.
"Will we get a name?" 2c - 1c
11/12 EL
4:08 1c 45s 2c
2 children completed activity.
10:35
4:07 2a 20s Stopped reading aloud.
3:56 2a 45s Read activity 1.
3:49 2a 35s Read activity 2.
3:33 2a 20s Read activity 3.
3:10 2a Temper tantrum and crying.
3:00 2a 20s Read activity 4.
2:45 2a 10s Read activity 5.
2:30 2a 5s Read activity 6.
2:15 2a 30s Read activity 7.
1:50 2a 20s Read activity 8.
1:35 2a 10s Read activity 9.
1:15 2a 5s Read activity 10.
0:50 2a 20s Read activity 11.
0:35 2a 10s Read activity 12.
0:15 2a 5s Read activity 13.
0:00 2a 20s Read activity 14.

0 11/12 EL
5:10 2a 50s Child talked to teacher.
5:00 2a 40s Child talked to teacher.
4:50 2a 30s Child talked to teacher.
4:40 2a 20s Child talked to teacher.
4:30 2a 10s Child talked to teacher.
4:20 2a 5s Child talked to teacher.
4:10 2a 20s Child talked to teacher.
4:00 2a 10s Child talked to teacher.
3:50 2a 5s Child talked to teacher.
3:40 2a 20s Child talked to teacher.
3:30 2a 10s Child talked to teacher.
3:20 2a 5s Child talked to teacher.
3:10 2a 20s Child talked to teacher.
3:00 2a 10s Child talked to teacher.
2:50 2a 5s Child talked to teacher.
2:40 2a 20s Child talked to teacher.
2:30 2a 10s Child talked to teacher.
2:20 2a 5s Child talked to teacher.
2:10 2a 20s Child talked to teacher.
2:00 2a 10s Child talked to teacher.
1:50 2a 5s Child talked to teacher.
1:40 2a 20s Child talked to teacher.
1:30 2a 10s Child talked to teacher.
1:20 2a 5s Child talked to teacher.
1:10 2a 20s Child talked to teacher.
1:00 2a 10s Child talked to teacher.
0:50 2a 5s Child talked to teacher.
0:40 2a 20s Child talked to teacher.
0:30 2a 10s Child talked to teacher.
0:20 2a 5s Child talked to teacher.
0:10 2a 20s Child talked to teacher.
0:00 2a 10s Child talked to teacher.
25 2a 4b, 2c 11c
2c 1a 6c Camp
"What's this?"
The Kids bringing on drum cover (2)
Others trying to do correctly, I gave 3c M
27 1a 3b 405
"What's this?" I read need
panel, kids went right to activity
"You have to turn around" - I helped
and kids took turns re-doing activity 2min
3c 2b 5a 2c
3, young, singing activity
"No you have to put your hand up!"
We 2c 4c Adults observing 115
40 2a 13c camp group
7 kids coming up on drum cover
I read need at panel, counters, stayed
with other kids at Elephant farmhouse
42 1a 3b 6c
I don't see nothing - c kids
alarming activity solo - come doing
with this right or reading 4b
43 8 nicer camp 2-awe
6 c attempted stepping cover and
returning through hole - 1 read and
corrected out loud: "You need to hold
your hand then sound makes sound"
here 2min
3-4 MV

10:30-12:30
This is a musical house e-e.
No orders to work on.
7:30-8:30
20 min. watch 2 videos.
Group lost interest after first
began talking about our exhibits.

10:00
16:00

08:00
16:00 Separated from
2 paks - entered behind the
inside over 1641-15

09:00 Different child from
Zucchini table group - same actions.

35

18:00
16:00
Child entered - "Dad tried to call
me, to open it, "I wanna see this."".
Watched 1 video before leaving. Dad
called away. 4-5 shows. 46 min.

14:00
16:00

16 entered and looked around room
pressed 2 videos - watched mostly

19:23
14:30
Entered, watched remainder of video
and looked around for 48.

24:16
Child stood in doorway and looked
around before changing and walking off.

16:30
27:16-34:29 Child watched
"There's a house, right there" planet.

16:30
27:16.
Adult looked around booth and inspected
items - no videos - child played while
man looked on - 1 min in booth.

34:27
40:30
Youth be entered and pressed
video button "I want to see the TV"
no location of objects. 1:30.

16:35
What do we do?" I stopped in
and explained to interactive to more 2 youth.
Group worked together to locate and watch
videos. 1 at a time - spent another 2:45 doing

30:27
38:40:16
Child entered and looked around - 40s.
Watched video block - did not watch

50:14
16:30
Child finished and walked around - 40s.
Watched video block - did not watch

30:30
16:30
Child did school project on Harper.
Entered with group and explained a lot
about entire "Snow" lesson.

55:27
26:30
2 children entered booth watched 1 30 s.
2 videos liked to hit button first.
7:16 12-1 BP
Children, Sunny day, main fit
Fallen asleep, lots of visitors today
07 12 14 0 0
Child pushed at case "I want to see this" "We have a big hand" -20
Man called away
08 13 59 2 0
Child approached and got push
on case - 18 after child called away
0 13 53 2 0
Same adult T baby, "Help child"
13 2a 1e 8 0
Walked by case, 3 other adults scanning
Observe case - panel - 25
0 14 2 0
1 explained panel and came to other
-35 pan yed
15 Camp gap 1e 1e 0
2c approached case - read panel
Case 355 - Convenor joined, 1c explained
and S talked about case - 3 other e joined
2c 355 1e 1e 1e 1e 35
18 le stopped on case moved down
line - 20s quickly and one?
21 Camp gap 1e 7c x 1c Gap
Convenor reading + self, 1c pointing
and talking about panel, helping
Case 1 45

21 1a 5 0c 3c
Children (4-5) looking in case - at panel
-35 pushing at pictures
-23 1a 6 4 0c
Man looked at panel on each, was passing
child pulled over - touched case - compound
Panel 355
21 3 31 1c 23 8 0c
Towel - 1c approached case - looked at humor
Sampler before going back to grupo
2c 2a 1e 20s 30s
1c + 1c = stroller "Did you see those pictures" -2c
Other adult came over pointed at panel and humor
at picture 40 - 2c talks pictures - 30s
28 2a 28c
1c stopped + read panel - 30s
22 2a 5c 32s 48c
1 child approached and looked at case - 30s
"Do you guys want to see some?" 2c ya do not
for
32 2a 7c 6c
1c stop read 48c
33 1c 48c 6c
2c ran over + touched case before going
Back to groups - 355
58c 1c 48c 5c
"We're all related" "What are these black things?"
Answering 8c from held - highly engaged
115
15 10 40 10
Extended watched all videos ~ 16:30
Watched 201 from test guy still watching
button - green left - located objects
on panel - pointing 1:45 in hand
18 10 30 2
Extended looked around but
"Can you imagine being here?" R
Watched panel looked for objects
Watched around 10:10 more any
1:45
24 saw guy 10 30 10
Children passed red button for play 2 she screamed made hit
near leg - leg on the left
28 saw guy 10:30
"What is here? Kids trying to locate
objects - added 1 video - 10:30
and told picture drawn hit
1:25
28 10 extended and looked around
metal - rectangular structure - hand
28 10 extended - located around
door object - I don't know an instrument
or something; watched 2 video hands
31 10 10 2
Watch through 10:30
32 10 extended - stepped
Matches a sound
"I'm warming" - 3 10:30
35 10 1 40
Extended - located objects near both panels
And not watched video
38 10 extended - cut 2 with bottom
Watched panel - one called every 30th second
10 30
42 10 40 20 40
Kids calling buttons - it doesn't work
didn't look to TV panel - adults looking
around words - telling to kids "So that
is there? That's where they rode" R
44 10 2
Extended watched 20 at 1 video
and left, no 2D on objects
45 10 extended - left all buttons
as watching or hearing 20-30
48 10 50 20
Younger c's spinning button - other "we pursue
area and watch" - "If you don't want us
watched we will leave" kept spinning - hand
51 10 45 50 40
Kids calling buttons - red left:
60 to explain - kids not interested
55 10 50 30
Watched 2 video - 3:00 end
Scattered near and located 3 objects
Green panel 20
23 ET

:04 268 3c
Stop reading - Adult looked at panel - 3s
Rewind tape - adult counts from 11
:08 26 3s 2 - 1c
Adults - 2c used panel back - parents
read aloud on 2 and 3 .45 pm
panel on 3s
:09 27 7s 8s
Both stopped panel - 25s turn
look previous at panel
:11 26 7s 8s child reading panel
tried 3 times - rejoined room 6 on eye
:12 27 7s Stopped and read
panel - no use of tips - did not touch 3c
:15 27 8s 3c
Adult using tips 45 play
now tried to stop - lure them mid-cape
Comment:
:19 Eggs 1c & 6s - 12s 3c
1c tried each hand panel - adult
actually made connection between ground panel
more - 3c from other group read - 4s left
:23 3c 26 4c
Child walked over & pair - read 2
Tips - rejoined parents 20s

:26 1c appeared and read there
His family before going back to group - 4s
:27 1c Different c read 4 Tips 25s
2c in 3s 4s 6
1c tried to read 2 tips - child continued
use - not flipping 3s
:32 1c Rew - stopped - read panel
No tip - back 4s rest of group - 2c in 3s
Young sticking with eye - 2c used tips 3s panel and
:36 2c 8s 2c All turned around - went
more used tips - he both - kids read aloud
:40 3c 5c 2c in 3s
3c approached - started reading - touching
cards - both adults panel - kids reading to
establish 2c from other group panel - all reading
together 2c 2c had pp

:41 2c that panel - joined by 3c 2c 5s - 1c
He talking to adults - [illegible] reading - 4c
2c both read tips
:49 1c 3c camp group
3c among tips - [illegible] reading from behind
5c
:46 1c read panel - 3c compounded
hand to 2 cards before going back to pp
:47 1c 6s 2c - still watching back - 3c
I then made signs at Elephant track with hands
"Did you see how big that one?"
3-4 L1
:10 lca 620 2c
Children doing activity - Adult read instructions about color cards, instructions are correct, 4:43.
:11 3a 46h 3a 5c
"What is this?" Adult read card, asked for able group - kids still did activity wrong - adults corrected kids.
At time 2:25
12 1st row walked up and read card
:19 2a 2b 1c child went and tried activity still adults observed 5:55
:19 1a 41a 2c
Children did activity correctly 5:55
:21 2c 42a 1c
Adults read card - joined 1 in activity - all completed 1:15
:22 2a 4a 3c
Grades read card - instructed activity:
Everyone completed and took turns 1:25
:25 1b 43b 2c
Adult read card aloud - kids did activity - switched.
"Do preschool 1?" Adult 1st row.
:28 2a 3c 3as 1c read card aloud and instructed kids who took cards.
Adult did activity too 1:05
:30 1a 43b 2c
Kids did activity. Did arm swish 4:55
:30 1a 2b walked past
"Instruct kids to turn their card on "White reading card"
:30 1pm 2a 2b instructed, laid out, set kids to activity correct 4:23
:33 1c approached - did activity also 4:25
:35 2a 42b 1c
1a + 1c attempted 5:55 - other read card.
:36 1a 4c 4b
A read card aloud - instructed kid -
Adult took over bringing kids back home
Pending lead in 1:25
:38 1a 3a 4b
1c called over group - Adult read card in special kids did activity 1:40
:39 Group at the - "Long, long story"
Cover me panel reading - Opened by adult
142 7a 1c 403
114 aced - other assiduous child
Doing activities 114 switched
34 1a 17p 3c adult read
passed to alex - kids marked 1
1:15

7/17 12:11 pm Reap
Mostly cloudy, 75° + some expected
this afternoon
13 8c 1 14c camp group
Corolla parked at hood car out
of kids 25
15 1c 1 12c
14 running jumped on porch
15 6c 1d 11c
15 7a 7c 403
Child pointed to east out 106 agreed
410 a good photo op - 47
other people took pictures of both 2m
21 le stepped - took photo le jumped 234
22 7a 7c 6b 1d - Steph and boy
adult both le le jumped 58
28 7c 6b 7c 66b in kids ran
over to take picture of east out 32
30 7a 7b 1c
took picture of EventHandler 1m
32 3c 406 66b le stepped - took
picture 58
34 Camp gpp 1c 4 9c
5c 1m ran around found east out
138 2c from step read
noticed watching on ground level
1 did activity 1:15
39 2m 46c le stop & picture
7/13
9:30 - 10. Zoo visitors
Elephants walking sign up for only seen 1 group. 38 2 2e
50 Warm sunny open
Lots of visitors expect visit
1:33 First visitors to Africa
Entrance

CL 12-1
06 3e 1e 33
Adult approached ripped up
of logo, child attempted activity 35
07 2e 2e 3e 70
Adult observed read panel, child attempted activity, took time 1:15
03 3e 63
14 walking glance
10 2e 5
2 children approached then led by adult read panel aloud, children make turns
12 long step 2e 13c
4c walking glance
14 long step 2e 1e
1 child ran over and chatted activity site 11c
19 camp reg 1e 5c
"are we do this? thirds time elephants here"
Children read panel, completed activity
27 1c 3d
Adults read, panel, child completed activity 5s
27 3a 1c 5d
Adults observe, read panel, child did activity solo
31 Camp group 2a 7c
"I can read the alphabet, "What do?"
2c ran over panel, group joined
cold activity, turned
32 1c 2b 5c
Child running, over at test, adult read
panel, instructed kids 1:10
34 2c approached, did activity
36 1c ran over and did activity
Col 2s
37 1a 1c
Completed activity, no read 2s
39 2a 2b 5c
1cZe attempted, no read, hide
playing
40 1c then completed activity 5s
41 1a 5c
Col 5s
42 Camp group 7c
Attemped activity, using tape as drum
1 pointed at panel, 6c completed
2:15a

18 3c 2a 5s
In approach, read panel
Children completed activity
45s
20 1c 1c
Be ran over and attempted
activity 35s
20 Camp group 1a 5c
Consider read panel aloud
Children completed activity
22 completed 4c
3c ran over, attempted
activity, 1 did correct, others hang in
on table 5s
23 2a 6c
Completed activity, read panel
48
24 Camp group 2a 1c
Children running, hide, consider
Read panel aloud, made sound
for kids
26 2a stop read, completed
45s
16 "Ok I see that c2c
ran over, did activity 4c
27 "Grandpa put your hand in this"
1a 2c 4d
All completed activity
10. 2e completed activity
  48 in tube, read part of panel, left
  50 9m 30
  Stop read panel, complete part completed activity face 48s
  3s 16 4e
  1e ran over, 3e followed
  3 completed activity 49s
  5s 10 7e
  1e massage right hand in tube
  adult observed
  55 camp group 2e on:
  1e went over, tapping on tube, yelling in wrong hole, "Okay, everyone get off it,"3m
  1.35m
  51 1m 5e camps
  Kid giving instructions, read panel
  Walk group completed, "Can you feel it?"
  1.28

3-4/21
  07 1s 3e 4e
  Adult pointed, stop, read 1m
  5s 10 1e 8s
  Child headed out out
  28 Child walking Glance
  71 2e Touch/bout out
  Group 2e 3e adults took photo
  3d Kids
  30 Lion Experience
  45 Visitors in area
  2 kids standing on rock
  Stalk blocking, adult leaving an out out
  41 3e climbing an out out
  49 2e 2e 4s
  Adults track, photo of kids
  54 Adult I walking Glance