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

Drew Johnson
dcj5118@rit.edu

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The members of the Committee approve the thesis of Drew Johnson submitted on Thursday, August 20, 2015.

Juilee Decker, Ph.D.
Primary Advisor

Bart A. Roselli
Secondary Advisor

Tina Lent, Ph.D.
Director, Museum Studies Program
EVALUATIVE MEASURES: ASSESSING THE EFFECTIVENESS OF EXHIBITS AND PROGRAMS

IN ZOOS

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IN PARTIAL FULFILLMENT OF THE
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Drew Johnson

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Abstract:

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

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

To begin, this thesis approaches the evaluation process by synthesizing literature from the fields of exhibition design, program design, and, further, offers a brief history of theory and practice. Choice literature has been included in order to provide historical reference to what practices were undertaken in the fields of program and exhibition evaluation as well as the larger field of visitor studies. Scholarly literature also documents transitions in exhibition theory for the exhibition of live specimens. Following this historical introduction, reports, and case studies and other publications produced over the last ten years are examined. Building upon this examination of the field, this thesis then examines one 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. Although these institutions housed a large variety of species, the purpose of these collections was primarily public recreation. Such display methods paid little concern for the well-being of the individual animal and more on the fact that the animal was visible, as exotic species were considered a novelty by

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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 into animal psychology and findings related to the impacts on captive animals became more widely studied and circulated to the public, visitors no longer accepted menagerie style, and to a lesser extent second generation exhibition, as an acceptable method of housing captive animals. As such, zoos were pressured in to

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

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

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

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

III. Program Development

Whether designing a program or exhibition, the institution must identify the key themes or messages that they want the project or exhibition to convey. For zoos the key message of many programs and exhibitions is to educate the public about a specific species or conservation 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.

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.” 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.” The scope of investigation in terms of zoo programs and exhibitions can refer to the attractiveness of a particular element in an exhibition, the legibility of printed materials, or if an exhibit had

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

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

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V. **Formative Evaluation**

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

In order to identify a target audience the zoo or aquarium should take steps to identify who in the community already visits their institution as well as the potential audience of the institution. In the case of the Seneca Park Zoo, as well as most other zoos, the visiting audience consists of primarily families including children.  

Although this may be the largest represented group visiting most zoos, it is certainly not the only group. In order to understand the greater audience visiting the institution, a zoo or aquarium may engage in demographic studies, quantitative measurements of the ethnographic and socioeconomic groups visiting their institution. Identifying the demographics of visitors already attending the zoo can be accomplished fairly simply through the usage of surveys designed to inquire about patrons race, marital status, children, and potentially income. These types of surveys can be designed and administered by zoo staff on grounds or mailed.

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

Formative evaluation follows the project through its design phases and continues to assess the development and intentions of the project until its completion. As described further in this document, during the design stages of the interactive observational study completed at the Seneca Park Zoo, the evaluation staff continually revised the evaluation tools during preliminary testing. Tools were designed and tested during trial observations to determine the tool’s efficacy; in some instances tools were re-designed to better accommodate visitor actions. The main purposes of the formative evaluation process are to document and evaluate the institution’s progress in following the approved development plan and documenting any changes, 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. Each of these components are vital in maintaining progress and bringing any ineffective elements of the design to light so that they may be adjusted before the implementation.

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VI. Logic Model

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

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

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

The next area of the logic model is intended to translate how each input is being utilized. The activities section determines the specific activities that will be used to reach the project’s intended outcome.\textsuperscript{17} 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 in to a construct, or a measurable concept. This process requires deconstructing the main goals and objectives and identifying the specific outcomes the project should translate to the audience. If the question of, “How can the institution understand whether or not these outcomes are occurring?” is stirring, the answer to this question is through the use of indicators. Evaluators, along with staff, consider the specific outcomes and identify which types of data, indicators, are required to prove that an outcome has occurred. Indicators also assist in identifying who, how, and what should be studied to collect the data. With these elements identified, evaluation questions can be developed to identify if the particular element caused an outcome. Take for example a zoo planning a redevelopment of a major exhibition, much like the Rocky Coasts exhibit at the Seneca Park Zoo. In this case, the zoo intends to run a marketing campaign to promote the exhibition opening with the intentions that circulating promotional material will attract “non-visitors,” or visitors who under ordinary circumstances would not attend the zoo as part of their leisure spending. A construct of this plan would be “increasing non-visitor attendance”, or possibly “effects of promotional material on attendance”. Indicators of these constructs would be visitor responses identifying that the visitor is/has, a first time visitor, received promotional material about the exhibition, promotional material was the sole purpose for choosing to visit. Through the development of concise and simplified goals and objectives observable and measurable data can be identified and defined for all staff.

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

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

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

VIII. Summative Evaluation

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

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

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

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 n\textsuperscript{th} 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 n\textsuperscript{th} 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

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

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

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

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

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

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

Part 2. Case Study: Seneca Park Zoo

IX. Seneca Park

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

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

X. **Seneca Park Zoological Society**

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

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charitable efforts of local school children. 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.

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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 \(^{31}\) 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.

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

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

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

XIV. Data Gathering

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

XV. Summative Evaluation of the Study

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

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

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

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

XVI. Implications

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

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

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

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

Part 4. Toolkit

XVII. Conclusion

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

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

Observation Sheet

A Step Into Africa Sample Observation Sheet

Interactive Area: __________
Observer: ____________________
Date/Time of Observation: ______________

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

Level of Engagement: ______________

Engagement Actions Observed: __________________________________________________________
   __________________________________________________________

Group Interactions: _________________________________________________________________
   ______________________________________________________________

Type of Group: _________________________________________________________________

Other Observations: ______________________________________________________________
   ______________________________________________________________

Weather Conditions: _____________________________________________________________

Crowd Conditions ________________________________________________________________
Appendix B

Survey

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

Introduce self and ask consent for participation in the study.

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

Area at which survey took place:

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

When was your last visit to the zoo? ____________________________

Why did you visit this enclosure today? ____________________________

What made you use the interactive? ____________________________

Do you think this element enhanced your visit today? ________________

What did you learn from using this interactive? ____________________________

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

Date: ____________________________

Group Details: ____________________________
Appendix C

Interactive Intended Uses

A Step Into Africa Interactive Intended Uses
Drew Johnson

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

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

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

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

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

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

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

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

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

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

### Engagement Rubric

<table>
<thead>
<tr>
<th>Levels of Engagement</th>
<th>No Stop 1</th>
<th>Minimal /Glance 2</th>
<th>Minimal /Stop 3</th>
<th>Intermediate /Engagement 4</th>
<th>Intermedi ate /Activity 5</th>
<th>Extensive Engagem ent 6</th>
<th>Extensive /Facilitator 7</th>
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<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 hole interactive.</td>
<td>Visitor visibly stops and reads sign aloud. Visitor goes in to baboon hut or interacts with watering hole panel.</td>
<td>Visitor visibly stops and reads sign aloud. Visitors talk about panel and follow engagemen t prompt.</td>
</tr>
</tbody>
</table>

| **Maasai Video Hut** | Visitor does not stop at element. No attention to interpretation materials. | Visitor looks at element but does not stop. May pause briefly, <5 s, or casually motion at panels. | Visitor stops at element for a short period of time, <30 s. Quick reading of panels, plays in area. | Quickly presses through video buttons, <10 s per video. Does not locate the objects. | Watches 1-2 videos fully, may locate objects. | Watches 3-4 videos fully and locates objects. References to household items or personal use. | Watches 3-4 videos fully and locates objects. Interprets information to other visitors in group, demonstrates understanding of connection to animals. |

| **Big Cat/Little Cat Lion Paws** | Visitor does not stop at element. No attention to interpretation materials. | Visitor looks at element but does not stop. May pause briefly, | Visitor stops at element for a short period of time, <30 s. Quick reading of panels, | Briefly reads panels, <1 m. Observes skull and paw casts, <30s. May touch | Appears to read majority of interpretive panel. | Fully read both text panels. Observes and compares casts and specimens. References to other |

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<tbody>
<tr>
<td><strong>Lion Leap</strong></td>
<td><strong>Visitor does not stop at element. No attention to interpretation materials.</strong></td>
<td><strong>Visitor looks at element but does not stop. May pause briefly, &lt;5 s, or casually motion at panels.</strong></td>
<td><strong>Visitor stops at element for a short period of time, &lt;30 s. Quick reading of panels, activity not attempted.</strong></td>
<td><strong>Does not read panel, completes activity anyway.</strong></td>
<td><strong>Reads panel and attempts activity. Appears casually engaged and participating for fun rather than understanding.</strong></td>
<td><strong>Reads panel and attempts activity. Appears engaged and participating for fun. Understands purpose for jumping.</strong></td>
<td><strong>Reads panel and attempts activity. Appears engaged and interprets for group. Communicates purpose of activity.</strong></td>
</tr>
<tr>
<td><strong>Dig Zone</strong></td>
<td><strong>Visitor does not stop at element. No attention to interpretation materials.</strong></td>
<td><strong>Visitor looks at element but does not stop. May pause briefly, &lt;5 s, or casually motion at panels.</strong></td>
<td><strong>Visitor stops in area, use the area for play, no engagement with elements in area.</strong></td>
<td><strong>Walks around edge of area. May briefly read panels or flip through field book, &lt;1m. May enter dig site briefly, &lt;1m. Appears casually engaged, participating for fun. No identification of specimens found.</strong></td>
<td><strong>Reads panels briefly or flip through field book, &lt;1m. Enters dig site briefly, &lt;1m. Appears casually engaged. Locates 1-3 specimens. Does not attempt to identify specimens.</strong></td>
<td><strong>Reads panels and field book at length, &gt;2. Enters area and locates 3-5 specimens. Uses interpretive materials to help group identify specimens found. Communicates reasons for archeology or similar sciences.</strong></td>
<td><strong>Reads panels and field book at length, &gt;2. Enters area and locates 3-5 specimens. Uses interpretive materials to help group identify specimens found. Communicates reasons for archeology or similar sciences.</strong></td>
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<td><strong>Baboon Identification</strong></td>
<td><strong>Visitor does not stop at element. No attention</strong></td>
<td><strong>Visitor looks at element but does not</strong></td>
<td><strong>Visitor stops at element for a short period of time, &lt;30 s. May casually point at enclosure.</strong></td>
<td><strong>Briefly reads panel, &lt;1m. May casually point at enclosure.</strong></td>
<td><strong>Reads 1-2 identifications. Makes limited attempts to identify</strong></td>
<td><strong>Reads 2-4 identifications panels. Appears engaged and</strong></td>
<td><strong>Reads 2-4 identification panels. Appears engaged and</strong></td>
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<td>Visitor looks at element but does not stop. May pause briefly, &lt;5 s, or casually motion at panels.</td>
<td>Visually reads panel, &lt;1m. May casually interact with element. Appears like play, no apparent observation activity by visitor.</td>
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<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>Visitor Activity</td>
<td>Description</td>
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<tr>
<td>Visitor looks at element but does not stop. May pause briefly, &lt;5 s, or casually motion at panels.</td>
<td>Briefly reads panel, &lt;1m. Appears casually engaged. Does not read, completes activity incorrectly.</td>
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<tr>
<td>Visitor stops at element for a short period of time, &lt;30 s. Quick reading of panels. May play or do activity incorrectly.</td>
<td>Briefly reads panel, &lt;1m. Casually interacts with element. Does activity correctly.</td>
<td></td>
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<tr>
<td>Casts. Locates samples on ground. Communicates panel to group.</td>
<td>Reads panel fully and completes activity. Communicates understanding of element’s connection to vibrations felt in elephant pad.</td>
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</table>

**Elephant Listening**

Visitor does not stop at element. No attention to interpretation materials.

Visitor briefly, <5 s, or casually motion at panels.

Notice of ground tracks, interaction with casts.

Attempts to locate impressions.

Locates samples on ground.

Communicates panel to group.

Reads panel fully and completes activity.

Communicates understanding of element’s connection to vibrations felt in elephant pad.
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 into common services or traits of those activities that may be beneficial to the zoo.

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

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

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

Elaboration in to how the subject had heard of the institution can show what promotions are reaching this audience.
What were your impressions?
What types of services do you think a zoo, in general, provides?

Responses to this question should provide an understanding of this audience’s perception of the role of zoos in society.
What types of services do you think a zoo should provide?
Are there any concerns you have regarding zoos?

Responses to this question may be the result zoo visits during periods when zoo’s were not as established. This information may be a way to attract an older audience with similar experiences to show the improvement zoos have made in animal care and visitor services.
What types of services do you think a zoo should provide?
What types of programs do you think a zoo provides?
What kinds of programs would you be interested in exploring at a zoo?

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

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

Program Tool-kit

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

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

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

Photographs

Baboon Guide Panel

Elephant Watering Hole Guide Panel
Lion Leap
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Introduce self and ask consent for participation in the study.

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

Area at which survey took place: E

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 clone

everything else he walks by

Do you think this element enhanced your visit today? __

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

their feet kind of

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

Date: 7/24/15

Group Details: Woman, older daughter, younger brother, 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?**

- Child

**What made you use the interactive?**

- Curious to see, learn

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

- Yes, learned

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

- Communication with feet

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

- Education

**Date:**

- 7/11

**Group Details:**

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

Introduce self and ask consent for participation in the study.

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

**Area at which survey took place:** E L

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

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

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

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

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

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

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

**Date:** 7/22/15

**Group Details:** Mike aged woman, son around 9-10 yrs old

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

Introduce self and ask consent for participation in the study.

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

Area at which survey took place: GT

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

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

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

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

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 different sizes.

Date: 7/24/5

Group Details: _______ Age ___________ Min X 10 _______ Right Elephant
Survey for A Step Into Africa Interactives: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

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

Area at which survey took place: EL

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

When was your last visit to the zoo? 

Why did you visit this enclosure today? Child was hydrated

What made you use the interactive? Exploring

Do you think this element enhanced your visit today? Yes greatly increased

What did you learn from using this interactive? Elephants Earth can absorb vibrations and work on feet and sense when something is getting close

What do you think is the purpose of this interactive? Tangible way to teach visitors about elephant feet

Date: 7/24

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?**[0 yrs]

**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] [Yes]

**What did you learn from using this interactive?**[Fact about] [Elephants have bigger]

**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: 7/29

Group Details: Family of 3 2x6
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? Exploring, part of the trip, children like box

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 enjoyed

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

What do you think is the purpose of this interactive? Appreciation for learning to find treasure 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: __________
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? ________

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: ________

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

Introduce self and ask consent for participation in the study.

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

Area at which survey took place: DE

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

When was your last visit to the zoo? Last June

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

What made you use the interactive? Kids wanted to

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

What did you learn from using this interactive? The making of a volcano

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

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:  

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

When was your last visit to the zoo?  

Why did you visit this enclosure today?  

What made you use the interactive?  

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

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 [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? [Yes/No]

Member [ ]
Non-Member [ ]

When was your last visit to the zoo? [Weeks/Months/Year]

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/No]

What did you learn from using this interactive? [Supposed to learn about big 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? [ ] Member [ ] Non-Member

When was your last visit to the zoo? [ ] 10 years

Why did you visit this enclosure today? ___________

What made you use the interactive? ___________

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

What did you learn from using this interactive? ___________

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

Date: __/8

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

Introduce self and ask consent for participation in the study.

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

Area at which survey took place: MV

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

When was your last visit to the zoo? 1 month

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

What made you use the interactive? Walking through got my attention, who loves here

Do you think this element enhanced your visit today? Neutral

What did you learn from using this interactive? I'm better off than I was, I learned about flyswatter

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

Date: 7-31

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

Introduce self and ask consent for participation in the study.

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

*Area at which survey took place: [ ]

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

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

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

What made you use the interactive? [ ]

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

What did you learn from using this interactive? [New facts]

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

Date:

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

Introduce self and ask consent for participation in the study.

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

*Area at which survey took place: BAF*

*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: U

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

When was your last visit to the zoo? Last month

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

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

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

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

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

Date: 7/22/13

Group Details: A husband ( spp), 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?**  
---

**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?**

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

**Yes**

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

**Horse cats and lions are very similar**

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

**To give people something they can relate to**

**Date:**  

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

Introduce self and ask consent for participation in the study.

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

Area at which survey took place: [LP]

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

When was your last visit to the zoo? [I 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 to Cats

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

Date: 7-10-15

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

Introduce self and ask consent for participation in the study.

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

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

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

**When was your last visit to the zoo?** 12 weeks ago

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

**What made you use the interactive?**
- Lions and the shell looked interesting.

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

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

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

**Date:** 7/29/15

**Group Details:** Older woman w/ 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: 7/22/15

Group Details: A young mother and her son. Son maybe 6 years old and the mother in her mid 20s-160s 30s.
**Survey for A Step Into Africa Interactives:** Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

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

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

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

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

**Why did you visit this enclosure today?** Day at the zoo, just coming through the exhibits

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

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

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

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

**Date:** 7/17/15

**Group Details:** Set of grandparents, 45s, 50s, mother, young daughter
Survey for A Step Into Africa Interactives: Select one adult from every third (3) group if area is not busy, select one adult from every fifth (5) group if the area under observation is busy.

Introduce self and ask consent for participation in the study.

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

Area at which survey took place: ____________

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

When was your last visit to the zoo? ____________

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

What made you use the interactive? ____________

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

What did you learn from using this interactive? I can jump 10 feet ____________

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

Date: 7/28/15 ____________

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

Introduce self and ask consent for participation in the study.

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

Area at which survey took place: __________

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

When was your last visit to the zoo? Never ________

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

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

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

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

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

Date: 7/6/18 ________

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?**
[Date: 6-30]

**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

**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: BP

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

When was your last visit to the zoo? __________ month

Why did you visit this enclosure today? bring child

What made you use the interactive? show different in hands

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

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

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

Date: ____________________

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

Introduce self and ask consent for participation in the study.

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

Area at which survey took place: B?

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

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

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

What made you use the interactive? I have never noticed that

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 b/w

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

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 - Guide panels Baboon + WH
No visitors
Baboon won fighting
Heavy rain over the weekend, still overcast
Not many members in early

10:05 - 10:55 - Masai Video
This currently not working. Screen off

4 members - Grandparents 2 - 70-79
Children 2

Engagement 4
Rearry Osmand
No interactions / gestures

6-27 10:48
Family 2 parents 40-50
1 L. 1 L.
Engagement 4

6-27 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
Animal attendance might
be lower in mornings simply due
to distance from main gate

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

10:37 Group of 5 adults, 7 children
Mont Riki
- Walked right past pandas
- Sat on baboons
- Spent about 6 minutes observing
- Questions about butts fur
- No research action

10:50 2 adults, 1 child
Mom: "Could there hurt you?"
Dad: Points to Read my tips packet
At teeth: "Oh yes, they could"
Also 218 EL

No stop, read panel ~10s
white walking 2.15
2 teens stopped, read panel
and attempted activity.
Did not do it correctly
and left after about 1 min
2.20
Adult group 2
Stopped and read panel ~1 min
No activity
2.45

When elephants are out and
around pool, most visitors stop at ET
then go back up path
1:48
3 adults 1 stopped + read ~20s
2 kept going

4:50 - 10 EMU, Ultra
Elephant Walking Sign was
up till 2:45
No visitors entered area until
1:58 AM
Overcast - rainy
2:17 CR
One family - 2 adults + young child
entered area 2:05
10:06 left after realizing leaves
were on rock
10:18 - Visitor asked whether or
not the leaves mate?
10:26 - 2 adult (child enter -
quickly left after seeing where leaves
were)
10:30 - 2 adults + 2 kids, entered
one child said "let go on the emu"
They did...
10:44 - 2 adults entered, talked
to each other in 30s, then moved
up.
2:49 1 adult 2 kids 20s in
area "Let go on the emu!
"

11:12 Lion Loop
11:10 1 adult + 2 children - adult
stopped and asked other child if
they wanted to - kid ran off of bus
11:13 Adult + Child
Adult prompted child to try activity - no sign read
11:14 Adult + Child in stroller
5s glance while walking past
12:4 1a 2c
1c photo got on line
12:7 1a 2a photo got in front
12:8 2a 3c 1c 5s glance
no stop rest of group no action
30 5a 5c 2c run by and jumped on play so went
1c completed activity no need
Adults no action
31 5a 3c
Adult walking glance
1-2 Dog 2m
1a 2a 2c 3a 1c
Walked around just 2a glance
went to foreground area
11 1a 2c
Kid played for about 3min
Then sat on bench and observed another 2-3 minutes of explor
before moved from area
12:22 1a 1c
Walked by - read "Go ahead"
dog for ~5min 5c
Adults - 5s glance while walking kept moving
10-11 labour panel 7/2
12:25 1a 1c
Child entered area - read panel
10-22s - read on - no adult attention
1:37 1a 3c
2 of the kids break off and started using panel - made references to
private evolution - interacted 45-50
1:40 6c
Highschool kids + siblings 3 read panel 2c-3cs
1:48 1c 5c
Entered but and parents pointed at bit
care, while group walked over and read
20-30s parents pointed out differences in progression
1:51 2c engaged panel for long
"Those skills are really bad!"
11-12 21
Bobdog keeper talk - will
change schedule to reflect
7/5
11-12
3 groups in DB at 11:05
primarily very young children
using area in sand box
2 groups left at 11:15

11:19
2 adults, 2c instructors
parents gave children tools to
dig with - kids too young to understand
21 1e 1c
adult sat on edge, child used
De for play
32 1a 1e
adult observed while child used
De area
24 did address 2 groups
with stick shown
35 2a 3c
Walked towards kids later, looked
at children, gave some tools to kids
for - 30s - then before going to Banks
40 Visitor asked if display panel
was accurate because they were having
portable heating issues
49 23 kids arrived and began
to use with no condition
24 1d handled - 2 children

12-1 ET
12:07 2 kids entered
12:15 2a 2c
One child used pencil/tailed encouraged
more to look through them. Did not attempt
to play on ground - 2 min
12:17 2a 3c
Kids walked over and used panel/tailed
while parents looked at enclosure - two 20s
12:19 child walked to panel, parent
called them back - tears
20 1e 4c
2 older kids flipped through
panel, started line 30
12 3e 2c
Kids flipped through pencil
teach several times - few times - play
31 2a 3c
One adult equipped and read
process of panel
34 2a 2e
Man holding child to see objects
kid wanted down to see panel more - 2c flipped
through panels, posting no activity - 3:30
37 2 groups 2a 3e 1b 2c
1c + 2c from each group flipped through
panel + touched pencils in group
located a few prints on ground - 4:30
2 30 32
41 2a 3c
1a+le flipped through panels ~1min
1c stayed behind 30s
44 2a 9c
1c started every panel, rest of group joined, adults using tape to assist map 3
used pencils, held open to read, pointed out other children ~130-2mn
48 1a 7c
Other adult took point or touched costume
more points quoted out 2 children on panel
no location on ground ~130
52 1c 4c
Kids read panels, touched ears/ponted to panel ~2mn later looking at chipped
73 1c 2c BI+A
1c Adult read panel ~30s looked
in chipped quickly scanned panel again ~2mn
1c 1a 1c BI
"do you want to read about them?"
adult read panel to kids, both tried to read
3mn
2c 2c BI+2 teens stepped/read panel
2c did not engage
1c 1c BI
1c read left panel aloud/moved on
1c 12

24 middle
Sat and red panel ~1 min
Stood behind group to observe the painting

1B 2-3 CCL
Split by bottom bar between panels: large group big walking in the obstructing view

EG BG
2:07 BG la Zc
Stopped and read panel converged at guides' lecture room at ~20s

2:09 EG la Zc
1c glance/read 710s

2:10 BG la glance
1c la walking glance BG
1c 2c 4c BG

2a Stopped and read ~20s extended

18 la 4c BG
Stopped by G and wait, children read panel before turning around 20s

30 la 4c EG
took photo in front of garden

21 BG 3c Zc
la glanced/read panel while entering 10s

22 BG 3a group glanced/read panel while walking by/used side entrance

25 BG Glance Zc
26 BG 4c Glance Z
30 BG 1c Zc "walking read. "So you a private " said to child
31 BG 3a Stop/read 20s entered

31 EG 3c 2c - le stop/read 6s
33 EG 2a 1c - le stop/read 5s
35 BG 2c Zc - le stop/read 2s

Adult walked past panel: kids went in house reading garden

Most people try to look around garden
because they listen to school

39 la 2c EG Stop read by adult
15s did not use rock panel
39 la 1c Walking glance by adult
walk in hunt

81 3c 1a 2-tons Walking/read did not enter

52 Zc walking red/pastoral hunt
9:30-10 ET 7/5

Clear, Sunny
No Visitors
Nothn Morning Average 0

10-11 LL

Sunny, Clear
10 1/2, 1c

Adult walking read 10s
15 2c 2c

Adult walking glance
>5s

14 1 adult walking read
10s slowed down but kept
shooping
13 2c 2c

Mother stopped for picture
with cutout to read/advertis
d "Do you want to take a pic of the
mon?"

9:53 4c 1c Out adult

7/5

11:12 Lon Pearce

Clear, Sunny, Zebra Sleeping
next to glass

11:10 Lots of visitors in area 20+

Near interaction with panel get

12 One child glance 1s
15 2c 1c

"What's this?" Child - Adult "You have
by your hands are" placed hands on paw

Print - Child lost interest - 60s

17 2c 1c

Adult glance

23 Adult glance

25 4c 1c

Child touched Cat, ears - 50s

Mom read panel 20-30s
32 2c 2c

"Look how big their teeth
are!" referring to speed panel
no cat/paint interaction

35 2c 2c

"Mommy look at this!" kid about
ears - Mom looked 20s went over to him

Rats of house came, talked about case
in foreign lang. 30s - min went back
to glass "Papa"

58 1c 1c

Child walked over touched

Cats mom patted them away
31 3c touched cents/taste
picture "These were lions, sharks"
32 1a 1e
Child said what each item was/prev made corrections 38s
1-2. MV
1012 Adult stopped
and looked through gaps of hot
1 min - did not enter
1110 5a 4e
2 adults 2 children
approached and used videos
3 videos ~ 15s each
12 2a 1e
Walked thru hot 2/Amed 15s
kept moving, no videos
115 3a 2c pressed 2 videos
test object
10-15s child pointed at 1 object or
screen (认为 only action observed
12. 3 adults walked through
"I could make this"
15 1a
pressed a few buttons and moved

22 1a walk through
"This is really cool" no activity

27 1a 1e
Mom walked through, kid pressed
each button, did not watch/look
27 3a
Entered but looked around
intense and scared
30 1a 1e
Pressed buttons, looked around
and viewed screen, Watched video, no activity
38 2a 3e
Kids walked in parsed 12
button and went to see goats, parents
did not enter
35 1e entered, read parsed 15s
left
38 1a 2e
Watched 2 videos, did not locate
objects ~ 13s
37 2a 2c
Watched 1 video, kids too young
parents prompted to locate, Kids did not
143 2c 5c
Be entered but, watched video, located
cut digest 1.30s
141 8a 2c
Be entered adult tried to
engage child in activity, 2 videos - Can you find
Child uninterested
46 2a 2c
Walking past feed court "I want to learn about animals people"

47 1a 3c
Walked through LT, no videos/activity

Older child watched 2 videos

2min younger kids played with tours

1a 1c
More pointed out a few objects to special needs child, no videos

54 2c
Watched each rod, pointed out objects. Tend to break objects often.

2min
Some kids obv. using LL

2-3 GM

BG 2:10 Child walked up and pointed to sign rest of group entered hut
BG 2a 2c walked by. One pointed and spoke, entered side 2 hut
EG 8a 2c child pointed to grands, men threw lead?
BG 4a 2a 4c 1c walking read
Group entering garage
BG 23 23 walking over lecture
BG 2b 2a 2c Walking read 18a

EG 4c Elephant eating hate visitors
looking around garden to see

BG 37 7a Walking read park
BG 137 4a 3c 1c walking read
did not enter

3-4 DZ

12 14 1c entered, mom sat on bench, child searched for spinnaker
pointed out objects 4min
BG 4a 1c see 3 a 1c used
laughs @ 5:14 through till ends -1min
BG 2a 3c
Kid entered "This isn't sand, it's rock!"
Mom told them to use tools and dry hands
get tools - located 2 spinnakers and looked through hill ends 3:30

BG 1a 1c
Child and kids go through woods
bike "A called Canea" I want to keep
digging for 3min
BG 1a 3c Younger 2a 1c
Through arm of lake, child stumbles - lost count
Waves youngest players
End fishing time 3:30
00 10 11 ET

Clear (Rain)
10:10 15 no visitors yet
First visitors arrive at 10:15
10:32 2a 2c 50 57 6 stirrers
1e offer 2 walked over and touched
pits, no slip panel (open on small products)
no attention to interactive panel

39 2a 2c 30 7
one child touched panel (no engage adult)

3b 2a We say group
Kids flipped panel and touched product
limited adult interaction (no activity)
and panel

40 2a 2c 40 7 stirrers
1c walked over and touched panel
with 2 panels 1dc

49 2a 2c 1c sitter
One child flipped through panels rapidly
-2dc for all touched ends -1bc, repeat learn
no activity

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

Visitor Document
154 2a 2c 30c
Children seeing how loud they
can make slip panel sounds
Still a lot to churn.

11-12 EC

1:52 1a 2c 3a 4b 5c

Older child read panel aloud.

2 completed activity = minute

1:55 2a 2c 4b 5c 6a

Start went to interactive.

"My turn to talk this time!"

155 activity ran off.

1:56 1b 2c 5a grandpa/goes

Adult read part of panel and initiated.

Kids all completed content.

1:58 1a 2c 6b 5c

Did not read panel, child

attempted solo, men joined, youngest joined.

1:56 10 5a 2c 3b 4b 6b 5c

Did make vocal/teacher/pot in

Loaded.

1:58 1a 2b 3c

Child attempted activity. "Put your hand in and see if you can feel it." Dad

Adult kept moving it to shaped maze.

1:59 2a 2c

Adult instructed/assisted young

Child went activity = 50s minus.

1:55 2a 2b 5c

Attempted activity ~ 5s did not

work/looked away/looked at panel.

Then led.

1:56 2a 2c 4b 5c

Kids stepped to toy activity, completed

without reading. Last child stepped + read

1:56 2c 1a 3b

Child stepped and attempted,

men read panel and made corrections

on their activity ~ 45s.

1:57 1b 4c 5d

Child attempting activity.

"You have to hang on it to feel the

abstraction." Mom demonstrated twice.

2:00 2a 4c 5d 6b

Child attempted activity, parents

assisted. No reading of panel aloud

"Put your hand in, feel it." - Mom

2:02 2c

Attempted activity. "It just feels weird"

~ 35s.

2:05 1a 1c

Completed activity, switched.

40s.

2:07 2c 2c 3c

Kids attempted activity: "one plus

your hand in here!" "I don't feel anything.

Switched, changed sound into tape

worked 3 kernels rotated 120 degrees.

1:30 Panel time area empty.

3:10 1a 3c
Children attempted activity
Major success/move on lunch

"Gong #1 I think it's broken"  
Kids attempted activity "I can hear her"  
2:45

4:16 1c 2c 3c
Children attempted affection
Older road panel, adult stopped

1:30
1:50 1c 2c 3c
Adult walking read

Catching, Chasing, Listening

Dinner:

12:15 9c
BG 14 7c 8c 9c
One took photo of guide
BG 114 1c 2c 16b
Adult pet bird 'behind' ~10s repond

2G 15 1c 2c 3c
Child stop read then 2c repond

BG 16 1c 4c
Stop read, touched panel

20s had just existed but

6G 17 3c la stop red panel 15s
 interacted with 2f red/touched panel
24 1c 2c 30s

BG 3rd kid red quarter ~15 min end
25 2a 1c 50s-70

BG Lead kids walking glances ~75
1:30 2a 1c 50s

BG walking red, washed but

BG Same walking glance, for paint (no step)
Did not wet paint

BG 3c 1c 2c 50-70
One child stop red - found to elephants
BG 13 7c 9c 1c 1c adult wet extended but
BG 140 1c 1c 50
Adult walking red Child extended

without reading
BG 13 1c 1c 90s
Child wet adult extended without red
BG 142 1c 2c 40s
Children walking red, adults extended
without reading

Elephants grew and active
Visitors taking pictures
BG 28 1c 2c 30s with adult
BG 219 3c 8a 9b 1c 1c adult
35s red ~25s walking red / extended
with rest of group
BG 152 1c 1c 25s
Last photo with guide
14:36 Z & Z go read panel
white abs, do the word panel
~long later

2-3 MV
Zoobeen table, abs
[08] Z. Z. Z. Z.
Other child watched behind non
located figures
[10] Z. pressed buttons for
2 videos watched part, located
items from pictures
[10] Z. walk through, abs
ill I. G. walk through
buttons, go active
"I hand this to be going to press the
button" touched 2 objects to
engagement, Red Sheep behind and
located additional objects
[16] Z. Z. Z. Z. Z. walked up
1. to hit and knocked people to engage
[17] Child entered, man pulled
down out
[19] Z. went, "What's black inside
kept going

22:01 One child entered watched
part of one video when left
Kid pressed buttons quickly did
not watch till another activity started
22:25 Z. Z. Z.
Walked through "It's really not
in here" left after activity stopped
[29] Z. Z. Z.
"Do you want to see the 'Massai town'?"
two watched 1 video, located objects from
panel pictures, lavender
[31] Z. Z. Z. Z.
"They even have a underwear too, holding a
folder" prompted to go to watch videos and
objects, but not too interested, made
bracelet until 2am then
[33] Z. Z. walked in helped around
more "Do you want ice cream?" "Get child
it!") 2 buttons + cotton
[35] Z. Z. Z. Z.
Walked through watched partial
2 videos and located objects from
panel pictures
[40] Z. Z. Z.
Watched 3 videos, only one verbal
out, probably located items visually 3:20
Watched 2 partials, pointed at 3 objects
premiere at 2 am
11:48 1a. 4b. Stepped and looked through back door, talked some more.
11:50 1c. entered and paused for moment.
11:52 1c. inside, adult stayed outside.

11:57 1c. 10 - 11

12:00 Alex engagement.
12:02 2c. child "stated "a can
12:03 2c. that later.

12:05 2c. groups returned - man would not let kids use area.

12:20 2c. Camp group arrived.

12:24 22c.

"By the dog zone.
I don't think thats how ge
A fireplace 12 at noon.
Kiddos and kids 3-4 around.

3 minutes -- Connector around.

11:44 21a. 4b.

2a. 2c. 6c.

One adult showed another panel.

Wanders until away.
2b. 2c. 4b.

Child used brush, 20s. did not.
More power after observing, back panel.
2a.

27 1a. 1c. 2b.

Adult, hard reaction between behavior.

32 Camp group 14 10 14.

37 1a. 1c. 30s.

Child moving, pressure play.

more using BMX panel 35s.

52 1c. 2c.

A+C read panel 30s.

Repeat, read, panel. 30s.

2-3 BP

10 2a. 3c. 3lbs 2cs.

2b. walling up read panel 30-45s.

Re-engaged exhibit, returned to read panel now.

13 2a. 30s.

Read panel 30s.

15 3a. 5c. 2lbs 30s.

1a. stepped + read 25s. 2 children.

engaged core, touched 5c.

2a. 2b. 30s.

2a. stroller.

2a. Stepped + read panel 1-32 more.

Other adult stayed, paused next panel, compared touch 20s.

26 2c. 2a. 3b.

2 kids ran in and glanced at

test, touched panel near.

2d.
21 Zoo Camp 3a 1-20 kids
Canopy engaged with 5-6 kids and engaged comparing princess masks. Sofia was
moving group along. 3-33 1B kids and panda. Sofia shows us prolonged engagement.
3D Zoo Camp 2a 15c
7 kids approached and flipped pens. Daily 15c 2 stayed back because using
lip pencil and craft 2-3 min.
30 Elephant Experience
42 3 kids from camp began using
lip pencils again after experience
50 30c before camp left.
Flat clay pretty humid, few visitors from expected all day.

7/18 Wednesday now Thursday
High heat Clear, Sunny, Cold - would
be a visitor today.

7:30 D2
35 Us 14us in one, peaks part
42 2a walked by looked at one
5a to rejoin while walking kept going.
10-11 8L & A
Check-in very chatty, 10 animals
used.
10 Visitor asked where baboons were 1a 1b 94
"the keepers are showing the audience" 1a
"They are there Too" 1b 94 dancing their fingers" 1a
Keeper meeting all contractors
by Enclave
1st floor - 1A, 2A - 5s
Used BP hall, reception, and conference
of panel except 6A, child, and bike
12:30 - 1A, 1B, 1C
Walked through, talking to, children / adult
1:27 Camp group went through lobby
1:30 Bathroom
1:37 Camp group returned, 1 kid, 3 bikes
at chinese 5x, before rejoining 3C and
1:49 Camp group - 14 kids, 2C
One camper sat next to 1D panel and
read 3B in attempt to locate

Best to Wednesday
12:54
1:19 1A, 50s
Standing in observation playing
video - no buttons pressed
2 children joined and pressed
video button, activation from 20
12:20 1A, 3C, 4B
Kids pressed 2 buttons, kids vs. computer
2 videos shown
20:20 2 children entered pressed
outdoor, persisted called them away
from food court

2:51 1A, 1C, 4B
Walk through ~15s looking
for other child, glasses at entrance
2:50 4C - 2A, 7C
4 children entered, began walking
and hugging, 2 more then had one and parent
joined. Read the sign and lots what it about - "Men
~2min all on 3 min just knots", kids mentioned
" nominee"
3:30 1A - 30s entered, observed
and looked at panel 30-40мин
3:50 3B entered, looked through lines
and breezed, walked through 3D
3:23 C, 4D buttons repetitively
and only watched 5s of video, 1C stayed
behind and watched (video while looking
around 3A, 8A)
3:31 All adult exited center
about one/morning of Minnow's hit
3:33 3C - 2C entered and watched
2 videos ~45s
3:36 1A, 8A, 3C
Adult pushed 2T about hit; entered
hit also c.1 used video 2.3 and tried
to point - don't
Chester's ours drew crowds
away from hit to home
3:39 1C entered and stayed hung on
lines ~30s
40 4c entered older knot
pencil? 1 button, tried to catch
wires, stopped younger from hitting
all buttons "slam"
1:41 2c entered, watched 1 while
partially, fence came + got there
1:45
1:47 2a 3c 60c
1a 2c passed button + watched
breath before rejoining group 45s
1:52 BP 47s
1:57 3c camp group
Touched panel, rest tablet, sleep
1:58 1a 2b 10b
1a 2c appeared and touched
panel "why are they all prisoners?" 5a came
out of tent + 1a
1:55 1a 1c 60s group 4th 3a 2c
1a + 1c approached panel "Whakawhakari" 5a
"responded with each other + reading panel"
1:55
1:59 1c 2c joined back
from veteran and read panel entirely + men
1:57 2c 60c established in aid glanced at
skull case
1:58 1c 2d stepped + 5b took 2 positions
at skull case
1:58 2a 4c
1 child separated, looked at case + panel
1:55 before returning
1:54 2a 3c
2 children separated and used panel/lace
"305. "Did you know lunas are like our
caravans?" 5a
1:57 2a 3c 60a
Group of 6r's by case coat + tent, then
turned to read panel/care 358
1:58 Curtain pulled up and read
panel from a little bit, did not engage once
1:58
1:59 1a with cooker step back 15s.
before eating
1:57 1a 30c 46c
Old man walking back at case while
eating hat + 5-10s, child disappeared
1:59 3a 1c
1a 4b walking, planted at case while
eating 10a
1:45 1c read panel and viewed case
for 30s before moving over to RML panel
1:44 2 tent entered, and 1 pointed to
panel and showed it to friends, did not
get over to panel
1:46 1a 50c read panel and
observed case for min.
4:4 engaged care/touched, read panel briefly ~ 15s.
1a held small child and pointed to care ~ 3s. before all moved.

2:3 LP
:07 2a 2c 40-70
1t tc approached, ch looked at panel aloud and rest of group joined touched cards 15s.
:05 2a 1c 50-60
Child separated and read panel while touching cards ~ 15s. adults did not engage. Child pointed at cards panel on each group before read.

:10 Pattern entered in 2. Pattern entered. / Walking pace on pattern.
:12 8a 2c
Young children approached and touched cards.
:20 2a 6c 3s
3 kids approached and touched panel cards ~ 10s.
:39 1a 2c 8c
Children read panel aloud.
Panel was observed, adult listened and filled on page 1:30

Several questions about cubes and counting time on semi-
3a 6a 2a 2c 1a 2a 4c
Child approached and touched cards on panel playfully while reading panel ~ 30s.
Face moved from cube to top.
Red, 5a, red.

All engaged panel and touched cube while read. The rest looked and read panel minus 1 child and at about 1:20 camp group 10c.
1 Separate child from group and touched cube/paint quickly ~ 20s.
:42 3a 2a 6c 1c
1c separated and touched from pink quickly before returning to group.

Female then returned to cube and sat near glasses. Lots of water photos.
:52 2a 2c 1c 6a 6c
I walked over and compared hand to her print, called over child "This is your palm". Child traced.

Which is a line and which is a house at?" Then all adults traced prints only older adult marked panel mark.
11-12 G3

During rain, limited No. of visitors.

G2

10:30 Barry + ornith

6 total visitors have passed by

Docent by Elephant house

1:36 1a 3b 3c

1c walked up and bit

める covered ~200 did not read

38 1a 1c 3c

Child bit 4 from cover ~20c

Adult read panel but did not correct behavior or read aloud

40 1a 2b 3c

B Men read panel, total child
to do activity, backward and sideways

1:44 2a 3b 1c

1c walking both ~5b

45 Camp group 8b

1 walking book ~8b

48-49 group passed child

walked up and read half in face before turning off

49 1a 1b 5b

1 of red part of panel asked

child read, both did activity

~1 min
10-11 G.U.
Warm Sunday, no visitor
was ycd (7/12) roughly 8:30
and passed through room:

120 2a 36b 3c
By the adult walking glancing, pointed
d/v guide to hand who laughed
at "bird escape"
12:33 2a 42 2c
La walking and entered room
d/b close the door at group around
12:38 2a 30 1c
Stop laid elephant grade what
did not use panel 41c, child ran over
to panel 72a before going to do
1:42 2c 1a 22d
Running ahead of parent, stopped
by greater, stood ~1m, ran into hand
adult listened ~3cs later
1:48 2a 40-60 4c
3 kids walking and a group
passed through ~85 each

11-12 G.U.
1:30 3a 40-70c adult w/parent
entered, and worked around hits speaking
"several" and 1:33
"taller and looked around hits
"Did they have a TV? pressed buttons
out the same time and didn't stay
for whole video ~1mm
3:02 2a 2d entered watched
part of video ~30s
4:04 2a 3b walked through
4:05 2c complaining that the
other one keeps changing the video
3:10 2a 1b entered, child pressed
buttons quickly tried to explain objects ~1mm
4:07 2a entered and watched
2 videos tally before leaving could not
see their making objects
3:08 2a 2a 50s
"Did he stand - watched
20s a who "let Docs and get here
can the person?"
10 2a 2e Camp/group
Watched part of video in groups
2 2a left n 45s le 115 2a 2mm
4:12 2c
Can not get kids walked
up individually and fast quickly ~10-15s
11 3e 3a walked halfway
and came back at 11. Better just
there.
15 4a 5c
"No I won't hear of it," he said.
I don't go off kind." 9 kids complaining
about switching videos. 2a entered
trying to keep tend objects, tended
worked 7 min. in lat.
18 1a 4c started things.
provoked 1a 4th button, followed
by second out...
23 1a 4h sheltered
walked through 3s.
24 3c entered 1 watched.
20a of videos, other 2 locked and
left 110a.
27 1a entered and worked around
lat., as usual, 145a.
15 2c 1st entered
and looked around, pointing, pointing
at objects 48s.
32 1a entered, stopped and
looked 15s.
34 1a 3c pressed 1 button
and went watched 15s before leaving
around 3 min. and pointing at objects
out on panels.
37 3a 4c walking Nordic while
and court, sitting area.
40 1a 3c 4b 7c shelter
and children entered that followed
by 9 and 7 kids, left 10. Kids
watched part of videos and complained
at pressing each other bottom.
40 2c left to play 5c worked through
205
1:43 1c entered 4b sheltered 1s.
1st gray 1a 2c 7b played, pressed
button and complaining when screen was
3b. went through
1:44 2a 3s 7c 2c watched 2 parallel
videos, 1a 2c left 75a, 1c 1s
stopped and played at objects not returning to panel
1:50
9 a 2c 10b 2b camp group
entered watched 15s at vid. We talked
disks looked around and left after
1:47 1c entered and looked around
no videos 30s.
1:58 Different kid same thing
1:52 2c entered from food court looked
around 1 right 20s
1:53 2c 30 3c 8c walked through
12-1 LP

04: Visitor approached me
and said, "We are very impressed
with the 12. You've done a great
job here." 96 female

07: 2e 3c 10-60
One child walked over to say "Hi."

Guardian and other child walked
over and asked if hand generator
and answered both questions ~2min
-12 1e 2c 40s adult stop read
-15s before turning after kids
-13 1e walked r toward case
and excitedly ran off to find books 30s
-13 2e 3c le from group walked
over and touched case; read 40s
-13 le 5c 40s
1 adult stopped and had
back to read side wall over panel
-18 1e 40s

or phone stopped 5s read
left the same way she entered
-12 Camp group 7c to 20s
2 walked over, pointed at "no. 718,
before running after group
-25 1e 3c 1 child walking
look at panel 10s

31 2e 1c
Child approached case; "Look at
these little girls... don't come over
and check out that case. 718" adult
-32 1e 4c 8 children walking
huddled together to meet adult, 1 touched
case r 3c
-32 Camp group 1c 7c
2c walked away and observed
case 20s before returning to group
-35 1e 3c 20s 30s
1 adult took pictures, other prompted
kids to identify specimens, kids answered
questions and touched cases "are these humans
last print?" Group came to 3:30
-42 3-5c 20-30c
6 kids went and touched case/food
20s before returning to group; no read
-43 1c 4c 40s take child and
adult identified specimen; touched
case, case #1/ need panel but not out book
and did not
-44 1e 3c 40s
1 child ran over "Hey! What's left of this?"
Group piled; adult prompted identification
1m

-47 1e 3c did not enter 2c entered
1c touched print; print barely
r-20s
51. 1c. Form 2 groups
    2c 3c 3c
1a 2c 3a
Each child walked over touched
pick leaves ~20s before moving
back to groups
52. 2a 2c
Each child used the rear pond
different adult ~30s
54. 1a 1c 6a Group Child
Adult identified specimens for
child who touched pond: looked
at skull ~1min
5-2. 2a.
52. 2a 3c 3a 5a
Each child climbed on cement
at picture, 2 read pencils, read
red activity
505. 1a 10c Camp group
3 traced, cut out: "how to
run a ten, jump and one stand"
506. 2c 4c 505 1c
Stepped and took picture of child
in front of cut out
49. 2a. Walked up
"How far can a ten jump?" and one
child did activity only one.
505
50. 3a 90-92 5a 1c
Walking point at end
12. 1c 50-60
1 stepped & read panel ~35s
34. 2a 1c in trailer 40s
Stepped and took picture with
cut outs
15. went to core camp group to try
gren
14. Walk in trailer
Stepped to take pictures of kids
19. 1a 1c 2a 2c group
stepped and read panel, both
red activity
23. 2a 1c 40s child climbed
why have two to jump, which couldn't
ever mentioned tomorrow did not jump
24. 1c 3a 40s
Children checked out cut spot, read
red panel ~35s
50. 1a 6c 3c
Kids separated and ran back
The jump before victim
51. 7c 8c Step/Pair 30s
54. 2c 20-35 Step wall &/or jump
35s
45. 2c 20sec. Time on
jump really for?
48 1e 3c 3w
Stopped to take pictures.
51 Camp group was 6c.
Walking back by 3c.

2:50 - 10 EL
40 9c 30-60i.
1a: Walking back at speed -10.
1b: 46 1e 1c 40 i.
Both stopped and reached 1d.
activity, mom read in 3d.
1e: 46 walked up and tapped
both openings with crossing. Crossed
behavior.
Part of group joined 3e 40-60.
All children tried activity 4c.
Before going (not written).
-3w: 3c 1a: 2m in +1.
-5e 1c 1c 3c.
Child approached and read panel.
Did joint activity Can you feel vibration?
3c: 2m, "Help me maybe elephant can
hear with their feet."

ET EL 10-11 BP
2c 1a 4c 4e.
LP READ Child approached case Can I touch
1a: Adult called them out to look.
Gil 1c.
DZ
1b 1c 60s.
Child stepped and observed case - 2s.
"Let's look at the Bar triangle."
1a 2e 1c 3x.
1a: walking glance - 75.
-3o 1a 4s: Stop/read main panel.
and observed case did not touch 1:30.
32 2e 1c 60s.
Child asking What's the difference about
panel and case. Adult smiles kid? 45 e - 1dp.
35 Visitor requested a visitor hitting
glove in new case - said to check it out.
Recent passing of glove up here playing.
-40 - left seen took picture of
case on each panel.
-41 1a 62s stop/read 2s.
-46 1c 1e 60s.
1a approached case - read panel.
1m 42 2a 50s stop/read.
in printed title. 2d read/talked
about paper face, no touch.
12-1 8:30 4 A
0:08 12 12 2s
Ted next to TD board and
read "3s" pointed into another
6:15 group pointed south or east
of Abner
2s group pointed south in east
of Abner, use BD board
24 12 12 3s
5:24 12 12 4s
Child sat next to TD board (to your)
adult said briefly, tried to fly test party
2s
24 12 12 4s
Approached panel, both handed papers
then read panel walked away
3:28 12 12 6s
"This looks like "marvel". A
" and "all manner of letters, saw and ID"
Moving around
5:32 12 20a walking lock @ 12b
3:52 12 20 30-7s
Can we tell you what is followed? "12a
C. Got one" pointed at panel 3s adult read
panel 2s
4:47 12 12 4s
 Chad moved papers and read panel

1:30
45 12 20 3s
He read not "when to go"
2:30 12 12 3s
He read more about "when to go"
12:1 Dig Zone
10m 12.8c, 6c, 6c, guarded by 3 more adults and 1 more child.
2a+3c stayed in D2. even.
kids would go to dig while adults observed from side.
- theme: test
- 1.8m 1.5c
- 1.6c + 1c entered, chatted around box, sped for "D2, this should be boring.
- 3b: North, both left to burrow ~35.
1:2:3 Camp group 2c+2c
Came back on bench, kids used to hunt, no action.

"Here, I found Dragon Eggs!" said I.<br>
2:00 2c, 1c, felt did not enter.
D2, stood around edge. did not want the bare sand.
24 2c 5c 12 - 12:15
- So entered and began digging.
No sign of parents, more play.
- Theme
- 28 2c 1c 40
- Play, not searching for specimen.
on usw. panels - adult: 2.5 m water
- 6b, 7c 50
- Kids playing around.
- 14:40 2c 1c
45 kids playing root around.
look for "dig" and find specimen.

4:48 Camp group 1c 14c
- 18 kids grouping at rocks in to sand.
- Met 6 gathered around box. pulled to look for 3b before running off to send 20. mention of unident具体的
- 52 1a, 3c, 6d
- Adult walking 6 kids to Ladies.
- Example: 453 bake lost interest - started playing 3 other adults from group
- child, to observe two adults follow the others and look around and gather

1-2 ET
- 07 1a, 3c, 2c
- Child went up panels ~30m
- 12 2c 2c 45-60
- Children tagging roots, usw. panels more.
- Reading, "mm".
- 11 1c, stepped + read panel 42.
- Panel ~21, read 4 panels to 3c.
- Panel barely before turning ~180
- 12 2c, (parent) approached.
- The other stayed and went through panel.
- 14 1a, 40c 2c
- All three found panel + casted.
- Talked to each other after flipping up panel + casted.
- "Hey, 2c 6b. 1c walking out".
- 14:40 2c 2c 12
17 1a 4c 28a
2c 1c used panel and touched
casts - 90s
19 2c used flip panels - touched
casts 1min
21 2a 2c 50-60s
Children used panels / touched
- 30s
24 1c approached and read
n 20s before returning to group
21 Camp group in 11c
4c used flip panels rapidly
before turning to elephant
19 Disconnect between tracks on
guard and panel
No visitors have entered the
2
24 3a 1c 90-60s
25 1child ran quickly matched his
hand to broad panel on panel - 1 other
adult stepped broad panel - 20s
29 2a 30 2c
Horn called over child - told to see
panel all touched each flip / move
and out
33 2c 2e 40-60s
1 child approached / used 3 panels
and returned to group

38 1a 2c 38a
Other child read flip for carillon
put foot up on elephant cast
- 40s
41 2c 1c 40s
Parents used flip, then child used
alone white parents asked "What is this one"
Audience - young learning to read
2min
44 1c 2c 50s
Younger child approached and flipped
panel, then asked "Which is the elephant"
child pointed out panel 20s
45 2a 2c Heifer
approached and used flip panel together
20s before leaving the
50 1a 2c 50s
1 child approached panel - touched
2 casts + flip before leaving the panel
Other child moved over to panel - both
used all flaps - 60s
52 2a 3c 50s
Other child began using panel / work chips
rest of group ignored and went through
whole panel - 1min
2-3 D2
24/7a 3b 3c
Kids playing 7min
or 1a 3b 2c
Kids playing 7min
2b 2a 4b 3c
1c +3e digging for sampler
2c: "We found a tree stump!"

did not want to disturb & helped
Adult of first group(3rd) "I feel
like this spot is the most interesting.
I promise when the kids don't want
to get out."

34 2a 5c 4e
Children digging, Adult read
Guide panel, gave buddy +430
"We found a termite mound." - C
Adult also looked through field books
+65 in area 8min

27 2a 2e 50a - 60a
Kids playing, adult observing
128 2a 1c 3b
Young child 2y playing 16m
Kids began searching for sampler
and using tools 14min
Child dog adult walked

35 2c 1a 4b 1c whiskey
Used to look for sampler
"We need to get brisker:" e
"Here what you're looking for..." P pointing
Goto to TB panel self-take. 10min

38 2a 2b 1c
Grandpa & child searched for
Letter, 6min

49 2a 3a - 4d 3c
1c & 2c used bin sampler + held back
1min 2c & 3c digging more for play
later 2 clocated 1 object from
1a 2e moved around and read
other panels + 35s

3-4 1c 1d
3b 12 1a walking read allowed
Group is in hut 1a 3b 4c
3a 1b. 1c child stopped, read 15s
2b 1c 2e le 3a
Walking read 1a, testing
through their door
1b 30a 2a 2c 1a walking glazed +75
1G: 30 2a 4b 1c
1a & 2c stop read 10s
10 Allerte (And about empty)
8 visitors, in Elephant house, none
in guest room
49 30 2a 5a walking read -12s
BS: 30 2a - 1c walking read -55
1/14 11-12 ET

Overcast windy, snowfall: wind
affected fairly exposed, mention
of tents getting blown the area
see a group of white tents
11/16 1e 2a 2c 2a Camp group

Counselor assisting children, reading
around ~ 4:55

:15 2a 45-70 2c
Adults reading with 2c

Other child compared his feet to ours hands

:18 2a 30s 2c
1c using pencils, adult reading
about 1h55 + painting at the tent ~ 4:55

:18 1e 2c Camp group 2c

Group quickly flipped 4 panels
and read in 2c

:20 1e 2c 45

Child flipping panels to lean, mom

painting at 4:55

:22 1e 2c 20s-30s

Painted tents and used dry panels
did not search ~ 4s. Groups ~ 4s.

:22 1e 5c 50s

3c flipped panels quickly, mom
joined - panels opened, flipped around
down 1:30s

:26 2c 3c 2a 35s camp gap

1c tried to sleep and read panels

Counselors called them back

:27 2c 40s-70s 3c

Both adult leaned each panel - painted
kids to 40s the same - 2c

:29 1e 40s + 1e 1c

Open another group at panel, talked
kids + 4h5, read 3, Ed's brand - 1:15

:32 1e 2c 30s

Walking back from all numbers 5-12s

11:40s + engagement

:33 9c 2c 30s

Kids went over to panel, with 4 tried
to guess 30s ~ 1:45 1c went to observe 4c
After began using slip to play ~ 2s
All 3 engaged + touched paint cards ~ 20s

:36 2a 30s 1c + 1 installer

Did not hold child, using slip + trying to
clean panel, child got down and touched
parts ~ 2:10

:37 1c 2c 30s

Child comparing tool to touch cards

4:55

:41 1c 2c

"Hey what are these?" Referring to
tracks on ground; 1c built down to
compare brand - Did not use panel

:42 1e 2c in stroller 4:50

Threw stroller and kids touched cards

~ 10s
12:15 131 4
12:1 1e 60s 1e
Adult "look they have names." Preen Remarks:
Adult to child - child ran over to 80 - 10s
12 1e 60s
Guided to next Avenue pond - 40s
used RH 1 panel - 15s
10 2e
1e Stop and ID panel on east
21s
12g 2a 3e
1c 1e read pond briefly 20s end
and about 2 names - dad - isamaa
3s 1e 3s
Child asks about to play - 20s
12 1e 21s
Child and 0 to play - 20s
12 1e
1e Stopped - read ID panel
20s
5 No more interactions
Start fed to rain around 12:45
59 2a 20s
Feeding crew shown - 0 according
4 2c 3s
No action they observed in enclosure
"will we did see there 2 growing when
we came in" - 1a
12 EL

05 2a, 52a, 8c, Camp Group
Kids took turns doing both

cards, posting, completing

Counselors said no more after 11:21

1:35

07 2a, 2c

Stopped Red panel book

Read Activity book

14 1a, 6c, 4b5

Child began new book while dad
read, child stopping on drum cover,
didn't feel anything "You've got
to hear it to the other end" A2c

Child corrected "At all!" 1:20

08 2a, approached, read 35.5

Counselor 4c, 2a, 4b5

Children all attempted activity

did not read, left after 11:46

11-12 EL

08 1c, 4b, 2c

2 children completed activity

Dad observed - read panel - B5a

11 1a, 4b, 3c, Camp Group

A child put around 11.22

Reading, kids also lounged on drum

cover and read #2 4c swapped

time completing activity 1:35

13 1a, 3c, 1 child

Child turning at pictures and

looking at blue panel - post panel

on drum cover - no activity 2.1

15 2a, 4c, 2c

"Can we do that?" C reading at table

"Do you feel comfortable?"

14 child + 1a completed 1:35

16 3a, 5c, 2a, 4b5

C read panel aloud to kids, kids

played together & 10s

20 1a, 3c, Camp Group

9c approached and read completed

activity. 1 read panel slowly 1.55

Group turned in after 11:22

21 (1a, 4c, 7c) kids read

23 1c, let Camp Group

Counselor observed with 4c,

did activity "Did you hear?" C

Kids correcting each other 11:50
Kid's bringing in drum cover (1:2)
Others trying to do correctly. N

"What's this?" C

"What's this?" C - warm up

Panel tests went right so activity.

"You have to learn."

And kids took turns re-doing activity.

3. "Now we're going to do activity."

"No you have to put your head here."

Adults observing (1:4)

2a: 13c - camp group

7 kids being up on drum cover

Reading of panel - co-op activity played with other kids at Elephant's Yawn.

"I don't see anything" "I see" activity going solo - some doing with my sight or reading (1:3)

8:30 - circle camp A-

"Can I have your hand? "... make sound - here 2min"
3-4 MV

:06 2e 60s 1e
This is a major house 2e
No orders 2e walked with them
7 3a 6c
20c watched videos
Group lost focus after lunch
Began talking about other exhibits
1:50 in lab
1:08 1e separated from
2p 3a chairs - entered lab, watched VHS
Inside over list - 15
3p Different Child from
Zooten table group - same actions
3:38
:18 1e 1e 30c
Child entered - "Dad tried to call
me and to stop." Woman- "2e
Wished I wish before leaving - Dad
called during 4-5 times 9:15
1p 1e entered and looked around
presented 2 videos - watched mostly
1:23 1a 1e 43c
Ended watching remainder of video
and looked around until 4:38

24 1e
Child stood in doorway and looked
around before driving and walking off
9:39
27 1e 10-39 2e entered
"That's a horse right there" pointing
10 1e 1e 39
Adult looked around and inspected
items - no videos - child played while
man looked - then in lab
34 2a 8c 3c
Group 2e entered and joined
Video lectures "I want to see the TV" no location of objects - 1:35
"What do we do?" I stepped in
and explained the interaction to man 2e
Group worked together to locate and watch
videos 1 at a time - spent another 215 dying
activity
30 2a 38-40 1e
Child entered and looked around - 40s
Watched old plywood did not watch
in field
52 1a 2a 2c
Child did school project on Hawaiiana
Entered with group and explained a lot
about favorite "Samoan"isser
1:55 2a 2c 38
Kids passed over two watched 30s at
2 videos tied to hit bottom first.
7/16 12:1 BP

Child, Sneezy, asleep, fell to the right
Child not awake, lots of visitors today

07 14. 46. 1
Child pinked at ear: "I want to see you." He had a big hand. 08

May called away
08 14. 53. 02

Child approached and got pinked
On ear - 18. After child called away

01 14. 53. 02

Same action. I hate that child!

13 2a 1o 30

Walked by ear, both adults scaring

Other ear, pinked - 25

01 14. 2. 2

1 explained pinked and came to other
0. 35. pinked

13 Camp err. 1c. 1c

2c approached ear - read / worked

Case - 35. - Commissioner joined, be explained
and 3 talked about ear. 3 other c joined

2c 35. 1c le le tine. 1c Eq 05

18. He stepped on ear and moved down
Line - 20. May call and come?

19 Camp err. 1c 3 + 1c 3c

Commissioner reading to self, got painting
and talking about panel, looking at

Case 145

21 13. 58s. 3
e (Children 14-5), looking in case - at panel

05. painting at pictures

02. 1c 1a 43.

Then looked at panel on ear, was speaking
Child pulled ear - touched ear - compound

Panel - 35v

01 3. 1w 1c. 2c 52.

Then 1c approached ear, looked at humor

Sampler before going back to gang

01 2a 1c 2a 50. 58.

12 + 1c = stroller. "Are you sure these pictures are 2c?"

Other adult was seen, painted at panel, and humor

At painter 4. 1c = take pictures - 50.

01 2a 2c

I stopped - read panel - 2c

01 2a 5c 3s. 45.

I child approached and talked at case - 50.

"Are you guys want to see some of the year 200?" gang didn't

01 32. 2a 7c. 4c

1c stop read 4. 45.

33 1c. 4c. 1c

2c ran over - touched ear before gang

Back to gang - 35.

0c 1c. 2b. 3.

"We're all related!" "What are these black marked?"

Statement to him: highly engaged

1/15
38 la 2e 4E
Wanted to walk and reach panel
asked if a child approached
and touched case 25E
39 la 15E 1E
"Those are Raggedy Ann & Andy" - Adult
answered question about case - 45E
40 la 5E
Asked what would happen if there
were no labels - Replaced him to case
to see health's hands - Sprained 15D
Inquiring case panel
41 la 2E 2E
1% approached case looked around
1E
42 la 1E
Dad reading, child looking case
50E
46 la 7E Camp gap
4E walking look/and of case panel
on case
47 la 1E 58E
approached case on entrance - A sand
observed case, child touched case & talked
48E
50 la 1E 11E
Then stopped & took pac of
parent and case 2E
51 la 4E approached - read panel/looked in
case - 35E
54 la entered - looked in case - Adult
called from outside, let - ran out
1-2 MV
504 B - 1E Enters camp gap
A stopped - 20E Be seated still pattern
and looked around LT 1E 1E
505 la 60E 1E
Watched hand pull - read declarer
private, red pointing to objects - 11E
07 la from outside - What in
here? - Got group - 1E Be told to
enter and look around back - 42E
5E watched and already on - 2E buttons
presumed objects in suit
10 la Watch the scene 1E
10 E Camp gap 14E 3a 2E
"Can you find things?" He read
around - most gathered and left quickly
505 45E stage and walked through - 1E
12 la enter - 2E kneeling button
quickly "I tuned off the TV" Switched
getting regained trying to watch video
Adult took picture of kids made then
Largely reentered 3 times joint
head to turn the 2E - shut - repeat
15 hrs 45 mins

Entered watched 3 videos - 28 secs each - 2 in that egg shell hitting button - great left - located objects on panel - painting 1.75 inch
talked around hit

"Can you imagine being here?" I asked.

Did not recall looking for objects. 

Kids looked around, went more avg 1.745

34 mins gap 1.5 hrs

Children passed red button for play - 2 ok scanned around lot hit with a leg on that 2

26 mins gap 1.695

"What is here?" Kids stopping to examine objects - added 1 video - 38 sec

And took picture of panel hit 1.255

28 hrs entered and looked around

Inside -退款 chart - 1 min

29 hrs entered - looked around for object "I put that on instrument or somewhere" Watched 2 video mins

31 mins 20 sec

Went through 25s

32 hrs 19 mins - Stepped Buttons a bunch

Just these to last buttons

"I'm wrong" - I wrote.
23 ET 7/19

04:40:30
Stop record. Adult looked at panel 35s.

08:25:12
Child read cards, turned away.

12:45:12
Adult 2s read panel briefly. Parents read aloud on 2 and 3 ltrpm. Turn panel 35s.

16:40:19
Both stop head panel + 35s turn.

18:40:19
Child reading panel.

19:15:23
Child of child reading panel.

19:35:12
Child read aloud.

21:15:35
Child moved away. Did not touch panel.

22:15:35
Child using ltrpm for play.

00:15:35
Looked to stop + turn panel to read.

01:19:35
Eggs le 1 1 ltrpm 1 1 1

19:19:35
Turned each card. Panel adult.

20:19:35
Shared connection between panel + panel.

21:19:35
Step from other group read 10 last.

22:19:35
Can't read panel.

23:19:35
Child walked over + panel + panel.

24:19:35
Step 70 panel reads 20.

25:19:35
Adult read, panel X.

26:19:35
Stop record. Read panel.

27:19:35
Left.

28:19:35
Read panel.

29:19:35
Read panel.

30:19:35
Read panel.

31:19:35
Read panel.

32:19:35
Read panel.

33:19:35
Read panel.

34:19:35
Read panel.

35:19:35
Read panel.

36:19:35
Read panel.

37:19:35
Read panel.

38:19:35
Read panel.

39:19:35
Read panel.

40:19:35
Read panel.

41:19:35
Read panel.

42:19:35
Read panel.

43:19:35
Read panel.

44:19:35
Read panel.

45:19:35
Read panel.

46:19:35
Reading.

47:19:35
Reading.

48:19:35
Reading.

49:19:35
Reading.

50:19:35
Reading.

"Did you see her big brother on?"
Children doing activity - Adult read instructions about new task and children were doing it correctly 17:58

25: 2c. 2d. 2e. 2f. 2g. 2h.

"What is that?" - Adult read panel.

Adult read activity - adults did activity wrong - adults corrected kids

Teacher 2:25

15. 1c. walked up and read panel - 25s.

17. 2c. 2d. 2e. 2f. child went and tried activity - adults observed

35s:

15. 2c. 4b. 2d.

Children did activity correctly - 17:55

35s:

21. 2e. 4b. 2c.

Adult read panel - joined c in activity - all completed 1:15

24. 2e. 2f. 2g. 2h.

Grades read panel - instructed activity

2d. completed it took turns 1:25

25. 4b. 2e.

Adult read panel aloud - kids did activity - switched

30. 2c. 2d. 2e. 2f. 2g.

1c. read panel aloud and instructed kids who took turns - Adult did activity too 1:05

30. 2c. 4b. 2e.

Kids did activity. Did observ 45s.

30. 2c. 2d. walked panel

"Scientifically what does this activity do and what does this do."

"What is this?"

30. 1c. Teacher instructed activity, and let kids do activity - correct 43s.

33. 1c. approached - did activity - 48s.

35. 2c. 4b. 2e. 2f.

1c. attempted. 35s - other read panel

36. 1c. 4c. 4d. 4e.

A read panel aloud - instructed kids - Adult took over bringing kids took turns.

Punched Penn. on 1:25

38. 2c. 3b. 4c.

1c. called over group - Adult read panel in special kids did activity 1:40.

39. Group at theＡ - foreground.

Cover me panel reading - Given by adult.
142 2p 1c 40s
Le avad - other asssted child
Waw activity 1:15 susi/bad
34 1p 1p 3c adult and
paused to stand, kids 3:10 p
/15

7/17 R-living room
Mostly cloudy, T-storms expected
this afternoon
13 8f 14c camp great
Children played at lens out
on kids 25s
15 lo 4c 7pc
6c running, jumps on jumping
rope
15 2p 2v 40s
Child parsed to rest out. 12h oped
Rents a good place up at 6:3
Other photos and pictures of both 2am
21 1c stepped + took photo 1c jumped 40s
22 2a 6pc step 1d panel 35s
25 2a 6os 2c - step/led by
Adult both kids jumped 50s
26 1p 5pc 1c kids run
Over to take picture of both out 32
30 2a 20s 1c
took picture of center 1m
32 3a 40s 60s 1c stepped + took
picture 50s
34 1c step 4pc 3c 9c
2c on edge, standled center
1 h 3c 1m 40s stop/road
noticed running on grand flied
1 and activity 115
57 2p 40s - ceta 1c stop/picture
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>18:40</td>
<td>1st aid treatment to a child</td>
</tr>
<tr>
<td>18:50</td>
<td>Child taken to the medical center</td>
</tr>
<tr>
<td>19:30</td>
<td>Child discharged from hospital</td>
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<tr>
<td>20:45</td>
<td>Child was picked up by parents</td>
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</tbody>
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Additional notes:
- Child was discharged with advice to continue medication.
- Parents were given instructions for immediate care.
- Child will be followed up by the pediatrician.
7/31
9:30 - 10 Zero visitors
Elephants walking sign up
Have only seen 1 group - 15.2a 2c 2e
-50 Warm Sunny Day
Lots of visitors expected today
-83 First visitors to Africa

Entrance
CL 12-1
06.38.1 c 3b.

A. Adult approached ripped up

B. Leader, child attempted activity 35

C: 3c. 2c 2e.

Adult observed, read panel, children
attempted activity, took turns 1:15

D: 3c. 6b.

1. Walking, glance

2. 2e.

2. Children approached, then in adult
read panel aloud, children take

turns

2. Long gaps 2c. 15c

4. Walking, glance

14. Group 2c. 2e.

1 child ran over and did activity. puts its

19 campers 1c 5c.

"Am I to do this? This is how elephants hear"

Children read panel, completed activity

1m.
18 3c 2a 55s
1c approached, read panel
children completed activity
55s
1:20 1c 4c
Be ran over and attempted
activity 35s
1:20 Camp group 1c 5c
Conductor read panel aloud
children completed activity
1:22 c completed 1c
3c ran over, attempted
activity, 1 did correct, others ignored
on face 5c
1:23 2c 6c
completed activity, read panel
1:28
1:24 Camp group 2c 1c 4c
children cut ting ting, conductor
read panel aloud, made sounds for kids
1c 2c stop read, completed
1:25 9s
1c "ok ink us that it" 2c
ran over, did activity 7c
1:27 "grandma , put you read in this"
1c 2c 4c 6c
All completed activity

1:27 1c 3c
Adult read panel quickly, children
completed activity 55s
1:27 3c 6c 5s
Adults observed, read panel, child
did activity solo
1:31 Camp group 2c 7c
"I can hold the inclination," "What is it?"
2c ran over read panel, group joined
c did activity, turns
1:32 1c 2c 6c
whole cutting over at first, adult read
panel, instructed kids 110
1:34 2c approached, did activity
1:36 1c ran over and did activity
55s
1:37 1c 1c
Completed activity, read panel 25s
1:39 2c 1c 6c
completed activity, no read 25s
1:40 2c 1c 6c
1c 2c attempted, no read, kids
playing
1:40 1c then completed activity 55s
1:41 1c 5c
(4c threw completed took turn for
1:42 Camp group 7c
attempted activity, using book as drum
1 pointed at panel, 6c completed
2:15m
12 14 20 40

10:48 1c ran over boat hand
12:02 2c in tube, read part of panel, left
12:20 2c
12:40 3c read panel, completed part of panel activity piece 90s
12:50 1c 1c
12:54 3c followed
12:56 3c completed activity piece 90s
12:56 1c 1c 70s
1c in tube, part hand in tube
adult observed
1:35 3c camp group 2c to 1c
1:40 1c went over, topped on tube, yelling in wrong dir "okay everyone get off it" 230ms
1:45 1c 1c
1:47 1c 5c camp
1:48 3c giving instructions, read panel
when group completed "ran pasted 1c 1:52"