Participant Guide

Fearless Evaluation Webinar
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Fearless Evaluation

Fearless evaluation provides credibility to programs and media that are developed to increase resource knowledge, instill emotion, or to inspire action. Evaluation makes the interpreter accountable and responsible for the visitors' experience.

What Is Evaluation?

- A mechanism that helps an interpreter to understand visitor knowledge, vocabulary, misconceptions, and preferred learning styles.
- A tool that keeps the interpreter informed about visitor understanding and experiences during the planning, design, and building stages of a project.
- A measure of the success of the program or media. Because the process is used to measure outcomes rather than outputs, it is often called Outcomes Based Evaluation (OBE).

What Are the Benefits of Evaluation?

Using evaluation throughout the program and media development process:

- Saves time and money.
- Contributes to the experience's effectiveness.
- Helps to achieve message goals.
- Advises managers and granting organizations that the interpreter is serious about making sure that their money is well spent.
- Gives measurable credibility to agency assertions.

What Do I Need To Know?

- Before beginning to develop a program or media: what does my audience know, what don't they know, what vocabulary do they use, what information do they have wrong, what information do they have right, how do they want to get new information, do they even care about the topic?
- While developing the program or media: what parts of the piece work, what doesn't work, what can be changed or modified, what are the results after the changes have been made?
- After the program has been presented or the media has been installed: What knowledge and emotion does my audience take away from the experience?

Know what information you want to gather.

Know what you want to improve.

Evaluation Basics

There are 5 types of evaluation: Front End, Formative, Remedial 1, Summative, and Remedial 2. This can get confusing because Remedial Evaluation is sometimes not included, and sometimes both types of Remedial Evaluation are considered to be the same thing. The following chart provides the purpose, methodologies, and appropriate use for each evaluation type.

Type of Evaluation	Purpose	When	How (Methods)	How it is applied
Front End	Find out what the audience knows and feels, vocabulary, misconceptions, how they want to learn	At the beginning of the process when you know the topic, but not much more	Surveys, Focus Groups, Interviews, Think alouds, Post it Surveys	Directs the proposed message and delivery method
Formative	Tweak concepts and designs, make improvements, work toward better outcomes	Throughout the design phase, before going into final construction	Unobtrusive observation, interviews, questionnaire, Post it surveys, think alouds, concept mapping, tracking and timing, focus groups	Refines delivery methods and clarifies proposed messages
Remedial 1	Fix the fixable and the obvious (replace a light bulb, move a sign, repair whatever is broken)	After opening or first presentation, when you can see how audience responds and identify issues	Obvious observations, Candid questions, anecdotal information	Identifies the fixable before it fails with most of the public or before a lot of money is spent on summative
Summative	Identify and measure the good and the bad parts to make informative decisions that may be useful in the future.	After the public has experienced the program or media more than once.	On final exhibit: Unobtrusive observation, questionnaires, interviews, think alouds, Post it surveys, focus groups, tracking & timing,	Provides a how good is it? measurement. Informs future program or exhibit design, proves that that outcomes are important to your organization
Remedial 2 A different kind of remedial	This is not a part of the evaluation process mentioned above. This method is employed when it is known that something isn't the way it should be and major changes will be made, but there is uncertainty about the changes that need to be made.	This remedial happens after the exhibit has been opened for a long time or the program has been presented many times.	Tracking and timing, surveys, interviews, Post it surveys, questionnaires, pre post questions, unobtrusive observation, think alouds	Identifies unsuccessful delivery methods and messages so that informed changes can be made in the proposed overhaul

Front End Evaluation is conducted at the beginning of the design phase. Front end can help you define and write a central idea or theme, but a topic must be established before starting a front end evaluation. Front end will help you find out what audience knows already, their vocabulary, misconceptions, and how they want to learn.

Formative Evaluation takes place during the design phase andas the project is being designed, but before the project is too far along to make changes. Formative evaluation is the time to try out as much of the design as possible as well as to make adjustments and improvements before going into final production. Formative evaluation in exhibit design is often conducted on cardboard or foam core prototypes and mock ups. In program design, inexpensive props may be used. During this stage you are determining how the audience uses and responds to the proposed design, the take away messages, what parts work, what needs to be changed, and what needs to be removed.

Remedial 1 Evaluation is conducted after the program is presented a few times or the exhibit is complete and the first audiences have experienced it. Most remedial evaluation happens naturally, finding what doesn't work and fixing what you can. Elements such as a burned out light bulb, an inappropriate gesture or tone of voice, a hidden label, or a loose screw are identified in remedial 1 evaluation. Remedial evaluation is not intended for major changes. Those should have been identified during a formative study. Remedial is done to polish the final product and to prevent finding out during a summative evaluation that no one read that sign because the light was burned out.

Summative Evaluation happens after the program has been presented a few times, the exhibit is open, visitors are coming in, burned out light bulbs have been replaced, and all the adjustments that are going to be made, have been made. Summative evaluation is not intended for making improvements. It is intended to measure program or exhibit success. Summative evaluation measures take away messages like what visitors feel, what they did, how they behaved, their future intentions. You can't necessarily say what they learned, unless you know what they entered knowing and then measure what they leave knowing. While cognitive gain can be measured in a summative evaluation, it has to be addressed specifically.

Remedial 2 Evaluation is used when an exhibit or program has been in place for a while, and it may be ready for an overhaul. In these cases, staff identifies the need for change, but they may not know exactly what or how to make the changes. They want more direction and guidance on what is and isn't working so that more informed decisions can be made in the overhaul. There is a semantics issue here: studying the existing program or space for the purpose of making changes could be classified as front end, because it is happening before the new program or exhibit is being designed and the study will advise the design. It can also be considered formative evaluation because changes are anticipated. In this case the existing program or space plays the role of prototype. It could even be summative evaluation because the final piece is being studied after it has been in use.

Outputs and Outcomes

The purpose of outcomes based evaluation is to measure outcomes rather than outputs.

Outputs are tangible characteristics of an experience. For example:

- 35 people attended the program.
- A guidebook was given to all participants.
- The participants attend one class per week.

Outputs are included in the evaluation report, but are not the primary purpose for conducting evaluation.

Outcomes are the messages, feelings, and attitudes that visitors are taking away from the experience. There are two types of outcomes commonly measured throughout the evaluation process:

> **Cognitive outcomes** are the messages that visitors are taking away from the experience. Cognitive outcomes are what visitors learned, what they know, what they understand.
> "I learned *that there are over 1500 active volcanoes around the world"* is a cognitive outcome.
>
> **Affective outcomes** are the feelings, attitudes, and emotions that visitors are taking away from the experience. "I think v*olcanoes are awesome"* is an affective outcome.

When Do I Need To Get OMB Approval?

The type of program or media being developed and the amount of data you feel needs to be collected during any type of evaluation study will determine if you need to get approval from the Office of Management and Budget (OMB). Some studies such as the annual Visitor Survey Card study and the Visitor Survey Project require OMB approval because they ask more than 9 people the same series of questions. You will decide the scope of your project and the number of audience responses will be required to adequately evaluate your program or media project.

Only collect the data that will be analyzed and acted upon. Gathering 400 surveys that are never used cost valuable money, resources, and credibility. The 400 people that completed those surveys need to see results. If they don't, they'll be less likely to respond the next time you conduct a survey.

Bigger isn't necessarily better unless you're doing medical testing. Remember, this is a sample of the population so you don't have to ask everyone. So how big of a sample is big enough? There are lots of sample size calculations, but the importance of sample size is really more dependent on the effects of the results. If you are testing a drug

that could have harmful side effects, you definitely need to have a very large sample size to reduce the margin of error. In most cases using outcomes based evaluation in informal learning environments, the results are not life threatening, so the sample size is not nearly as critical. Every little bit helps, but the amount of help decreases as the sample size increases.

For example: From the first 5 people asked, the amount of new information you gather goes from 0 to 60 percent. The second 5 people give you an additional 20 percent of information that you didn't know before, the third five people increases your knowledge about the population an additional 10 percent, the fourth five people increases your knowledge of the population an additional 5 percent. Now you've asked 20 people and you have 95 percent of the new information you are likely to get from the population. That last 5 percent will come in, but at what expense?

A recommended sample size for exhibit and program evaluation using interview or survey methods is between 40 and 60. You should see 95% of the trends with the first 20 people asked. The additional 20 or 40 sample members will verify and further clarify information.

Case Study: Large Sample Size

In 2001, a small science center embarked on a major transformation. The original plan was to expand the existing small building. A feasibility study revealed that the community both wanted and could support a much larger science center as a result the science center staff began planning a $60 million dollar facility. The staff soon discovered that for the small science center to achieve this new vision, it would need to be moved to a new location. The science center staff recognized that moving the location of the science center might generate increased attendance. They also wanted to ensure that the experiences that were being designed for the new building were both exciting for audiences and met their educational outcome goals. Over the course of the following three years, the science center conducted 14 separate front end evaluation studies. Those studies included focus groups with talented and gifted junior high students, parents of preschool age children, home school parents, board members and staff, school district administrators and teachers, vocabulary-focused interviews, concept development interviews and questionnaires with existing and potential audiences, and many more. They continued the evaluation process as they continued into the design phase and conducted remedial 1 and formative evaluation.

Case Study: Small Sample Size

In 2004, a metropolitan county nature center was given funds to develop an interactive learning space within their existing, yet empty building. Funds were limited so they chose to focus their front end evaluation on the topics and vocabulary that would be addressed in a series of small introductory exhibits. Forty visitors to the nature center were interviewed. From the information gathered during these interviews, designers were able to create exhibits that built on the visitor's existing vocabulary and topic understanding, addressed unanswered questions about the history and geology of the surrounding recreational area, and delivered content in a ways that appealed to the visitors.

Front End Evaluation: Know Thy Audience

Front End Evaluation is conducted during the beginning of a project *after* a topic has been established but *before* themes, story lines, messages, and strategies have been developed. We need to know about the audience's and potential audience's (those that are not coming, but could be) interests, knowledge, misconceptions, vocabulary, emotions and feelings about the topic. From this information we can design a project that will be meaningful, interesting, and cost effective.

In the case of front end, we aren't measuring outcomes because the participants have not yet experienced the program or exhibit, so outcomes don't exist yet. At this point, we need to know what the audience understands, their vocabulary, and their level of knowledge before we can design an experience that builds on what they already know, or addresses misconceptions they already have.

How to Conduct a Front End Evaluation?

Step 1 Define what you already know, and what you need to find out including:

- who the audience is(the audience demographics)
- when do they tend to come to this type of program or use these types of media

Sometimes we think we know more about our audiences than we really do. We think we know their level of understanding on topics and their vocabulary. Often we are remembering extreme examples and applying those examples to the majority of our audience.

Questions to be considered when conducting a front end evaluation include:

- What does the audience already know about your topic? What do they feel about it?
- Do potential vocabulary words have an emotional connection?
- What does the audience want to know, what are they interested in?
- How does the audience want to learn or participate in the experience? Do they want to read, watch, listen, or build something?

A few new questions that many designers and interpreters are starting to ask is: With what resources are the audience coming to the experience? Is most of the audience bringing a cell phone? A smart phone? Do they want to incorporate that into the experience?

Step 2 Determine the data collection methods to best meet your project's needs

There are many methods to use when collecting front end evaluation data including:

Literature review
Surveys
Interviews
Post it surveys
Observation of existing spaces
Focus groups
Concept Mapping

Use more than one method to gather data.

The type of methods used will be determined by several factors:

- ✓ What type of information are you looking for? (cognitive or affective)
- ✓ What type of data collection will the target audience accept?

What types of information are you looking for?

The information you are looking for in front end evaluation will be related to your outcome goals for the program or media you are about to create. What are your outcome goals for the project? Do you want the audience leaving knowing 10 facts? Do you want them to feel excitement or apprehension? Do you want them leaving with an intention to act?

If you want them to leave knowing more facts, you are looking for cognitive gain, a cognitive baseline needs to be established. What does your audience know before they are exposed to the experience?

If you want them to feel excitement, apprehension or wonder, you need to find out what excites them or what causes apprehension or wonder, before you develop the program or media based on your assumptions about your audience.

If you want them to leave with an intention to act, you need to find out: What actions they are currently taking or not taking? What they think will cause them to take action? What obstacles are keeping them from acting?

What type of data collection will your audience accept?
Will your audience be comfortable with sitting down and filling out a 10-page 40-essay "test"? Not unless they are competing to get into a very prestigious academic program. So it is important to think about your audience when determining which method to use. Will your audience attend a focus group? Will they take a moment to answer surveys? Motivation plays a role in how an audience responds to requests for information. Audiences motivated by educational purposes tend to be more responsive to providing information. Audiences motivated by enjoyment or recreation are less likely to respond to data collection. For example, if you ask a family walking through an amusement park if they wouldn't mind answering a few questions, you are more likely to be rejected than if you asked the same family the same question as they walk through a history museum. Motivation (the reason they came to the amusement park or history museum) makes a difference. Other factors can influence it as well. If the family at the amusement park is waiting in a long line, and they don't have to leave the line to answer your questions, they may be more likely to be responsive, and the same applies for the history museum. If the family is on their way to a presentation that starts at a set time, they are more likely to decline.

The Most Common Front End Data Collection Methods

Method	Definition	Advantages	Limitations
Surveys	A series of open and closed ended questions that are read by the participant and answers are written or typed by the participant. .	Can be administered to many people in a short period of time. Answers are written in participant's vocabulary. Requires few data collectors (online requires no data collectors)	Limits types of questions that can be asked. Requires more effort from the participant than interviews.
Interviews	A series of open and closed ended questions that are read by an interviewer, answered verbally by the participant and written down by the interviewer.	More flexibility with question formats such as vocabulary sorting Requires less effort than surveys from participants	Limited number of participants can be interviewed at the same time Data collectors must be careful to use participant s vocabulary not their own. Requires more data collectors than surveys require
Focus Groups	A planned meeting of 8 to 12 target audience members or representa-tives of a target audience. Focus groups are scheduled in advance and should not last longer than 1.5 hours. Examples of focus group target audiences are: preschool children (usually represented by parents or teachers), cultural minorities, staff.	Gather in depth information in a short period of time Get insight into unanticipated issues and vocabulary Participants build on one another's responses	Limited number of participants Can be challenging to get participants due to the time and inconvenience of a special meeting. Participants may build upon each other s responses

Questionnaire is an ambiguous word that is often used when it has not been decided if the data collection method will be surveys or interviews. The term questionnaire is often used interchangeably with survey.

Step 3 Build the data collection instrument

Data collection is methodical. If you use surveys, focus groups, or interviews, the way that questions are asked needs to be concrete and consistent. Questions are in text format so that the question is asked the same way every time.

Step 4 Collect the data

How the data is collected will be determined in part by the method selected. Data collection can be conducted by staff, an outside consultant, volunteers, the audience, electronically through survey websites, and more. It is important to make sure the audience participating in the evaluation is representative of the audience for whom you are creating the product. In other words: don't go to the local nursing home to find out what your average exhibit visitor understands, unless local nursing home residents comprise the majority of your visitors.

Data collectors need to be trained for consistency and accuracy. Evaluation methods require different types of data collectors, and consequently, different types of data collector training. In a tracking study, for example, the preferred data collector would be an individual that blends into the space or the audience, someone easily overlooked and inconspicuous. For an interview based study, the best personality for a data collector is one who is friendly and outgoing, but not overly boisterous, a good listener, and a quick writer.

Step 5 Analyze and Report the Data

The data collected through each evaluation method is unique which makes compilation, analysis and reporting varied. Front End questionnaire data is compiled analyzed and reported in the same way as summative questionnaire data. Detailed instructions can be found on pages 41-44 and on Worksheet E of this manual. Compilation, analysis and reporting instructions for focus groups are found on Worksheet J.

Closer Look: Focus Groups

Both front end and formative evaluation of many programs and media projects are conducted using focus groups. The University of Idaho has recently developed a comprehensive guide that describes how to conduct Focus Groups studies. Focus groups may be used to reveal your intended audiences' attitudes toward and perceptions about a particular topic. Interpreters can find out more about how visitors feel or think about an issue, resource, concept, or topic.

A facilitator is required to recruit the participants and ask the group questions. The discussion is recorded and the results are analyzed.

An interpreter may use a focus group to:

- get a range of perceptions on a particular program or media type
- understand the differences in perspectives among different groups of people
- reveal factors that influence opinions, behaviors, and motivations
- pilot-test programs and media products
- develop or test survey questions
- better understand quantitative data

Focus groups are not intended to educate audiences about a particular topic or to help them reach consensus on the topic being discussed.

Case Study: Find Solutions, Not Consensus
The CEO of a museum made an urgent phone call to an evaluation consultant. He was concerned and felt a front end evaluation would solve the problem that the museum was facing. The staff wanted to expand the museum onto public land and the government owners were open to the idea. The neighbors were in opposition to the expansion and were an unexpected obstacle. During the call the CEO stated, "We just need you to come in and conduct a front end evaluation so that we can show these people that it will help the community." The consultant explained that front end evaluation is not used to build consensus, but can be used to identify potential conflicts and find solutions.

Fearless Front End Evaluation Study Guide

Objectives:

- Staff will learn about target audience's knowledge, interest and misconceptions of a proposed topic.
- Staff will discover delivery methods that the target audience prefers.
- Staff will gather information that will be used to develop an experience.

Full Performance Level Competencies Links:

- Interpretive Research
- Interpretive Media Development

Time Commitment:

A. Prior to the data collection -10 hours for planning and preparation
B. Data collection - dependent on number of participants available for data collection
C. After the event - 40 hours for analysis and reporting

Materials needed:

- Computer/Printer
- Blank Paper
- Notepads or Clipboards
- Pens
- Data Collectors - can be staff or volunteers

Background

Front End Evaluation is conducted at the beginning of the design phase. Front end can help you define and write a central idea or theme, but a topic must be established before starting a front end evaluation. Front end will help you find out what audience knows already, their vocabulary, misconceptions, and how they want to learn.

Procedure

Step 1: Define what you already know and what you need to find out. Use worksheet G, page 1.
Step 2: Determine the data collection methods you will use to find out the information that you need to know. Use worksheet G, page 2.
Step 3: Create the data collection instrument. Use worksheet H or I.
Step 4: Collect the data. Use worksheet C or I.
Step 5: Analyze the data and write the report. Use worksheet E and J.

Formative Evaluation: Tweak, Tinker, and Try

Will it work? How do you know? Most people will try on a new pair of jeans or swimsuit before making the purchase. What if it doesn't fit? What if it looks bad? What if it has a flaw? OK, so what? No, the world won't implode if your clothing doesn't fit, but trying things on will potentially avoid a mistake and save you time and possibly a lot of money. That is simply what formative evaluation is: trying something out before you are completely, irreversibly committed to it. In the case of media and program development, it helps to avoid very expensive mistakes.

Formative Evaluation is conducted during the design process after much of the experience is already designed, while changes can still be made, before going into final fabrication or presentation. At this stage we need to know what messages are or aren't working, is the audience engaged, interested, what messages are they understanding? Are the messages that the audience leaves with your desired outcomes? Is the audience interacting as you expected? Do the interactive pieces work as you had planned? From the information that we gather during formative evaluation, we make improvements to the final product so that we can achieve desired outcomes.

How to Conduct a Formative Evaluation?

Step 1 Define the goals and objectives of the product

As you begin a program or media project, you depend on the goals and objectives (as well as information you learned during front end evaluation) to guide the design of your program or exhibit.

The reason to conduct formative evaluation is to determine if the desired objectives are being met. If those objectives are not being met, there are several questions that formative evaluation will help to answer:

- What are the outcomes of the product?
- Are participants leaving with the intended outcomes?
- Are participants leaving with unintended outcomes?
- Are the unintended outcomes desirable?
- What changes need to be made to achieve the desired outcomes?
- Are participants acting and interacting as desired?
- What changes need to be made to improve participant actions?

Step 2 Determine the data collection methods to best meet your project needs

As in front end evaluation, there are many methods to use when collecting formative evaluation data including:

Surveys
Interviews
Post it surveys
Observation of existing spaces
Focus groups
Concept Mapping

Keys to Success

Use more than one method to gather data.
For most experiences it is best to use one or more methods to measure outcomes and another method that measures participant behavior during the experience.

In formative evaluation, you are gathering data on a prototype of the experience, so existing data (such as literature reviews or demographic data) won't provide you with the information you need. The types of methods used for data collection in formative evaluation will be determined by several factors:

- ✓ What type of information are you looking for? (cognitive, affective)
- ✓ What type of data collection will the target audience accept?

What types of information are you looking for?

What is the goal for the product being created? Do you want your audience to leave knowing 10 facts? Do you want them to be excited or feel moved? Are you hoping your audience will leave with the intention of taking some sort of action? In each of these cases, you will want to measure either cognitive or affective outcomes. Cognitive outcomes are facts and affective outcomes are the feelings and emotions that the audience leaves with. Intended actions might be attributed to either cognitive or affective outcomes or both.

No matter whether you are measuring cognitive or affective outcomes, always be careful not to attribute the participant outcomes solely to the experience, unless you are *absolutely* certain that participant outcomes are *absolutely* the result of the experience. Remember that people come into an experience with pre-existing knowledge and attitudes.

What type of data collection will your audience accept?
Every audience is different. How much and what kind of data collection will your audience accept? Visitors that are coming to the park for a brisk evening walk are not likely stop and complete a survey or questionnaire. Visitors that are coming to the park for a leisurely walk or to spend time picnicking with family may be more willing to complete a survey. Focus groups require participants to plan ahead and go to a location to participate in a meeting type of activity. Will your audience be willing to do that? Surveys require audience members to read and fill out a questionnaire- are they able to do that? The method of data collection you select will depend on what your audience is willing to do to help you gather the data.

Step 3 Select the parts of the program or media product that you are going to test

You don't have to test every component in an exhibition, or every technique used in every presentation. Often you just can't test everything. The components or delivery techniques that you test should include one or more of the following:

- Address complex or controversial messages.
- Address myths or misconceptions.
- Use potentially unfamiliar words.
- Have an interactive feature. (Formative evaluation can identify potential interactive challenges, but cannot address durability issues.)

Very often there are components or techniques that are repeated within the product or may be found in similar products. If the audience and delivery techniques are the same, you can narrow down the scope of the evaluation by selecting one component or one delivery technique that represents all of the others.

For example, if an exhibit has 15 interactive components, but 3 similar components with wheels to spin, pick only one of these components to test. The evaluator is then looking to see how participants use the component. Do the visitors understand the action that they are being instructed to make? Are they receiving the desired messages?

For programs, usually there are parts of a specific presentation that can be found in other presentations. For example, most have a moment where the presenter introduces himself, many have a question and answer time, and some may have a video portion. Depending on the program, one of these common techniques can be tested and results may be generalized to include the other presentations. Keep in mind that many variables will affect the audience responses. Different presenters and different topics can affect the outcomes. Awareness of these variables will improve data collection. In one study, there were many presenters of five programs. Data was collected for two of the programs during 19 presentations. Although the topics were different, the presentations were very similar. Information gathered from this study was used to improve all five programs, not just the two that were studied.

Step 4 Establish the location, time, and dates for data collection

The best site for conducting evaluation is the site where the presentation will take place or the media will be installed. However, if the presentation is offered in different locations or the space where exhibits will be placed is occupied or under construction, testing can be done in other locations. Alternative locations can work very well as long as you remember that the formative evaluation should be conducted with the same audience that will be viewing the finished product. Therefore it is best to conduct formative evaluation in the venue, if not the same location, where the final product will be offered. If it is impossible to conduct formative evaluation at the final venue, then selecting a venue with the same or similar audience demographics is an acceptable alternative.

If you expect or desire the new experience to draw in a new audience, then it is also acceptable to conduct your formative evaluation in a location where the new audience is found.

Case Study: Data Collection Location Matters

An evaluation for a historical museum project revealed that current residents in and around the community were not interested in the history of the Europeans that settled the community over 100 years ago. While the community was originally settled by Europeans, the cultural makeup has shifted to the point that Hispanic immigrants now comprise a large portion of the population. At the time of the study, the museum had very few Hispanic visitors. In order to gather data on a representative sample of the population, the museum staff recognized that data would need to be collected in a location where Hispanic residents would be most likely to be found. The community hosted an annual Hispanic festival and data was collected at the festival. As a result of the study, the guiding message of the overall exhibit changed from one about the history of the European immigrants to one about the story of immigrants in the area and the influences that immigrants have on the community.

Attendance is also a critical factor in determining when a formative evaluation should be conducted. Conduct data collection on days and at times that reflect the days and times that the average audience comes to the site. If it is possible to collect data on multiple days and at multiple times, do so.

Step 5 Build the data collection instruments

A data collection instrument may be a sheet of paper or a webpage. It is simply the tool used to collect the data. The instrument may be a series of questions that have been generated for surveys, interviews, concept maps, unobtrusive observation, and more.. When asked by a senior evaluator, "Do you have the instruments?" You are being asked, "Do you have the worksheets that the data collectors or participants will be completing during the data collection process?"

A Closer Look: Questionnaires

To measure cognitive, affective and intended actions, evaluators often depend on questionnaires. A questionnaire can be either a survey (completed by the participant) or an interview (completed by the interviewer). Several participants can complete a survey at the same time, but the questions are usually simpler than those found in an interview. See Instrument 1 on 23 for an example of a survey instrument. Interviews must be completed one on one (one data collector with one participant), and allow for more complex types of questions to be asked. See Instrument 2 on page 24 for an example of an interview instrument. The location, attendance, data collector resources, participant abilities, and objectives will be considered when deciding whether to use a survey or interview format.

Remember that the study is being conducted on the experience, not the people involved in the study. For this reason, in formative evaluation, with questionnaires, we often cue visitors prior to their participation. This helps to slightly increase visitor motivation and hence slightly diminish the motivation variable. A cue is a "heads up" type of in invitation. Prior to exposure to an experience (program or media prototypes), we invite potential participants to answer questions after their experience. Cued participants are more motivated to learn or get something out of the experience. They tend to be less distracted. If a cued visitor doesn't come away with the desired outcomes, then an un-cued visitor is much less likely to. Cueing highlights problems.

Points to consider when developing questionnaires:

- Questionnaires (both surveys and interviews) should always respect the participant's time and willingness to be involved. They should never take longer than 8 minutes to complete. This, of course, will depend much on the lengthiness of the participant's answers.

- Questionnaires should not be longer than one page (front and back) in length. Many evaluators insist on limiting the questionnaire to one side of the page.

- They should include a combination of open ended and closed ended questions. The majority of usable information will come from open ended questions, but a series of open ended questions is often too time consuming for participants and analysis.

- Open ended questions are those that require the participant to respond using their own words. Closed ended questions give participants a series of answers to choose from such as multiple choice questions, yes/no questions, or rating scales. Closed ended questions give limited information, but speed up the questionnaire process.

- Additional types of questions can be included in interviews. **Sorting questions** ask participants to sort words or phrases into separate categories. **Concept mapping** is a type of method that can be incorporated into an interview. In concept mapping, the participant is asked to state words that they associate with a single vocabulary term. Then the interviewer selects one of the participant terms and asks for more information about the word.

- Questionnaires should only ask questions that are relevant to the objectives (with the exception of demographics).

- The questions should be non-threatening. One very good way to make a question non-threatening is to take the right/wrong out of the answer. For example the question: Are *volcanoes only found in the Northern Hemisphere?* has a correct answer. A way to soften the question and take some of the threat out of it is to ask: *Do you think volcanoes are only found in the Northern Hemisphere?*

- Avoid using the word "why" by itself. Although it may not be intended to require the participant to defend himself, the word why often sounds threatening. For example: *Do you think you learned anything from your experience here today? Why?* You can soften the word "*why"* by making it a phrase: *Do you think you learned anything from your experience here today? Yes/No If "yes", what do you think you learned? If "no", is there a reason that you think you didn't learn anything from your experience here today*. Or, *what could we have done to help you learn from your experience today?* Remember that you are testing the experience not the participant. The participant is the tool you are using to measure the experience.

- The questions should be clear and non-compound. The question should only ask the participant one thing. For example: *How did you feel about the CC and the GW programs?* The participant may have loved the CC program and felt indifferent about the GW program, but by putting the two together in the same sentence, the question doesn't give the participant the option to break them apart.

- We often hear "avoid leading questions", but leading questions have a place in formative evaluation. A leading question is one that directs how a participant should respond to the question. For example: *The park has spent several years on making improvements to the programs offered here today. What are your thoughts on these improvements?* This question leads the participant to a positive answer. Obviously the park has worked hard on the programs, it might be painful to hear that the improvements are really not improvements at all. Conversely, if after being

lead to a positive response, the participant still responds in a negative way- their feelings are very strong and the programs need to be more carefully examined.

- Use language and vocabulary appropriate for the audience. Avoid language that participants may not understand. For example: *What cognitive outcomes are you taking away from this experience?* Most participants probably don't know what a cognitive outcome is, and many might think, "I'm not taking anything." These are phrases used by interpreters. When the average person uses the words "take away" they are thinking of something tangible.

- Don't let a previous question give away the answer for a later question. Starting with broad questions and moving to more specific questions can prevent that from happening. For example: *Question 3. Do you remember the types of animals that lions, cheetahs, and leopards prey upon? Question 5. What do you think this program was about?* Obviously there was something about lions, cheetahs and leopards because they were included in a previous question.

- One way to get people to expand on their answer in a survey is to include a line after their closed ended response. This is a way to avoid making one question into two. For example:

  Do you think you learned anything new today? (circle one)
  *No Yes*_____
  Most participants that circle "yes" will write what they learned on the line. But, be prepared, you may only get a yes with the line left blank. It is helpful to know your audience when you ask this type of question. Audiences that are more open and less fearful will almost always fill in the line with a response even though the question wasn't asked. Audiences that are more guarded may be less likely to reveal any information unless they have been specifically asked.

- When creating closed ended questions make sure you cover all the possible responses and include an*other* _____ option. The participant may have thought of something else they want to include. The line after the word other will usually be filled in, but it depends on the audience. Some participant groups need to be asked to fill it in. You will be able to determine if you need to clarify the purpose of the line when you test the questionnaire.

  Who did you come to the Park with today? (check all that apply)

____ *family*	____ *colleagues*
____ *friends*	____ *myself*
____ *my dog*	____ *other* _____

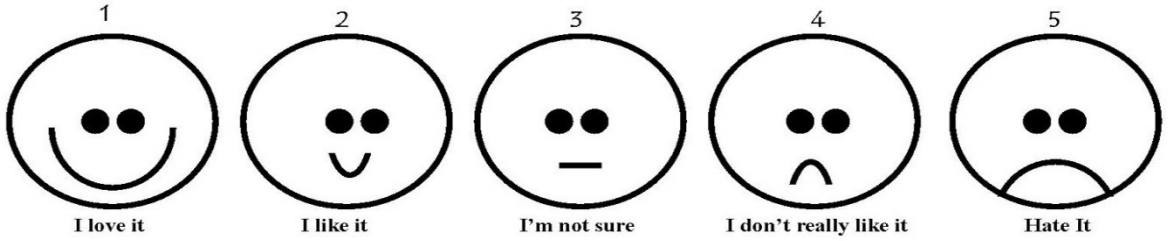
- A scale is a closed ended type of question. A Likert Scale is one that has a series of numbers and/or phrases. The participant is asked to circle one response on the scale.

Circle the number that best represents your feelings

1	*2*	*3*	*4*	*5*
Strongly Disagree	*Disagree*	*No opinion*	*Agree*	*Strongly Agree*

- An affective scale is similar to a Likert scale, but uses faces instead of phrases.

Circle the number or face that best represents your feelings



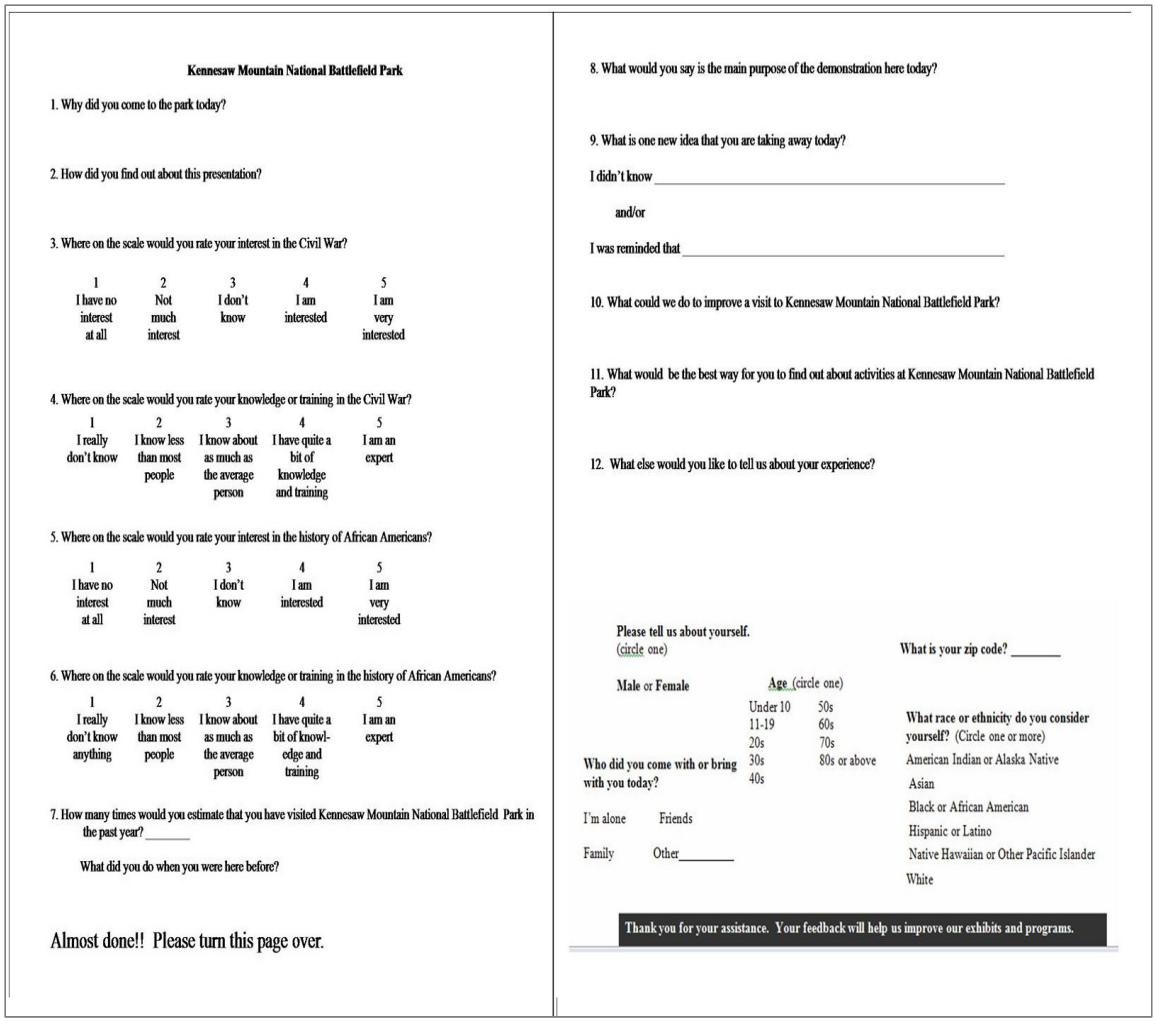
The number of points on the scale depends on the question being asked. Some evaluators prefer to have an even number of points and no place for a neutral answer. This forces the participant to make a choice. Some evaluators feel that by excluding a neutral point it negates the value of a neutral answer. Sometimes, a participant just doesn't have a preference and neutral is the only accurate answer.

- The questionnaire should include a brief demographic section. The purpose of the evaluation is to determine the participant outcomes, not to measure participant demographics. This section should include no more than 5 questions. Use caution when writing this section. Consider whether the participant's zip code, annual income, or career is relevant to this study? Sometimes it is, more often it is not. This section is not used to determine the audience. It is solely to verify that the participant sample is reflective of the broader target audience.

Case Study: Demographic Data Revelation

As formative evaluation project data for a proposed science center exhibit was being analyzed, the evaluator noticed that a very large percentage of the participants being interviewed within a 2-hour time frame were males in their 50s. When she noticed this, she contacted the science center staff to determine if this was an unusual demographic for the center. The staff verified that this was inconsistent with the science center demographics. Upon further discussions with other staff, it was learned that on that particular day, during that time, a group of local prisoners came to the science center on a field trip. Since these participants were not representative of the center's typical audience, the data collected during that time was discarded and new data was collected at another time.

Instrument 1: Program Survey



Kennesaw Mountain National Battlefield Park

1. Why did you come to the park today?

2. How did you find out about this presentation?

3. Where on the scale would you rate your interest in the Civil War?

1	2	3	4	5
I have no interest at all	Not much interest	I don't know	I am interested	I am very interested

4. Where on the scale would you rate your knowledge or training in the Civil War?

1	2	3	4	5
I really don't know	I know less than most people	I know about as much as the average person	I have quite a bit of knowledge and training	I am an expert

5. Where on the scale would you rate your interest in the history of African Americans?

1	2	3	4	5
I have no interest at all	Not much interest	I don't know	I am interested	I am very interested

6. Where on the scale would you rate your knowledge or training in the history of African Americans?

1	2	3	4	5
I really don't know anything	I know less than most people	I know about as much as the average person	I have quite a bit of knowledge and training	I am an expert

7. How many times would you estimate that you have visited Kennesaw Mountain National Battlefield Park in the past year? _____

What did you do when you were here before?

Almost done!! Please turn this page over.

8. What would you say is the main purpose of the demonstration here today?

9. What is one new idea that you are taking away today?

I didn't know _____

and/or

I was reminded that _____

10. What could we do to improve a visit to Kennesaw Mountain National Battlefield Park?

11. What would be the best way for you to find out about activities at Kennesaw Mountain National Battlefield Park?

12. What else would you like to tell us about your experience?

Please tell us about yourself.
(circle one)

What is your zip code? _____

Male or Female

Age (circle one)

Under 10 50s
11-19 60s
20s 70s
30s 80s or above
40s

What race or ethnicity do you consider yourself? (Circle one or more)

American Indian or Alaska Native
Asian
Black or African American
Hispanic or Latino
Native Hawaiian or Other Pacific Islander
White

Who did you come with or bring with you today?

I'm alone Friends

Family Other_____

Thank you for your assistance. Your feedback will help us improve our exhibits and programs.

CVC Formative Evaluation Phase 1 June 2011 1

1. How many times in the past year would you say you have come here to Cuyahoga Valley National Park?

2. What do you usually do when you come?

3. What did you come here to do today?

4. Do you remember reading, looking at the photos or doing anything on that sign? (Point to the Canal Rest Stop sign)
If "yes" what do you remember?

5. Do you remember reading, looking at the photos or doing anything on that sign? (Point to the Rev. Chidlaw's Trip sign)
If "yes" what do you remember?

6. Do you remember reading, looking at the photos or doing anything on that sign? (Point to the Locking Through sign)
If "yes" what do you remember?

7. Can you explain how the locks here in Cuyahoga Valley worked?

no idea				expert
1	2	3	4	5

8. Can you tell me the types of businesses that were located here at this lock or at Johnny Cake lock?

9. Do you remember what caused the demise of businesses around the lock?

10. Is there anything else you would like to share with me that would help us design our signs?

Thank you for taking the time to help us develop these signs. Have a great day.
Demographics- Complete these after participant has left.

M F Age_____ Group size and type _____

Time: _____ Weather:_____ Date:_____

- A recruiting statement must be created for every survey or interview instrument. This statement is used by all data collectors to invite each participant. The statement should be brief, friendly, and unintimidating. The word "test" should never be used. The statement defines the subject of the study (program or media), states why it is being studied, and explains how long the survey or interview should take. For example: "Hello, the park is interested in learning more about what visitors think of this program. Would you be willing to spend less than five minutes answering a few questions after the speaker has finished talking today?"

A Closer Look: Unobtrusive Observation

A successful experience is more than just achieving desired outcomes. Much of the success of an experience has to do with how participants behave during the experience. Unobtrusive observation is a technique that is used to measure the attraction, holding power, and behavior of parts of the program or media product. Unobtrusive observation can be used to measure audience engagement in a presentation. This measurement tool is quantitative. It may be used to measure the number of participants that read a sign, laughed during a joke, or were distracted.

Participants in the unobtrusive observation (UO) portion of a formative evaluation are not cued, because they are unaware that they are included in the survey. No personal data is collected because people are not the subjects of the study. Assumptive demographic data may be collected.

The instrument used for unobtrusive observation will vary depending on the type of product that is being studied.

For exhibits, there are several options for instrument design. A map-type of instrument is useful for data collectors that are unfamiliar with the components being tested. A worksheet with component titles and space to put codes is used by data collectors that are more familiar with the prototypes. On the instrument, the data collector makes notations about the participant's behavior. When a participant appears to read a sign, when she pushes a button, when he points out something to a family member, these behaviors are recorded. Map instruments leave more room for more detailed comments. See Instrument 3 for an example.

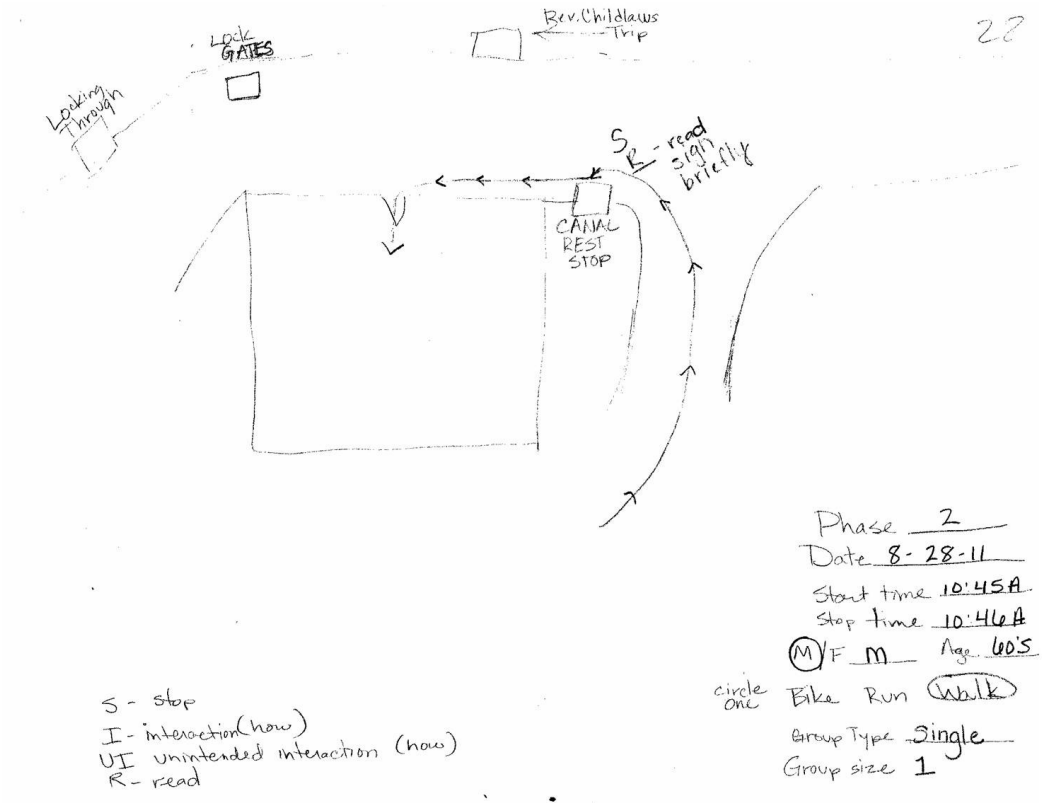
For programs, an **ethogram** created. An ethogram is a list of potential behaviors that a participant might demonstrate during the program. Examples may include laugh, be distracted, fall asleep, read, watch, or join in activity. When conducting unobtrusive observation during programs, the data collector records all the behaviors a participant is demonstrating during the course of the entire program or a sample of the program. See Instrument 5 for an example of a traditional ethogram and Instrument 6 to see an example of an affective scale UO instrument.

Instrument 4 shows an example of a hybrid type of unobtrusive observation instrument. A map was not needed because visitor paths were not relevant. Behaviors for each of 8 sign panels were recorded to measure attraction and engagement.

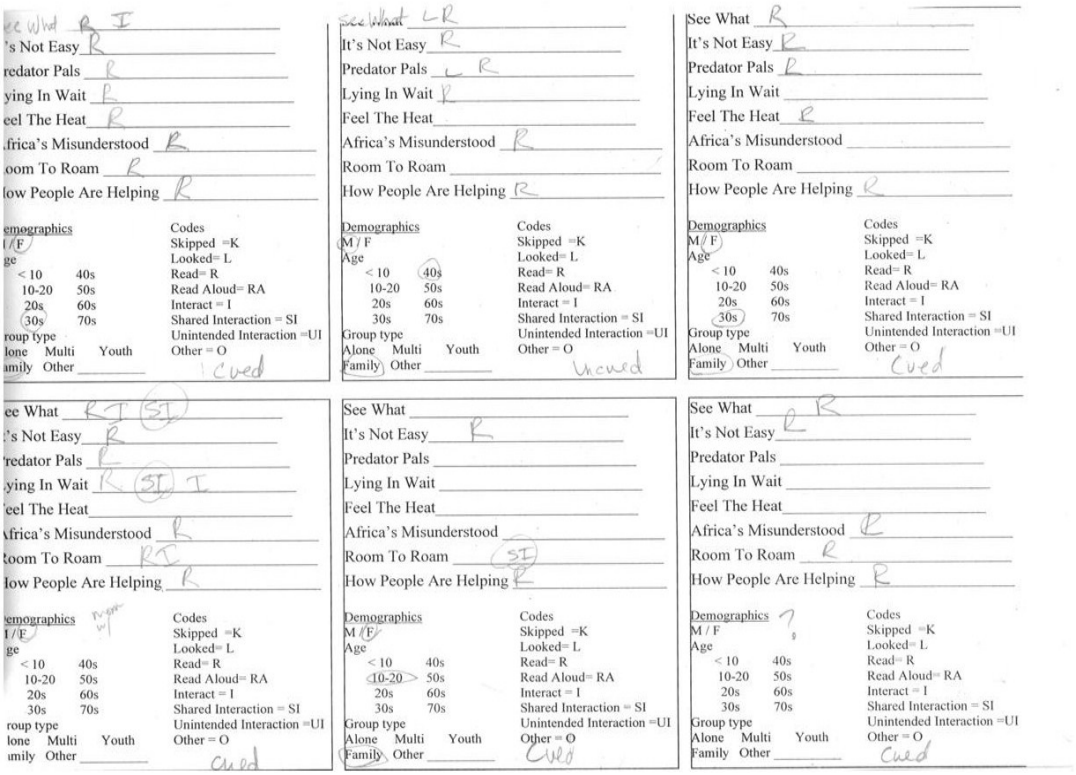
Participants in unobtrusive observation evaluations are unaware of their involvement in the study. As with all evaluation, the participant is not being evaluated or tested. It is the experience that is under scrutiny. The participant is the tool that is being used to measure the experience.

Five or less demographic questions should be included on all unobtrusive observation instruments. Since participants do not know they are involved, the demographic questions are assumptions made by the data collector.

Instrument 3: Map-type Instrument Used for Unobtrusive Observation of an Exhibit



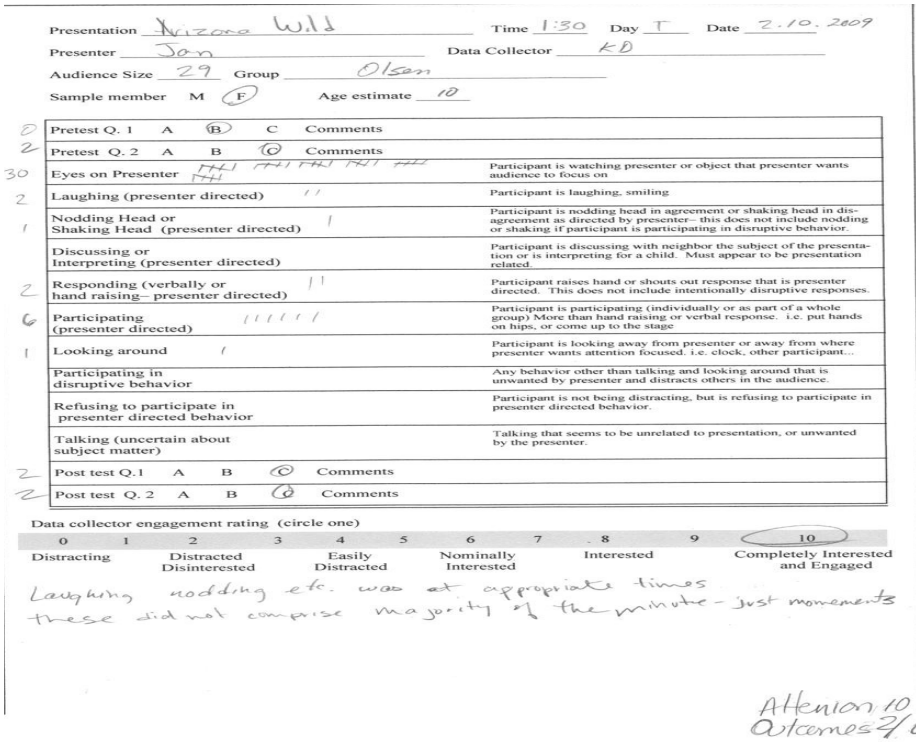
Instrument 4: Worksheet Instrument Used for Unobtrusive Observation of an Exhibit



Codes
Skipped =K
Looked= L
Read= R
Read Aloud= RA
Interact = I
Shared Interaction = SI
Unintended Interaction =UI
Other = O

Demographics
M / F
Age
< 10 40s
10-20 50s
20s 60s
30s 70s
Group type
Alone Multi Youth
Family Other

Instrument 5: Ethogram of Program



Presentation Arizona Wild Time 1:30 Day T Date 2.10.2009
Presenter Jan Data Collector KD
Audience Size 29 Group Olsen
Sample member M (F) Age estimate 10

0	Pretest Q. 1	A	(B)	C	Comments
2	Pretest Q. 2	A	B	(C)	Comments
30	Eyes on Presenter				Participant is watching presenter or object that presenter wants audience to focus on
2	Laughing (presenter directed)				Participant is laughing, smiling
1	Nodding Head or Shaking Head (presenter directed)				Participant is nodding head in agreement or shaking head in disagreement as directed by presenter– this does not include nodding or shaking if participant is participating in disruptive behavior.
	Discussing or Interpreting (presenter directed)				Participant is discussing with neighbor the subject of the presentation or is interpreting for a child. Must appear to be presentation related.
2	Responding (verbally or hand raising– presenter directed)				Participant raises hand or shouts out response that is presenter directed. This does not include intentionally disruptive responses.
6	Participating (presenter directed)				Participant is participating (individually or as part of a whole group) More than hand raising or verbal response. i.e. put hands on hips, or come up to the stage
1	Looking around				Participant is looking away from presenter or away from where presenter wants attention focused. i.e. clock, other participant...
	Participating in disruptive behavior				Any behavior other than talking and looking around that is unwanted by presenter and distracts others in the audience.
	Refusing to participate in presenter directed behavior				Participant is not being distracting, but is refusing to participate in presenter directed behavior.
	Talking (uncertain about subject matter)				Talking that seems to be unrelated to presentation, or unwanted by the presenter.
2	Post test Q.1	A	B	(C)	Comments
2	Post test Q. 2	A	B	(C)	Comments

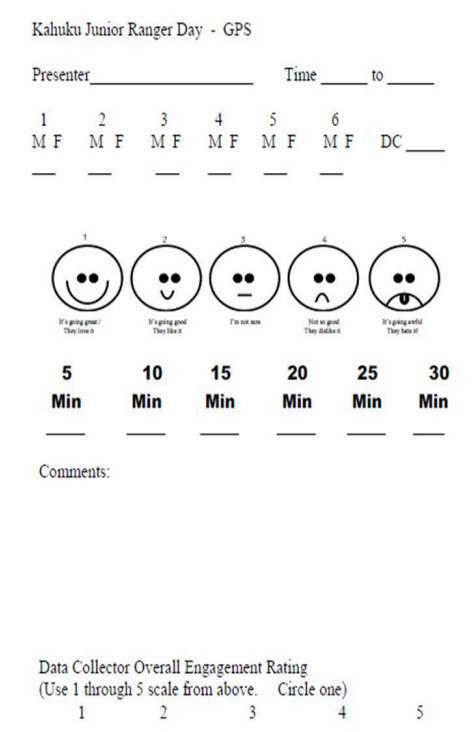
Data collector engagement rating (circle one)

0	1	2	3	4	5	6	7	8	9	10
Distracting		Distracted Disinterested		Easily Distracted		Nominally Interested		Interested		Completely Interested and Engaged

Laughing nodding etc. was at appropriate times these did not comprise majority of the minute - just moments

Attention 10
Outcomes 2/

Instrument 6: Affective Scale for Unobtrusive Observation



Kahuku Junior Ranger Day - GPS

Presenter_____ Time _____ to _____

1 2 3 4 5 6
M F M F M F M F M F M F DC ____
__ __ __ __ __ __

5 Min ____ 10 Min ____ 15 Min ____ 20 Min ____ 25 Min ____ 30 Min ____

Comments:

Data Collector Overall Engagement Rating
(Use 1 through 5 scale from above. Circle one)
1 2 3 4 5

Step 6 Collect the Data

When using a survey or questionnaire to collect the data, approach the target person. See A Closer Look: Random Sampling to determine who the target person is. The data collector should say the recruiting statement in a friendly voice. If the target responds affirmatively, say , "Thank you, when you exit this exhibit (*when the presentation is concluded*) just come back to me and we can begin."
If a visitor responds negatively, thank them anyway. Do not ask why, although they may offer a reason. Keep track of how many people refuse and write down the reasons that they refuse. For example: "not enough time, just not interested."

If participants are completing a survey hand the clipboard with questionnaire and pen to the visitor and ask them to complete the rest. If the participant asks a question or wants to discuss something, politely say something like: 'Go ahead and finish the survey and then I'll be happy to tell you more about [that topic]."

As soon as the visitor has completed the survey, thank them. Put the survey away. Do not examine it. Even scanning the results may be intimidating for the person who just completed the form and for future recruits.

If data collectors are interviewing participants, it is important that data collectors use the words that the participant uses when they are completing the form. The words they use help determine their vocabulary. For example if a participant says,

"I learned that deer come out at dawn and dusk," the data collector should not write down "Visitor learned that deer are crepuscular."

Write their answers in first person. If participant says "I learned" or "I felt" do not write down "she learned" or "she felt".

Write down any other comments that they had at the bottom or if necessary on the back of the instrument even if the comment doesn't have anything to do with the product. Only in this case may the data collector use his/her own words. For example: "Visitor stated that she really appreciated the cleanliness of the restroom." The data collector does not have to write down directional questions such as "Where is the closest restroom?"

As soon as the visitor has completed the interview, thank them. Put the worksheet away. Do not examine it. Even scanning the results may be intimidating for the person who just completed the form and for future recruits.

When conducting any type of unobtrusive observation, data collectors should not wear a uniform or anything that draws attention.

For unobtrusive observation of a media product, once the target person has been selected (See A Closer Look: Random Sampling), the data collector should complete the demographic information on the instrument and begin tracking the individual as he/she moves through the exhibit or area or begins to use the media. Each study is different, but you will be measuring how a participant behaves when they are looking over the components by using a code system. You will need to determine your own codes depending on the media. For an interactive exhibit (wayside or museum) you may use the following:

- Whenever a visitor interacts with a component (such as opens a cabinet door or lifts a flap) make an **I** for the interaction on the sheet next to either the component name or sketch. **I** stands for *intended interactions*- using the exhibit in the way it was intended. If the visitor interacts with the component in an unintended way such as slamming the lift flap, make a **U** for *unintended interaction* and make a note specifying the unintended interaction.

- If a visitor does both an intended interaction and an unintended interaction, such as lifting the flap to read the sign and then slamming the flap over and over to make noise, put an **I** and a **U** on the map and make a note about the unintended interaction.

- When a visitor looks at a sign or component for 2 seconds or more, then it is considered a *read*. Put an **R** on the map. Do not judge whether the visitor read all of the sign or just a part of it.

- ❖ It is assumed that if a visitor reads or interacts, then they also stopped. However, there will be times when a visitor does not read or interact, but does stop. In those cases put an **X** on the map, but also note what the visitor is doing. For example: *waiting for child, looking all around.*

Sometimes a visitor stops within the exhibit and does something totally unrelated to the exhibit experience. They may change a diaper or run into an old acquaintance and visits. Make a note of the length of time that the action took place and put the information about the action and the length of time on the map.

Sometimes the person being tracked turns out to be doing something unusual for a typical visitor. The person may be a professional photographer and is there to take photographs. In another instance, a young woman may sit down, pull out a drawing pad, and begin to sketch. She may stay for over two hours.
In both of these cases, abandon tracking that visitor and start with a new person. Make note of the occurrence on the sheet and turn it in with the others.

For unobtrusive observation of a program, once the target person has been selected (See A Closer Look: Random Sampling), the data collector will note behaviors that occur during each minute of the presentation with a tick mark. When several behaviors occur within one minute, the data collector will count the behavior that occurred most often. For example: If the participant was watching the presenter at 1:13:00, became distracted by a peer at 1:13:03, was still laughing at peer at 1:13:10, was watching presenter at 1:13:15 , and continued watching presenter until 1:14:00, then the predominant behavior was Looking at Presenter and that should get the tick mark. A note should also be made on the bottom of the form that the student was laughing at peer for a few seconds.

A Closer Look: Random Sampling

It is not practical or cost effective to interview or observe every participant in an experience. So a select number of participants will be interviewed and observed. It is important to avoid bias when selecting the participants for a study. To avoid bias, a random selection technique needs to be used. If a data collector chooses to only approach visitors that appear friendly and easy to talk to, their bias prevents the sample from being a true representation of the audience.

When using random sampling to select participants for interviews, surveys, or unobtrusive observation, one method requires the data collector to first determine an imaginary line near the program or media installation Pick every fifth person that crosses that imaginary line. This is the person you will approach to recruit for surveys or interviews. We will call this the target individual.

If more than five people pass you while speaking with or observing a visitor that is O.K., simply go to the next person that crosses your line.

Five is not a magic number in fact it is probably the smallest number you should use. You can go with a larger number, but it may take longer to get enough visitors for the study. The point is that you don't unwittingly select people and introduce your own personal bias.

Do not avoid approaching someone to request their participation because they "look like" they might not want to or might not be able to. If you avoid approaching someone because they look like they might be in a hurry, or you think that he/she wouldn't want to participate then you are introducing bias into the data. That will skew the data and change the outcome. Approach everyone that fits the sampling criteria.

You should not interview anyone who looks as though they are not old enough to read. For example, if your fifth person is a toddler then go to the next person. If your fifth person looks to be about ten years old, then approach that person. This age will be dependent on the audience you are testing. If you are testing exhibits, 10 years or older is usually a good age to start with. If you are testing a children's program, however, you will want to adjust the age to reflect the target audience that you are collecting data on.

If the fifth person is a child, approach them cautiously, speaking loud enough for the accompanying adult to hear. Use your body language to invite the adult into the conversation. You will have to use your judgment and ability to work with children and their parents here. Do not avoid asking children just because it is difficult or you are uncomfortable, that will bias the data.

Do not recruit more than one person in a group. You will add in bias, because people that come in a group often have the same history and points of view.

There are at least two different ways to randomly select the participants in an unobtrusive observation study conducted during a program:

1. Determine the number of volunteers or staff that will be conducting the data collection. For example, if there are 5 data collectors available determine five audience seats in the auditorium and assign each seat to a data collector. Be certain that the "target" seats are distributed throughout the auditorium. If you select the first five seats in a single row, all members may be from the same group or family. When the audience comes into the auditorium and sits down, the data collectors need to make a mental note to themselves so that they can remember the sample member that they are observing. If the sample member moves to a different seat, the data collector can continue observing that member as long as he/she doesn't move to a different "target" seat. This method provides a sample of the audience that is not influenced by data collector bias.

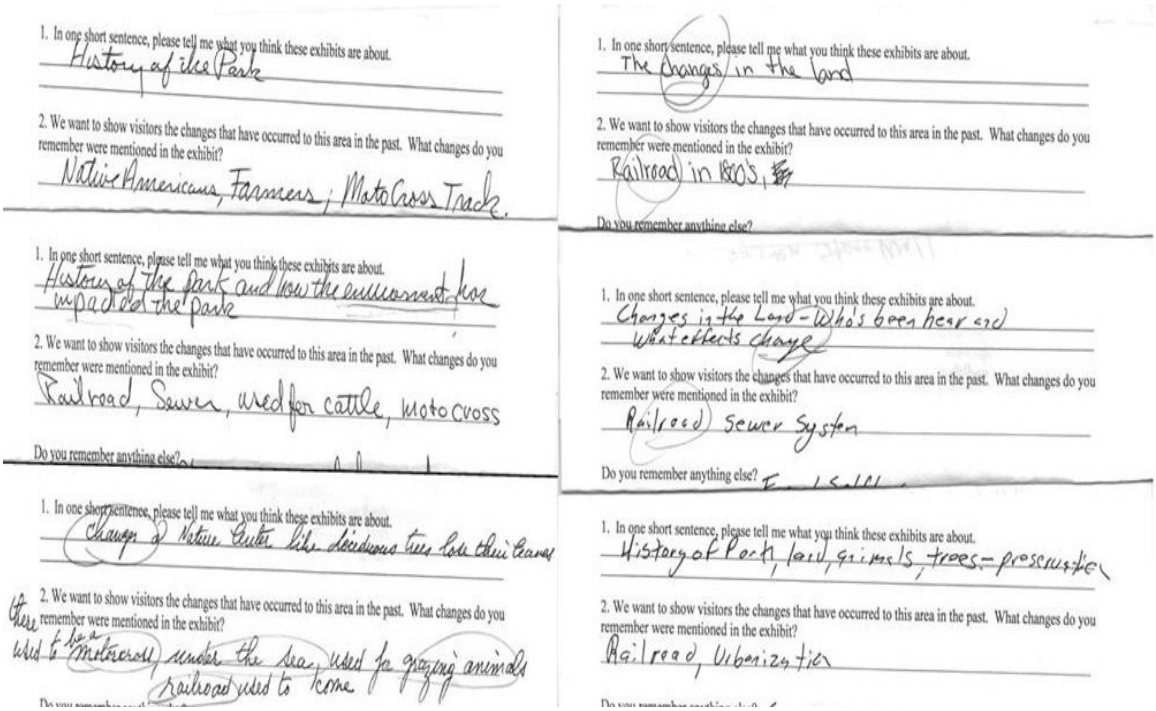
2. You may also randomly select participants by observing every fifth person who crosses an imaginary line as they arrive at the program location. If more than one data collector is being used, make sure each data collector knows that the person that s/he will be observing is not being observed by another data collector.

You may sometimes need to select out certain audience members. Although infants may be representative audience members, they may not be able to provide the feedback you are looking for. In those cases (whether they are in a target seat or are the nth person to cross the line) select the person next to them.

Step 7 Analyze the Data

Formative analysis is usually brief and so analysis is not as complex as front end and summative analysis. Most formative evaluation is done quickly and informally so that changes and modifications can be made and the experience can be retested.

Data collected through surveys and interviews is usually not transcribed into a spreadsheet. The analyst focuses on one question at a time and finds common thoughts. All the completed data sheets should be stacked and the analyst should begin with the demographics. On a separate paper, tally all of the demographic data such as the number of male and female participants and ages. Next look at each question (one at a time, restacking after the responses from each question are considered) and find the common themes or common words in the answers on each sheet. In Data Set 1, the common topics found most often for question #1 were "change", "history", or "wildlife". The number of times each of these topics was mentioned was calculated and noted for the report. This procedure is followed for each question.



1. In one short sentence, please tell me what you think these exhibits are about.
History of the Park

2. We want to show visitors the changes that have occurred to this area in the past. What changes do you remember were mentioned in the exhibit?
Native Americans, Farmers; Moto Cross Track.

1. In one short sentence, please tell me what you think these exhibits are about.
The changes in the land

2. We want to show visitors the changes that have occurred to this area in the past. What changes do you remember were mentioned in the exhibit?
Railroad in 1800's,

Do you remember anything else?

1. In one short sentence, please tell me what you think these exhibits are about.
History of the park and how the environment has impacted the park

2. We want to show visitors the changes that have occurred to this area in the past. What changes do you remember were mentioned in the exhibit?
Railroad, Sewer, used for cattle, moto cross

Do you remember anything else?

1. In one short sentence, please tell me what you think these exhibits are about.
Changes in the Land - Who's been here and what effects change

2. We want to show visitors the changes that have occurred to this area in the past. What changes do you remember were mentioned in the exhibit?
Railroad sewer system

Do you remember anything else?

1. In one short sentence, please tell me what you think these exhibits are about.
Changes of Nature. Enter like deciduous trees lose their leaves

2. We want to show visitors the changes that have occurred to this area in the past. What changes do you remember were mentioned in the exhibit?
there was a Motocross, under the sea, used for grazing animals railroad used to come

1. In one short sentence, please tell me what you think these exhibits are about.
History of Park, land, animals, trees - prosecution

2. We want to show visitors the changes that have occurred to this area in the past. What changes do you remember were mentioned in the exhibit?
Railroad, Urbanization

Demographic data collected through unobtrusive observation will be counted in the same way as surveys and interviews. The exhibit components are then considered one at a time just as the survey questions were considered individually. In Instrument 4: Unobtrusive Observation, you will note that of the six participants, five people read the See What component, one person looked then read, two people interacted with the component, and one person shared the interaction with another. Tally the behaviors for the report.

Since the purpose of formative evaluation is to test a prototype, then tweak it, and try it again, the timing of changes may be unpredictable. In the case study below, the first phase of formative evaluation was to take place with 60 participants, however, as problems were identified during the first phase of evaluation, changes were made, and the testing continued before 60 participants had been observed. The faster changes can be made and tested, the quicker the final product can take final shape.

Case Study

An illustration of how quickly prototypes can change is represented by the following example: During the first phase of a formative test on components for a proposed new exhibit on Predators an obvious problem was identified immediately and modified. The first phase of testing was scheduled to take place over the course of two days on a total sample size of 60 visitors. A simple flat panel graphic with a lift flap and text was part of the study. Participants were instructed to lift the flap, but because the flap was incorporated into a photograph of the lion's face, participants didn't know that the raised photo was actually the lift flap. It was obvious after the first few visitors read the sign. After less than 10 visitors read the panel and then moved on, the graphics team added a handle to the lion photo. This simple change increased participation from 0 interactions to 70%.

Program modifications can sometimes be made much more quickly than exhibit modifications. The tick marks help the data collectors record the target person's behaviors, serve as a memory cue for the data collector's final assessment, and provide verification for the analyst. The most important parts of the unobtrusive observation instrument used during a program are the comments and the data collector's engagement rating. If a pre/post test component as seen in Instrument 5 on page 27 is included in the program and on the instrument, this score is useful when assessing cognitive gain.

When analyzing unobtrusive observation data collected during programs, after the demographic data is tallied, begin with the data collector's engagement rating at the bottom of the page. Look to see if the rating is representative of the tally marks and comments. Instrument 4 on page 27 shows there are 30 marks for eyes on presenter, 2 marks laughing at presenter, 1 mark for nodding or shaking head (presenter directed), 2 marks for responding, 6 marks for participating, and 1 mark for looking

around. The data collector did not state what the target individual was looking around at. This should have been noted and additional information such as when in the program the participant was distracted would have been helpful. This was a 30-minute program, yet there are 42 tally marks. The data collector clarified that the responding, nodding, participating marks were not the majority of the minute, but were tallied none the less. This is why the data collector's engagement rating is the most important part of this collection process. The engagement rating is subjective, but should be supported by the tally marks and comments. In this example, it is. If the data collector had given this participant a rating of 3, the analyst should discuss with the data collector the discrepancy. If the data remains questionable, this data sheet should be thrown out.

Step 8 Reporting the Data

Data analysis and reporting in front end and summative evaluation is much more labor intensive and time consuming than that conducted in formative evaluation. Interpreters and media developers are waiting for recommendations. Formative evaluation reports are usually brief and contain summarized data with no graphics. Supporting data collection instruments are not included in the report, but are available for further and future studies.

The formative evaluation report will include the title of the experience that is being studied, the names of the people involved in the evaluation, methods used, procedures followed in data collection, sample sizes and the date that the report was written. This is where changes made during the testing are addressed. In most cases more than one method of study is used. One report will summarize the entire evaluation.

The next part of the report summarizes the findings of each of the parts of the experience. For an exhibit formative evaluation, this section describes the any changes that were made during the testing process, the tested exhibit component, the number of visitors that read, interacted, shared an interaction etc. and addresses the visitor outcomes that were revealed in questionnaires. For a program formative evaluation, this section describes the program, any changes that were made during the testing process, the participant engagement ratings and participant outcomes.

The final part of a formative evaluation report is the discussion and next steps. Few modifications can be made during a testing phase. Often the component has significant text or construction design changes and a program may have significant delivery or content changes. These changes take time to make. If it is possible to run additional testing on the changes, then do so. The discussion section of the report makes suggestions for changes to the experience. If participants aren't attracted to the component, physical changes such as color change, interactive element additions, text size or quantity changes might be suggested. If participants are distracted or distracting others, then changes to delivery methods may need to be made. If participants are not understanding the intended messages, then vocabulary, text or script editing changes may be suggested for testing in additional phases.

Fearless Formative Evaluation Study Guide

Objectives:

Using a pilot program or prototypes:

- Staff will discover participant satisfaction levels.
- Staff will learn participant cognitive and affective outcomes.
- Staff will have information that can be used to modify program or media.

Full Performance Level Competencies Links:

- Interpretive Research
- Interpretive Media Development

Time Commitment:

A. Prior to the data collection - 15+ hours for planning and preparation
B. Data collection - dependent on number of participants available for data collection
C. After the event -

Materials needed:

- Computer/Printer
- Blank Paper
- Notepads or Clipboards
- Pens
- Data Collectors - can be staff or volunteers

Background

Formative Evaluation is conducted during the design process after much of the experience is already designed, while changes can still be made, before going into final construction. At this stage we need to know what messages are or aren't working, is the audience engaged, interested, what messages are they leaving the experience understanding? Are audiences/participants leaving with the desired message outcomes? Is the audience interacting expected? Do the interactive pieces work as planned? From the information that we gather during formative evaluation, we make improvements to the final design so that we can achieve desired outcomes.

One of the greatest advantages of formative evaluation is in the fluidity and speed of the process. When weaknesses are revealed, they can be fixed as soon as it is possible. Analysis and reporting follows this fluidity. Unlike front end and summative analysis which can be cumbersome and time consuming, formative analysis is rapid and less structured. The analyst looks over each question and finds trends. A recommendation is made from this quick analysis, changes are made and if possible tested again. The formative report is not as much of a summary of findings as you might find in a front end or summative report, but more a summary of the process. Findings are present, but not as detailed as in a front end or summative report. The most important part of a formative report is the recommendations. The project can move forward as soon as modifications based on recommendations are made.

Procedure for a program or event formative evaluation

Step 1:

Weeks leading up to the data collection:

- Keep a copy of all marketing materials.
- Record who marketing materials went out to.
- Keep a copy of newspaper articles, blogs, websites that picked up press releases and are helping market the event.
- Recruit and schedule staff or volunteer data collectors for the event.
- Create questionnaire for event participants. Use Worksheet A.

Right before the event starts:

- Create unobtrusive observation instrument. Use Worksheet B.

Step 2:

During the event:

- Collect unobtrusive observation and questionnaire data. Use Worksheets C and D.

Step 3:

After the event there will be two different types of completed data sheets: a stack of questionnaires and a stack of unobtrusive observation sheets. Formative data is intended to be acted upon quickly. Detailed analysis can be conducted using the methods found on worksheets E and F.

Procedure for a media formative evaluation

Step 1:

Weeks leading up to the data collection:

- Recruit and schedule staff or volunteer data collectors.
- Create a data collection plan that includes testing stages & times for data collection.
- Create questionnaire for participants. Use Worksheet K.
- Create unobtrusive observation instrument. Use Worksheet L.

Step 2:

During the data collection:

- Collect unobtrusive observation and questionnaire data. Use Worksheets C and M.

Step 3:

After the data collection process:

Formative data is intended to be acted upon quickly. Detailed analysis can be conducted using the methods found on worksheets E and N.

Summative Evaluation: How Did We Do?

Summative Evaluation is the final evaluation phase of a program or media project. It's a "how did we do" form of analysis. Summative Evaluation isn't intended to improve the final experience. Instead, the results of a summative evaluation will help when designing future programs and media.

How to Conduct a Summative Evaluation?

Summative Evaluation is conducted after the program has been presented a few times, the exhibit is open, visitors are using the application, and all the adjustments that are going to be made, have been made. Summative evaluation is not intended for making improvements. It is intended to measure program or exhibit success.

Methods for conducting a summative evaluation are nearly identical to methods for conducting formative evaluation; however, analysis and reporting are very different.

Step 1 Define what you want to measure

You will want to measure the message outcomes such as what did the visitors feel, what did they do, how did they behave, and what are their future intentions or actions.

You will want to measure if participants are engaged and to what degree they are engaged. In the case of exhibits, do they look, read, interact, and share with another person? In the case of programs, how do they participate, are they paying attention to the speaker, participating when desired, distracted, disinterested, disengaged?

Step 2 Determine the data collection methods: How are you going to find out?

The data collection methods chosen will depend on the type of data that needs to be measured. Message outcomes are usually measured by asking participants to provide answers; Engagement or use data is usually measured through some sort of observation.

Keep in mind that the methods chosen will depend on:

1. The type of information are you looking for? (cognitive, affective) see page 10
2. What type of data collection will the target audience accept? See page 11

Keys to Success

As with all stages of evaluation, credibility comes with diversity in methodology. It is wise to use more than one method in the summative evaluation. If questionnaires and unobtrusive observation were methods used in the formative evaluation then it is a good idea to use the same methods in the summative evaluation.

Step 3 Build the data collection instruments

A summative evaluation measures the overall effectiveness of the whole program or media project. This is different than formative evaluation which selects only parts of a project to test. So although the data collection methods for formative and summative are nearly the same, the product being measured is different.

In formative evaluation, the questions were designed to target parts of a program or components of a media project. Component objectives were being measured. In summative evaluation, the overall experience is being tested. So it is not the objectives, but the goals that are being measured. Questionnaires are more open ended and tend to be shorter. Unobtrusive observation is more complex in summative evaluation, because the entire experience is now available. In formative evaluation, often only parts of the experience were available for testing.

A **summative media questionnaire** is looking for overall outcomes that the participant takes away from their experience. Most of the same rules that were used for formative evaluation (see pages 16-19) apply to summative evaluation:

- The participant's time and feelings must be respected.
- A typical summative evaluation questionnaire includes five or less demographic questions, between two and four open ended questions, and an affective question.

Instrument 7: Summative Program Survey

Exit Questionnaire for Hawai'i Volcanoes National Park

Sex: M F Age: # in Group Date _____ Time _____

<10	40s	1	4
11-19	50s 20s	2	5+
60s		3	
30s	70s		

Is this your first visit to Hawai'i Volcanoes National Park? Yes_____ No_____

Do you have any special interest hobbies or training in volcanoes?
No_____
Yes_____ If "yes" please explain_____

1. What would you say is the main purpose of the presentation that you heard today?
To show…
_____

To make people…
_____

2. What is one new idea you are taking away with you?
I didn't know or I never realized that…
_____

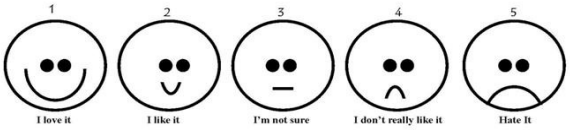
And / or

It reminded me that…
_____

3. Will this experience change your actions or make you do something different in the future?

_____No
_____Yes If "yes", what actions do you think you may change? _____

4. Which face best represents your feelings about your experience here today?



5. Is there anything else you would like to tell us?

For **unobtrusive observation**, the same design for instruments is used in both formative (see pages 25-27) and summative evaluation, however, in formative evaluation only a few components are being tested. In summative evaluation, a map-style of instrument is only necessary if it makes data collection easier.

Step 4 Collect and Compile the Data

Use the same procedure for collecting summative evaluation data as was instructed in the formative evaluation section. See pages 28-30.

A spreadsheet that compiles all of the data is prepared first. While not mandatory, spreadsheet software may be used and will be helpful to program the data calculations.

For Questionnaires including surveys and interviews (see Spreadsheet 1), begin by numbering each data sheet. This is the visitor number.

Set up the columns of the spreadsheet. The first column of the spreadsheet already has line numbers. In the second column, put visitor numbers. Do not use the line numbers in place of the visitor numbers. The visitor numbers are those that you wrote on the completed data sheets. Use the demographics from the instrument to place the rest of the titles and the question numbers in adjoining columns. If it is possible to put an abbreviated version of the question in the titles row, do so. It will make analysis easier in the future.

Enter the data for each visitor sheet on the corresponding visitor row.

Spreadsheet 1: KEMO Art Show Data

	A	B	C	D	N	O	P	Q	R
1	**Kennesaw Art Show Data**	Why are you here at the park today?	Did you know about the art show before you came today?	How did you find out about the art show?	What else would you like to share with me?	Male/Female	Age	Zip Code	Who came with you today?
2	Visitor #								
3	1	Book on touring	No	When I came in					
4	2	To see the battlefield	No	N/A					
5	3	Mountain	No	Coming in	N/A	Female	30's		
6	4	Info on trail and hours	No	Ranger		Female	30's	30144	Family
7	5	Walk the mountain	No	Inside the welcome center		Female	50's	30064	Friends & family
8	6	Walk the mountain	No	A man stated art showcase today.		Female	40's	30120	Family
9	7	Here with family working out	No	A gentleman stopped us outside.	This was great	Female	20's	30120	Family
10	8	Bringing our visitors	No			Female	60's	30064	Family

The analyst will review each question and create a **Rough Compilation** of like responses. First the analyst considers all of the responses for a single question. Where are the similarities? In Spreadsheet 2 look at the question *How did you find out about the art show?* Visitor #1 said, "When I came in", visitor #3 said, "coming in," and visitor #5 said, "inside the welcome center." The analyst grouped all of these answers under Visitor Center. Each grouping is then assigned either an alpha or numeric code. Answers that are unique are put into an "other" category. It is not unusual to have multiple codes in one response. This spreadsheet will be included at the end of the report so that readers can refer to it to better understand the analyst's thought process when reviewing the data.

Spreadsheet 2: Rough Compilation

0 No Answer
1 Visitor Center
2 Staff/Ranger/Volunteer
3 Sign
4 Other

	A	B	C	D	N	O	F
	Kennesaw Art Show Data	Why are you here at the park today?	Did you know about the art show before you came today?	How did you find out about the art show?	What else would you like to share with me?	Male/Female	Age
	Visitor #						
1		Book on touring	No	When I came in 1			
2		To see the battlefield	No	N/A 0			
3		Mountain	No	Coming in 1	N/A	Female	30's
4		Info on trail and hours	No	Ranger 2		Female	30's
5		Walk the mountain	No	Inside the welcome center 1		Female	50's
6		Walk the mountain	No	A man stated art showcase today. 2		Female	40's
7		Here with family working out	No	A gentleman stopped us outside. 2	This was great 1	Female	20's
8		Bringing our visitors	No			Female	60's

Once the Rough Compilation is completed, the analyst must reorganize the data so that it can be summarized. The **Final Compilation** (See Spreadsheet 3)is used to generate the data that will be used in the final report and is also included at the end of the report.

Spreadsheet 3: Final Compilation

	A	B	C	D	N	O	P
1	Kennesaw Data/Art	Why are you here at the park today? Sightseeing=1 Battlefields=2 Hike=3 Artwork=4 Other=5	Did you know about the artshow? No=0 Yes=1	How did you find out? No answer=0 Inside Visitor's Center=1 Ranger=2 Outside signage=3 Other=4	What else would you like to share? No answer=0 Other=1 Art related comment =2	Male/Female	Age
2	Visitor #						
3	1	5	0	1	0		
4	2	2	0	0	0		
5	3	5	0	1	0	F	3
6	4	5	0	2	0	F	3
7	5	3	0	1	0	F	5
8	6	3	0	2	0	F	4
9	7	3	0	2	1	F	2
10	8	1	0	0	0	F	6
20	18	1	0	1		m	5
21	19	5	0				
22		Sightseeing= 3 Battlefields=3 Hike=9 Artwork=1 Other=5	No = 18 Yes= 1	No Answer= 2 Visitor Center=10 Ranger/staff=3 Sign=1 Other = 4	No answer=9 Other= 5 Art related comment = 2	Female= 11 Male = 5	20s=2 30s= 4 40s=4 50s=3 60s= 2 70s= 1

For Unobtrusive Observation data collected for **exhibits**, number each data sheet to identify the visitor number and layout the spreadsheet using the demographic data (similar to the method used in questionnaires). Additional columns will be needed for

number of components attracted, % of components attracted, and comments. On Spreadsheet 4 there is a category titled *Talk to Researcher*.

The bottom of each column is a summary of the number of times visitors stopped at each component, interacted with each component, and read each component. If the data instruments have additional categories such as unintended interaction and shared interaction, those categories need to be included at the bottom of the page also.

When all of the data has been input into the observation spreadsheet, the reader will be able to see the number of times each visitor was attracted to a component and % of times they were attracted to a component. The reader will also be able to see the number and percentage of visitors that read, interacted or just stopped at a component. With sample sizes of 40 or less, it may be simplest to calculate the data manually. With larger sample sizes, a formula can be used to calculate totals, percentages and averages.

Spreadsheet 4: Final Compilation of Unobtrusive Observation for Exhibits Data

Visitor Number	Component Number 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	23A	Talk to Re-searcher	Total Time	Gen-der	Age	Group Size	A or A+K
1													X		X										No	UNK	F	2	4	K
2		X																							No	2 MIN	F	2	4	K
3			X	X							X														No	8 MIN	M	1	5	K
4			X	X						X	X		XR												No	4 MIN	F	2	2	K
5		X	X	X					X				X	X											No	7 MIN	F	3	3	K
6		X	X						X				XR		X								X		No	11 MIN	M	1	3	K
7		X	XR		X				X	X	X			X	X		X						X		No	23 MIN	M	3	3	K
8		XR							X	X	X		X	X	X										No	17 MIN	M	3	2	K
9																									No	0	F	6	2	A
10		X	X	X																					No	6 MIN	M	2	3	K
11		X	XR						XIR				X		XR								X		No	10 MIN	F	3	4	K
12		XI							X	X	X		X		X								X	X	No	22 MIN	F	3	5	K
13									X	X	X		X	X	XIR									X	No	13 MIN	M	1	5	K
14															XR										No	12 MIN	F	2	3	K
15		X		X					XR	X	XI		X	X									X		No	40 MIN	F	2	2	A
16	X	X								X			X	X	X										No	14 MIN	F	4	2	K
17		X		X						XR															No	6 MIN	M	3	3	K
18		X							X	XR	XR													X	No	6 MIN	F	1	5	K
19													XR	X	XR	XI							X		No	9 MIN	F	2	3	K
20		X	X	X					X	X															No	4 MIN	M	1	3	K

Stopped:	**1**	**13**	**8**	**7**	**1**	**0**	**0**	**0**	**10**	**10**	**8**	**0**	**11**	**7**	**10**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**6**	**3**	**Talk to Reasearcher: 0**	**Avg: 11.61 MIN**	**M: 8**	**10 & Under: 0**	**Alone: 0**	**Adults: 2**
Interacted:	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**			**F: 12**	**Teens: 5**	**2: 3**	**A+Kids: 18**
Read:	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**1**	**0**	**3**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**				**20s: 7**	**3: 5**	
% Read n=20	**0%**	**5%**	**10%**	**0%**	**0%**	**0%**	**0%**	**0%**	**10%**	**10%**	**5%**	**0%**	**15%**	**0%**	**20%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**				**30s: 6**	**4: 6**	
																												40s: 1	**5 or More: 4**	
																												50s: 0		
																												60s: 1		

Visitor #	# of elements attracted	% of elements attracted	Comments
1	2	8.33%	13: Showed kids Tapir. 15: Looks at Capybara; Looks at Tapir. Tracking stopped at Aviary.
2	1	4.17%	Showed kids jaguars and asked volunteer about Jag. Stopped talking, went into restaurant to eat.
3	3	12.50%	3-4: Sat down and looked at Pacu. Talked with family about this. ~11: Watched Jag through window. Stopped tracking just before Temple.
4	5	20.83%	3-4: Stated "Look at fish" to kids. 10-11: Sat kid (possibly 2 y.o.) on railing/fencing to look at Gigi. Child climbed fence. Prior to leaving, played in Fountain by entrance.
5	6	25.00%	2: Watched fish. 3-4: Looked at Fish/Salsa. Picture of Salsa. Between 9-10: stated "Onca Yay". 13-14: stated "Ooh..Hippo".
6	7	25.00%	2: Picture of Salsa. 9: Picture at Waterfalls. Temple: Picture of kids. 13: Adult read to child. 15: stated "Look at the rat thing". Took picture. 23: entered Aviary.
7	10	41.67%	Waterfalls: Stopped for cats. Temple/Field Station: headed to temple - son saw Cassie with snake and went over to Field Station, then back to temple.
8	7	29.17%	2: On knees looking at fish. Between 9-10: pointed to Jaguars Temple: spent 8 minutes in temple.
9	0	0.00%	Entered only for the restrooms.
10	3	12.50%	3-4: stated "hey kid look at Pacu. Stayed really long time. Temple: stopped tracking here.
11	6	25.00%	9: Looked at Jaguars for 2 minutes just past waterfalls. 13: Stopped twice by Anteater area. 23: stopped for squirrel outside aviary.
12	8	33.33%	Fountain: sat at fountain with young child. 2: looked at fish with child. 9: pointing at jaguar up on wall. 10: watching jaguar on wall. Temple: placed child up by snake on wall. School house: sat down beside it. 23: group went into Aviary, she did not.
13	8	33.30%	10: Jaguar roared. Temple: spent 4 minutes here. Aviary: spent 2 minutes here.
14	1	4.17%	15: pointing at monkeys.
15	8	33.33%	4: eating ice cream watching jaguar for 5 minutes. 10: Rachel spoke to group of people here. 11: Watched jaguar. Jaguar is right at window. Rachel is still talking to them. Temple: spent 8 minutes here. 23: spent 11 minutes in Aviary.
16	6	25.00%	2: stated "look how big the piranha are". Temple: spent 7 minutes here. School House: at ~ 4:45 PM, stopped to ask "Data Collector" the time then stated "come on we have 15 minutes before zoo closes".
17	3	12.50%	2: pointed fish out to kids. 4: looked at fish.
18	5	20.83%	Made additional stop between 9-10.
19	5	20.83%	Field Station: Petted snake. Listened to guide, but no discussions noticed.
20	5	20.83%	2-3: Looked at fish. Temple: entered…tracking stopped.

For Unobtrusive Observation data collected for **programs:** number each data sheet to identify the visitor number and layout the spreadsheet using the demographic data (similar to the method used in questionnaires). Additional columns may include pre test q 1 , pre test q. 2 (if pre/post test questions were included), Eyes on Presenter, Laughing, Nodding or Shaking Head, Discussing or Interpreting, Data Collector (DC) Rating, and Comments.

If more than one program is part of the study, divide the data sheets by program before assigning visitor numbers to the sheets. It may be helpful to create a spreadsheet for each program title.

In Spreadsheet 5, the bottom of each column is an average of the tally marks for each participant. These numbers are not the key numbers. They are here to get an idea of what is actually occurred during the presentation and to verify the data collector rating. With the data entered this way, additional sorting and comparisons can be made.

Spreadsheet 5: Final Compilation of Unobtrusive Observation for Program Data

Participant Number	Pre 1	Pre 2	Eyes on	Laugh-ing	Nod/ Shake	Disrup-tive	Post 1	Post 2	DC rating	Pre-senter	DC	M F	Age	Pre/ Post Q.1	Pre/ Post Q.2
1	B	C	30	2	1	0	C	C	10	Jan	KD	F	10	2	0
2	B	C	16	3	2	0	A	C	7	Jan	MW	F	10	0	0
3	C	C	15	4	0	0	B	C	9	Jan	AS	F	10	-2	0
4	C	A	31	2	4	0	C	A	10	Jan	EB	M	10	0	0
5	B	B	25	2	0	0	C	C	8	Katie	MW	F	10	2	2
6	A	C	26	5	0	0	B	C	8	Katie	JM	M	10	0	0
7		A	22	3	0	0	A	C	7	Katie	AS	M	10		2
8	B	A	28	2	2	0	C	B	9	Katie	EB	M	10	2	0
9	C	C	29	2	0	0	C	C	10	Katie	EB	F	11	0	0
10	C	B	34	0	0	0	C	C	9	Katie	AS	F	11	0	2
11	A	C	5	2	2	10	A	A	1	Katie	MW	F	11	0	-2
12	A	B	24	0	3	0	C	C	2	Katie	JM	F	11	2	2
averages			23.75	2.25	1.166667	0.833333			7.5					0.8	0.5

Participant Number	Coments
1	laughing, nodding etc. was at appropriate times these did not comprise majority of the minutes- just moments
2	
3	
4	very involved really listened, watched, attentive
5	
6	looked at clock once, otherwise very interested
7	asked a lot of questions, seemed interested but monopolized the q /a time
8	
9	really attentive, she was interested the entire presentation
10	
11	was seated by teacher, was having behavior problems
12	totall not interested. Scared of snake… had associate working with her

Step 5 Analyze the Data

In formative evaluation, speed was important. Analysis was less formal than it is in summative evaluation. The outcomes and actions were measured, but the need to follow the analyst's thought process was not a critical as it is with summative evaluation. In formative evaluation, the primary source of records was the original data sheets. In summative evaluation, the data sheet information is transcribed into a spreadsheet and calculations come from the compiled data. Depending on the collection method used, there are some differences in the way the data is analyzed.

Step 6 Report the Data

The final step in the process is generating a report of the findings. The report will include the title of the experience that is being studied, the names of the people involved in the evaluation planning, instrument building, analysis, and report, and the date that the report was written.

The first section in the report is the **Introduction**. The introduction clarifies the purpose of the study, gives the date and location of the data collection, and outlines the content of the report.

> **Introduction**
> This report summarizes the findings of a summative evaluation of the ʻOhana program at Maku'u Marketplace in Puna. The summative evaluation was conducted by Hawai'i Volcanoes National Park staff and MPR Museum Consulting. The purpose of the summative evaluation is to test the effectiveness and relevancy of the ʻOhana program. The Mak'u Marketplace in Puna District event is one of two events that were to be included in a summative evaluation to measure the park's success in reaching out and connecting with park neighbors. The park also held an ʻOhana event for the Ka'ū District neighbors. Unfortunately, summative data was not collected at the Ka'ū District ʻOhana event so it is not possible to provide a credible measure of program success for the Ka'ū portion of this project.
>
> Throughout this report questions posed to participants will be shown in **bold type**, paraphrases will be displayed in *italics*, and participant & staff quotes will be in quotation marks. The terms *program* and *event* will be used interchangeably. The name Hawai'i Volcanoes National Park may be abbreviated to the National Park Service acronym HAVO.
>
> Data collected during the ʻOhana event held in 2011 is summarized within the report. The raw and compiled data is found on a spreadsheet that accompanies this report. These spreadsheets will provide readers with information that can be used for future or further analysis.

Some reports require **Background** section to apprise the reader of activity related to the experience.

> In fall 2010, Hawai'i Volcanoes National Park wanted to cultivate a sense of stewardship between the park and community neighbors. To find the most inclusive and effective way of establishing this relationship, park staff and MPR Museum Consulting conducted a focus group with Puna community leaders. From this focus group, it was determined that the community needed a free or low cost event, offered outside of the park near the community, targeted to school age youth, instructive in cultural or traditional ways that emphasize the natural resources of the district, and the leaders of the program should be native, local practitioners. It should start small, be offered repetitively for attendance to grow, and marketed exclusively to the Puna community.
>
> Park staff responded by creating an event titled ʻOhana – the Hawaiian word for "family". The first ʻOhana event offered in the Puna district occurred at Maku'u Marketplace on April 2, 2011. The event featured practitioners demonstrating cultural and traditional skills. Event participants were invited to make their own traditional tools and materials. This first ʻOhana event included lei, rope, rain

cape, paper and print making and ukulele playing. An estimated 30 people attended the event. Data was collected through unobtrusive observation, tracking, and questionnaires. Participants were very pleased by the event and asked that the park continue to offer events such as this one.

The next section of the report describes the methods used in the study and the sample size for each method. This section is titled **Methods** or **Methodology**.

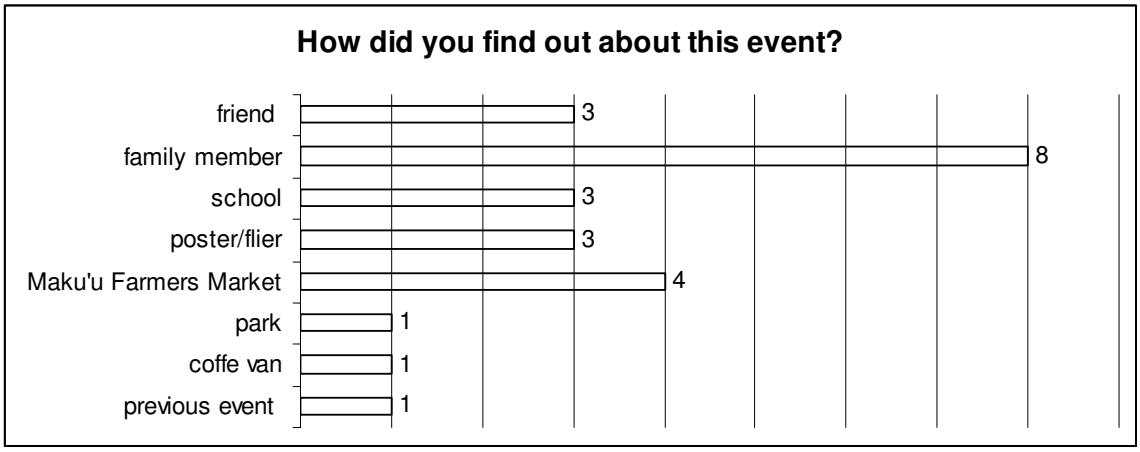
Data collection for the summative evaluation took place at the event at Maku'u Marketplace on October 15, 2011. The intention of this O'hana event was to build a relationship with local community members and thereby create a sense of stewardship about the park.

To measure participant feelings about the park, park staff, and the event, and to determine outcomes, participants were randomly selected and asked to complete a questionnaire. The questionnaire consisted of 5 open-ended questions, 5 close-ended questions, 3 five point Likert scales, demographic questions and space for additional comments. A total of 23 questionnaires were completed. 12 of the 23 participants that completed a questionnaire were female, 6 were male and 5 did not answer this question. Due to potential literacy issues of participants (ages ranged from 3 to over 50), some participants completed the questionnaire on their own, while others were completed in interview format by the data collector. All participants that completed a questionnaire said that they came to the event with family members.

A **Findings** section follows the Methods section. Findings will be the most extensive part of the report. This section is a summary of the Final Compilation. Not all of the data is included in the findings. Usually only the top three or top five categories are summarized in text form, but all other categories are shown on a graph or chart.

Findings

The first question asked participants to tell how they learned about the 'Ohana event. There were more shared answers to this question than any other question on the questionnaire. 8 people found out about the event from a family member. 4 people found out about the event through Maku'u Marketplace. The chart below shows the other responses to this question. 1 person gave 2 answers to this question.



The final section of the report is titled **Discussion and Conclusions**. This is where the findings are discussed and thoughts come together. Responses from different questions can be compared.

> The comments, scales, and data show that participants "loved" the event. They loved the content and delivery. The content selected by focus group participants and park staff demonstrates to the community that the park wants to meet their needs. Ultimately through this bond, it is hoped that the park's desire to build stewardship will be met.
>
> The focus group participants told us to keep the program going even if participation was poor at the beginning. The increased attendance levels and enthusiasm for this event verify the accuracy of the focus group's suggestion.
>
> Another comment that came out of the focus group was *involve community members in the event*. Originally this suggestion was intended for practitioners at the event, but park staff has successfully engaged community members in event planning, sponsorship, and coordination. This shared coordination has resulted in expanded advertising and higher attendance.

Lessons Learned

The Lessons Learned section ties the findings and discussion sections together.

> **Lessons Learned**
> About the program
> **O'hana is a family event.** The goal of 'Ohana was to create a family-focused event that connects the park to the community. From the data, we found that everyone that attended the Puna District event came with family. Two participants mentioned bringing friends to future events.

Repetition builds participation and trust. The January focus group participants suggested to *start small and continue to offer the event*. They stated that community members are reticent to recommend an event to others if they had not themselves participated. In April, approximately 30 people visited the pilot O'hana event at Maku'u Marketplace. In October that number doubled. By offering the O'hana event repetitively, the community is starting to build trust with the park. It is important to continue to offer this program.

Hands on involvement is important to the participants. 11 of the 23 participants (48%) mentioned that they liked *making stuff*. It will be important to continue this "hands on" delivery method for future events. That does not necessarily mean that all Puna O'hana events must be cultural fair types of events. If it is possible to lead an event similar to the Ka'ū O'hana event (a GPS scavenger hunt) it may be something to consider in the future. However, it is important that participants get the opportunity to be involved in the experience. A lecture type of presentation may not be as well received.

Next Steps

A summative report is intended to be the last word. It is a summary of how well the experience met the expectation of the participants and planners. In some cases a next steps can be addressed as was the case with this example:

Next Steps

A summative evaluation of the Ka'ū District event is necessary to give credibility to any assertions about success of the program. The next step for the Ka'ū District O'hana program is to collect summative data using both questionnaires and unobtrusive observation. After this data is collected and analyzed, the information can be used as a model for parks around the country that also need to connect to community neighbors.

The summative evaluation of the Puna District event demonstrated the success that O'hana has in building a relationship with the community. This was the first step toward the goal of inspiring community neighbors to become park stewards. By putting the community members' interest first, park staff began the process of connecting the park to the people. Trust is just beginning to be established here.

The next step for the Puna District is to gather information about actual, current use of the park by community neighbors. How many community members are coming to the park now and what are they doing when they come? This is the baseline that will be measured against in the future when you determine if neighbor stewardship has increased. The summative evaluation questionnaire asked participants **Have you visited Hawai'i Volcanoes National Park before?** This question was a start, but so much more information needs to be gathered before a true baseline can be established. Narrowing it down to how often neighbors come, who do they come with (school, family…), why do they come…will provide a good baseline to determine how the neighbors are currently using the park. Then as the relationship between the park and neighbors grows, it will become apparent how the neighbor's use patterns change.

Fearless Summative Evaluation Study Guide

Objectives:

- Staff will discover participant satisfaction levels.
- Staff will learn participant cognitive and affective outcomes.
- Staff will have information that can be used for future similar events..

Full Performance Level Competencies Links:

- Interpretive Research
- Interpretive Media Development

Time Commitment:

A. Prior to the event - 10 hours for planning and preparation
B. During the event - dependent on number of participants available for data collection
C. After the event - 40 hours for analysis and reporting

Materials needed:

- Computer/Printer
- Blank Paper
- Notepads or Clipboards
- Pens
- Data Collectors - can be staff or volunteers

Background

Summative Evaluation is the final evaluation phase that is conducted on an experience. It's a "how did we do" form of analysis. It isn't intended to improve this event, but the results of a summative evaluation will help in future program and exhibit design. What is learned from summative can be applied to future plans.

Procedure

Step 1:

Weeks leading up to the event:

- Keep a copy of all marketing materials
- Record who marketing materials went out to
- Keep a copy of newspaper articles, blogs, websites that picked up press releases and are helping market the event.
- Recruit and schedule staff or volunteer data collectors for during the event
- Create questionnaire for event participants. Use Worksheet A.

Right before the event starts:

- Create unobtrusive observation instrument. Use Worksheet B.

Step 2:

During the event:

- Collect unobtrusive observation and questionnaire data. Use Worksheets C and D.

Step 3:

After the event:

After the event there will be two different types of completed data sheets: a stack of questionnaires and a stack of unobtrusive observation sheets. Conduct the analysis and write a report. Use Worksheets E and F.

Evaluation: I Will Be Fearless!

Evaluation can be the difference between a successful or not so successful program or media product. It's important to incorporate as many phases and as many methods of evaluation into design as the budget and time will allow. Without incorporating evaluation, the product may be of little or no interest to the target audience, may completely miss the desired outcomes, and staff may not know the quality of the final product. If an agency claims to make any kind of difference, they must be doing some type of evaluation to give that claim credibility.

How Much Time and Money Will Be Needed?

Budgeting time and money for evaluation is much like building a new home. Owners and agencies tend to under estimate both. Cost is dependent on the phase, sample size, location, staff or contractor's experience, number of methods used, types of methods used, audience attendance numbers, and more.

The amount of time it takes to conduct any phase of evaluation will be dependent on the stage or methods you choose to conduct that evaluation. Some methods can be very quick, such as online surveys. The advantages of online surveys are that the analysis time is cut out of the overall time budget. A person can complete an online survey and the data will be analyzed and the results will be instantaneously calculated. The disadvantages of online surveys are that the willing audience may be different than the actual audience, so you may not have an accurate sample. Often questions must be closed ended. In some cases open ended questions are possible, but the analysis may be questionable. The analysis formula of open ended questions in online surveys looks for key words, but cannot measure the context of those words. This means responses such as "This program addressed all the changes that have happened to the landscape over the last 2,000 years" and "This program was about how nothing has changed in the park over the last millennium" are calculated in exactly the same way. The survey program will calculate these as being common answers because the key word "change" occurred in both.

Generally, front end and summative evaluation require more in depth data collection, open ended questions, data transcription, human analysis, and reporting. The majority of time spent on these tasks can take months. The size of the sample also has an effect on the amount of time needed to go through the process. The participant attendance will play a role in the length of time it takes to gather the data. For a sample size of forty to sixty participants, using two methods of data collection, estimate six to eight weeks for analysis and reporting of data after the data is all collected.

Formative analysis and reporting is much faster. Formative evaluation is usually conducted in multiple stages, so the time between the stages is spent redesigning and constructing prototypes. It is the time between the stages that take the majority of the overall time budget. Estimate two to three weeks to complete analysis and reporting of each stage of formative evaluation on a sample size of forty to sixty participants using two data collection methods.

Should I Conduct the Evaluation or Hire an Outside Evaluator?

You and your staff can conduct a front end, formative, or summative evaluation. The scope of your project, staff time required, and budget will dictate the amount of evaluation you will be able to conduct. Of course, the more evaluation you do the better, but you must be realistic. What amount can you do with the budget that you have? What can you and your staff do?

The advantages of conducting the evaluation using park staff and volunteers include staff familiarity with visitor attendance, organizational rules and policies, proximity, and cost. The challenges are that the evaluation must be a priority and you must be assigned dedicated time and funding to complete the project. Evaluation projects tend to become low priorities and often are cut due to funding deficits. Usually this happens after the data has been collected, and the analysis and reporting phase is about to begin.

Many agencies are data rich and information poor from years of data collection and little to no analysis and reporting. This data collection costs the agency staff time and visitor respect. If people are answering surveys that result in no changes, it becomes harder to get them to participate in future studies. Think of the number of time you've given a store clerk your zip code (data collection), have you seen any changes because of it? In organizations with a market researcher or department, that information is used to advertise and stock merchandize that people in your area purchase most often. If you are going into a store that usually or always has what you came in for, it may be attributed to a response to data collection. In many agencies if there is no one assigned to analyze the data, it just sits "on the shelf".

One of the primary reasons you should conduct evaluation is to create the best possible product in the most economical way. Failing to conduct evaluation can result in a finished product full of errors that either needs to be redone or lived with. Conducting evaluation can often save the agency a lot of money.

For example, you can reduce the cost of conducting a formative evaluation by:

- Using a sample size between 40 and 60 participants.
- Limiting and the number of components and delivery techniques that will be tested.

- Recruiting staff and volunteers to conduct the data collection.
- Committing the time necessary to analyze the data and write the report.
- Follow through and apply the findings to the project design.

Evaluation is never free. Once you decide how the type of evaluation(s) you need and what you can afford, you can determine how to get the work done. There are many different scenarios reflecting a wide range of projects, time, staff, and money that allow you to conduct evaluation. If funding is tight and staff is available, you can conduct any one of the evaluation types for a single program and simple media project. If the budget allows and you have staff available, you can collect data and then hire an outside evaluator to compile and analyze the data and produce the report for a variety of programs and media projects. If the budget allows and the project is a large, complex exhibit installation, you should hire an outside evaluator to conduct the evaluation. Sometimes you have to recognize when it is advantageous to call in the experts and not try to do it yourself.

I Will Be Fearless!

Fearless Evaluators know when they can take action themselves. Online surveys, interviews, unobtrusive observation, and focus groups are all methods of evaluation that any interpreter can use during any stage of program and media development. Time, staff, budget, and project scope will determine whether you do it yourself or call in the experts.

Fearless Evaluators know when to call for help. Outside evaluators provide expertise especially when undertaking a complex, large-scale project or program. Regular staff schedules and responsibilities are not overburdened, and greater insight into visitor knowledge, behaviors, actions, and perceptions is gained.

Evaluation: I Will Be Fearless!

Each stage of the CUVA evaluation process was summarized and published in the following reports. These files can be found on the Harpers Ferry site or by contacting Monica Post at MPR Museum Consulting. monica@mprconsultants.com

'Ohana Puna District Focus Group Notes
'Ohana Ka'ū District Focus Group Notes
'Ohana Puna District Focus Group Report
'Ohana Ka'ū District Focus Group Report
'Ohana Puna District Unobtrusive Observation Sheets
'Ohana Puna District Formative Questionnaire
'Ohana Ka'ū District Unobtrusive Observation Instrument
'Ohana Ka'ū District Formative Questionnaire
'Ohana Puna District Formative Report
'Ohana Ka'ū District Formative Report
'Ohana Ka'ū and Puna Summative Questionnaire
'Ohana Puna District Unobtrusive Observation Instrument
'Ohana Ka'ū District Unobtrusive Observation Instrument
'Ohana Summative Data
'Ohana Summative Report
Youth in Parks Focus Group Notes
Youth in Parks Focus Group Report- Kūpono McDaniel
Youth in Parks Formative Report
Youth in Parks Parent Survey Instrument
Youth in Parks Participant Survey Instrument
Youth in Parks Leaders Survey Instrument
Youth in Parks Rough and Final Data Compilation
Youth in Parks Summative Report
Digital Mountain Focus Group Report-Laura Williams
Digital Mountain Formative Report
Digital Mountain Summative Evaluation Questionnaires
Digital Mountain Summative Data
CUVA Phase 1 UO instrument
CUVA Phase 1 Questionnaires
CUVA Formative Phase 1 Report
CUVA Phase 2 UO instrument
CUVA Phase 2 Questionnaires
CUVA Formative Phase 2 Report
CUVA Phase 2 S Basin Rough and Final Compilation
CUVA Phase 2 CVC Rough Compilation
CUVA Phase 2 CVC Final Compilation
2010 Focus Group Findings: Assessing African American Attitudes Toward the Civil War
KEMO Focus Group Reception Questionnaires

Kennesaw National Battlefield Park Focus Group Reception Report
KEMO Formative Questionnaires
KEMO Formative Evaluation of Programs of Interest to African Americans Report
KEMO Summative Questionnaires
KEMO Summative Evaluation of Programs of Interest to African Americans Report
Kennesaw Summative art show data
Kennesaw Summative storyteller data
Parks and Underserved Audiences: An Annotated Literature Review
Brief Literature Review for Focus Groups, Outcomes, Evaluation and Front End Evaluation

Worksheet A

Creating a Program or Event
Formative or Summative Questionnaire

The purpose of a formative or summative event questionnaire is to look for overall outcomes that the participant takes away from their experience. The participant's time and feelings must be respected. A typical formative or summative evaluation questionnaire includes five or less demographic questions, between two and four open ended questions and an affective question.

Demographic Questions: The purpose of the demographic questions is not to establish who the audience is, (you should already know this), but to verify that the data truly represents the audience that is present. Demographic questions include:

Male / Female

Age by category (asking participant to be specific about age is threatening unless they are youth)

Under 10 _____	40s
11 t o 19	50s
20s	60s
30s	70s and above

How many people came with you today? _____

Who are you here with today?

Family Friends

Special Group I came by myself

Other _____

Depending on the project and project goals, there may be other demographics that should be included (race or ethnicity, zip code, member….. Etc.) For every demographic question that is added- take away another. In other words if your experience is intended to increase the ethnic or racial diversity of the audience, add a question about that, but take away another. Keep the number of demographic questions under five.

Helpful Hint: Number the questions, it will help later with compilation and reporting.

Question #1 (closed and open ended)
How much information or interest did this participant come to this experience already knowing?

1. Do you have any special interest, hobbies or training in Wilderness Survival Skills?

_____ No

_____ Yes If "yes", please explain:_____

Question #2 (open ended)
What does the participant think the event is about? Why are you doing it? What is its purpose?

2. What would you say is the main purpose of this event?
To show……_____

and / or

To make people…_____

Question #3 (open ended)
What are the cognitive outcomes of the participant's experience? What did they learn or remember because of their experience at the event? If this questionnaire is being passed out after a performance or presentation questions can be tailored for that presentation.

3. Can you tell me one new idea that you are taking away today?
I didn't know, or never realized that…_____

and / or

It reminded me that…_____

Question #4 (closed and open ended)
How might this experience influence the participant's actions outside the event? Keep in mind that this is what the participant is professing. When reporting on this question, this does not measure actual actions, only professed intent.

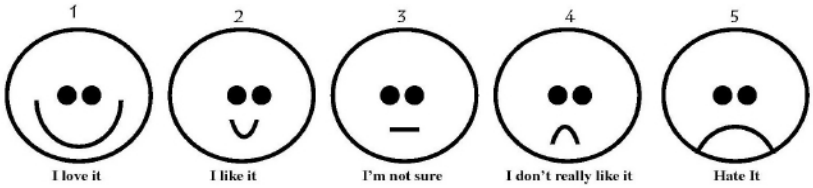
4. Will this experience change your actions or make you do something different in the future?

_____ No

_____ Yes If "yes", what do you think you may do different in the future?

Question #5 (closed ended)
What does the participant think of their overall experience today?

5. Which face best represents your feelings about this event here today?



Question #6 (open ended)
What else does the visitor want to express? What questions might have been missed? What's on their mind?

6. Is there anything else you would like to tell us?

Worksheet B
Creating a Program or Event
Unobtrusive observation instrument

The purpose of unobtrusive observation is to measure participant behavior during the experience. Unobtrusive observation is a technique that is used to measure the attraction, holding power and behavior of parts of the overall experience. This measurement tool is quantitative. In other words, it is about the quantities. It is used to measure the number of participants that laughed during a joke, were distracted, appeared engaged etc. The instrument used for unobtrusive observation of an event will vary depending on the type of event or program that is being studied.

The following details need to be determined before creating the instrument:

- what demographic data needs to be collected?
- what areas will be included in the event?
- what behaviors might occur during the event?

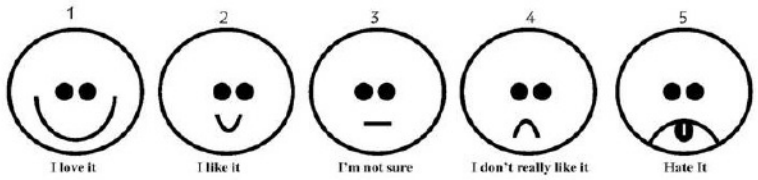
There are several different types of program evaluation instruments that can be selected for data collection. Pick what works best for your program.

The following instrument was created for an event conducted at Hawai'i Volcanoes National Park. This instrument was used for an event where visitors were given free choice to move from station to station. The data collector randomly selected a participant at one of the stations and observed his/her behavior and judged his/her overall level of engagement.

Time _____ How many people here? _____

Presenter _____

M F Age _____ Who with? _____



Comments:

The instrument on the next page was used for a stationary presentation.

The instrument on this page was used for a stationary presentation. The data collector made one tick mark for each minute in the presentation.

Presentation _____ Time _____ Day _____ Date _____

Presenter _____ Data Collector _____

Audience Size _____ M / F Age_____ Who with? _____

Stationary Presentation	
Eyes on Presenter	Participant is watching presenter or object that presenter wants audience to focus on
Laughing (presenter directed)	Participant is laughing, smiling
Nodding Head or Shaking Head (presenter directed)	Participant is nodding head in agreement or shaking head in disagreement as directed by presenter– this does not include nodding or shaking if participant is participating in disruptive behavior.
Discussing or Interpreting (presenter directed)	Participant is discussing with neighbor the subject of the presentation or is interpreting for a child. Must appear to be presentation related.
Responding (verbally or hand raising– presenter directed)	Participant raises hand or shouts out response that is presenter directed. This does not include intentionally disruptive responses.
Participating (presenter directed)	Participant is participating (individually or as part of a whole group) More than hand raising or verbal response. i.e. put hands on hips, or come up to the stage
Looking around	Participant is looking away from presenter or away from where presenter wants attention focused. i.e. clock, other participant...
Participating in disruptive behavior	Any behavior other than talking and looking around that is unwanted by presenter and distracts others in the audience.
Refusing to participate in presenter directed behavior	Participant is not being distracting, but is refusing to participate in presenter directed behavior.
Talking (uncertain about subject matter)	Talking that seems to be unrelated to presentation, or unwanted by the presenter.
Pre occupied (texting, reading, sleeping....)	Behavior not wanted by presenter, but not distracting others

Data Collector Engagement Rating (circle one)

0	1	2	3	4	5	6	7	8	9	10
Distracting		Distracted/ Disinterested		Easily Distracted		Nominally Interested		Interested		Completely Interested & Engaged

Worksheet C
Collect the Data—Questionnaires
Surveys or Interviews

Outcomes based evaluation is an analysis of the experience, not the people involved. The people are necessary to measure the experience, but we are not measuring the people. It is not practical or cost effective to interview or observe every participant in an experience, so instead a select number of participants will be involved. It is important to avoid bias when selecting the participants for a study. The best way to prevent bias is to randomly select participants.

Instructions for random sampling:
Determine an imaginary line just inside the data collection space. Pick every fifth person that crosses that imaginary line. This is the person who will be approached to participate in the questionnaire. We will call this the target individual.

Five is not a magic number. A larger number can be chosen, but it may take longer to get enough visitors for the study. The point is that the data collector should not unwittingly select people and introduce their bias.

Do not avoid approaching someone because they "look like" they might not want to (or for any other reason) participate. If data collectors avoid approaching people that look like they might be in a hurry, or think that they wouldn't want to participate, then the data collector's judgment is biasing the data. Approach every 5th persons that fits the criteria.

Criteria other than every 5th person
The criteria for every project will be dependent on the project. In cases where text based media is being evaluated, participants should be of reading age. Data collectors may have to judge if a randomly sampled individual is at reading age -not by if they are reading, but rather, by appearance.

If the target individual is a is a child - approach them cautiously speaking loud enough for the accompanying adult to hear. Use body language to invite the adult into the conversation. Data collectors will have to use judgment and ability to work with children and their parents here. Do not avoid asking children just because it is a pain that would bias the data and cheat them out of a chance to share their thoughts.

Do not recruit more than one person in a group- (even if there are more than 11). This results in skewed data because people that come in a single group often have the same history and points of view.

Approach the target individual and say the recruiting statement in a friendly voice. If the target says "yes", say to them, "thank you, when you exit this exhibit (when the presentation is concluded) just come back to me and we can begin".

If a visitor says "no" thank them anyway. Do not ask why, although they may offer a reason. Keep track of how many people refuse and write down the reasons that they refuse. For example- "not enough time, just not interested" etc.

If participants are completing a survey hand the clipboard with questionnaire and pen to the visitor and ask them to complete the rest. If the participant asks a question or wants to discuss something, it is best to politely say something like: 'Go ahead and finish this and then I'll be happy to tell you more about that."

As soon as the visitor has completed the questionnaire, thank them. Put the questionnaire away - do not examine it. (This is intimidating for the person who just completed the form and for future recruits.)

If while talking with a visitor, more than five people slip by, that is O.K. - approach the next person that crosses the imaginary line.

If data collectors are interviewing participants, it is important that data collec- tors use the words that the participant uses when they are completing the form. The words they use help measure their vocabulary. For example if a participant says- "I learned that deer come out at dawn and dusk" the data collector should not write down "Visitor learned that deer are crepuscular."

Write their answers in first person- participant will say "I learned" or "I felt" - do not write down "she learned" or "she felt"

Write down any other comments that they had at the bottom or if necessary on the back- even if the comment doesn't have anything to do with the exhibit. In this case the data collector can use their words. For example: "visitor stated that she really appreciated the cleanliness of the restroom." Data collector does not have to write down directional questions i.e. "Where is the closest restroom?"

As soon as the visitor has completed the interview thank him/her and put the survey away- do not examine it. (This can be intimidating for the person who just completed the form and for future recruits)

If while interviewing, more than five people slip by, that is O.K. - approach the next person that crosses the imaginary line.

Worksheet D
Collect the Data
Unobtrusive Observation in Programs or Events

Using the unobtrusive observation method, we can measure the audience engagement in a presentation.

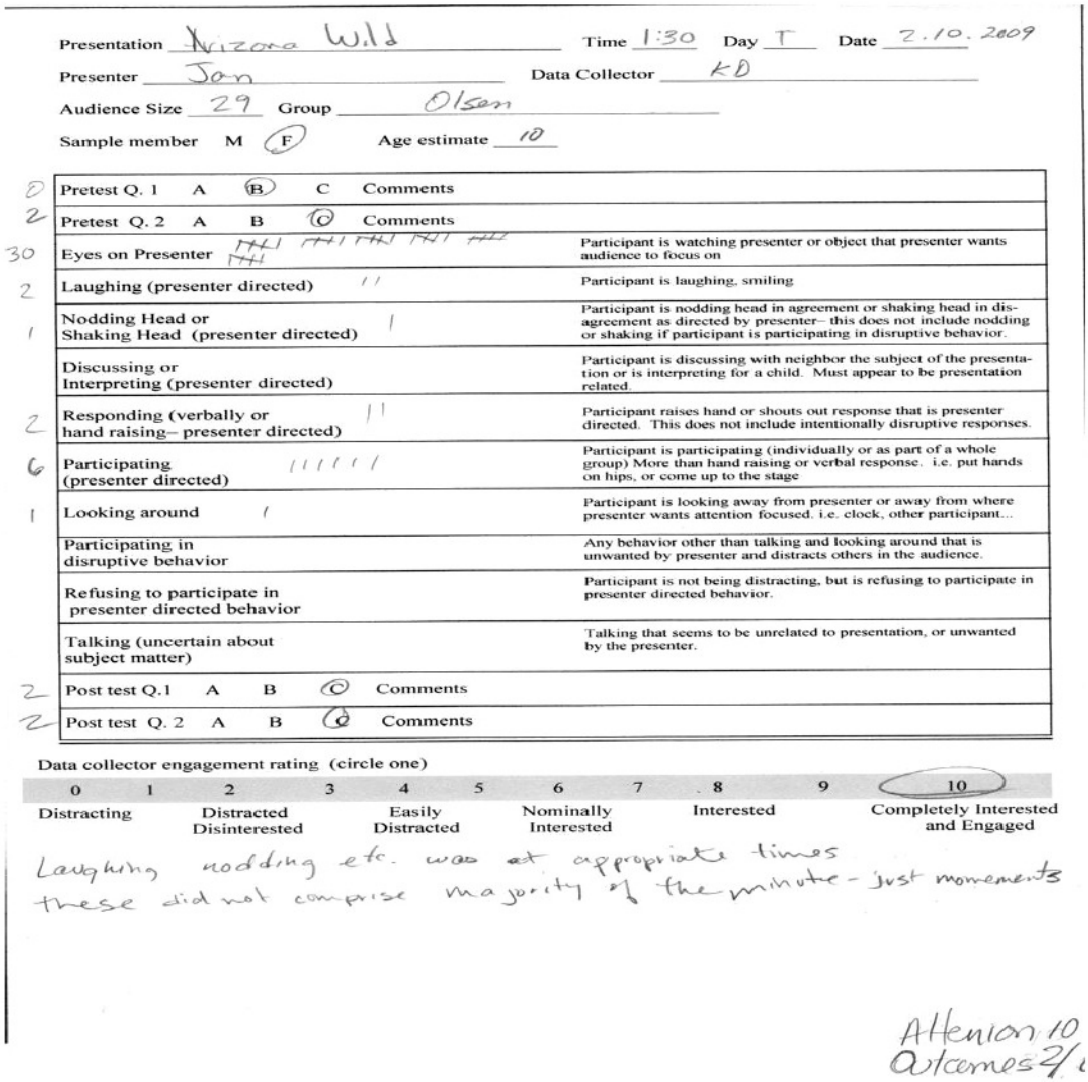
Participants in an unobtrusive observation are observed without being aware of their involvement in the study. It is especially important to remember that the participants are not the subject of the study, rather they are a "tool" used to measure the program. No personal data is collected. Demographic data is assumptive. In other words, the data collector makes demographic assumptions about the participant based on visual evidence. Gender, age, race, family type…. all of these pieces of data are assumptions based on a visual analysis. The purpose of the demographic data is to verify that the audience being studied is a representative sample of the audience.

This is to be a representative sample of the audience, so random selection is necessary. There are two ways to randomly select the participants for this type of data collection.

1. Determine the number of volunteers / staff that will be conducting the data collection. For the purposes of this example we will say we have 5 staff/volunteers available for this presentation. Determine five audience seats in the auditorium and assign each seat to the staff/volunteer. Be certain that the "target" seats are distributed throughout the auditorium. If you select the first five seats in a single row, all members may be from the same group or family. When the audience comes into the auditorium and sits down, the staff/volunteers need to make a mental note to themselves so that they can remember the sample member that they are observing. If the sample member moves to a different seat, the staff/volunteer can continue observing that member as long as he/she doesn't move to a different "target" seat. The point is to get a sample of the audience that is not influenced by data collector bias.

2. A second method requires the data collector to randomly select participants by observing every nth person who crosses an imaginary line as they enter the space. Make sure each data collector knows the person that they will be observing is not being observed by another data collector. You may also need to select out certain audience members… for example: although infants may be representative audience members, they may not be able to provide the feedback you are looking for. In those cases (whether they are in a target seat or are the nth person to cross the line) select the person next to them.

Data collectors will have a form similar to the one shown below. Have data collectors note behaviors that happen during each minute of the presentation. Each minute during the presentation will earn a tick mark. In the instance where several behaviors happen within one minute- have data collector tick the behavior that happened most often. So for example if participant at 1:13:00 was watching the presenter, at 1:13:03 became distracted by a peer, at 1:13:10 was still laughing at peer, at 1:13:15 was watching presenter and continued watching presenter until 1:14:00- then the predominant behavior was Looking at Presenter and that should get the tick mark. However, a note should be made on the bottom of the form that the student was laughing at peer for a few seconds.



Presentation Arizona Wild Time 1:30 Day T Date 2.10.2009

Presenter Jan Data Collector KD

Audience Size 29 Group Olsen

Sample member M (F) Age estimate 10

0	Pretest Q. 1 A (B) C Comments		
2	Pretest Q. 2 A B (C) Comments		
30	Eyes on Presenter	卌 卌 卌 卌 卌	Participant is watching presenter or object that presenter wants audience to focus on
2	Laughing (presenter directed)	//	Participant is laughing, smiling
1	Nodding Head or Shaking Head (presenter directed)	/	Participant is nodding head in agreement or shaking head in disagreement as directed by presenter– this does not include nodding or shaking if participant is participating in disruptive behavior.
	Discussing or Interpreting (presenter directed)		Participant is discussing with neighbor the subject of the presentation or is interpreting for a child. Must appear to be presentation related.
2	Responding (verbally or hand raising– presenter directed)	//	Participant raises hand or shouts out response that is presenter directed. This does not include intentionally disruptive responses.
6	Participating (presenter directed)	//////	Participant is participating (individually or as part of a whole group) More than hand raising or verbal response. i.e. put hands on hips, or come up to the stage
1	Looking around	/	Participant is looking away from presenter or away from where presenter wants attention focused. i.e. clock, other participant...
	Participating in disruptive behavior		Any behavior other than talking and looking around that is unwanted by presenter and distracts others in the audience.
	Refusing to participate in presenter directed behavior		Participant is not being distracting, but is refusing to participate in presenter directed behavior.
	Talking (uncertain about subject matter)		Talking that seems to be unrelated to presentation, or unwanted by the presenter.
2	Post test Q.1 A B (C) Comments		
2	Post test Q. 2 A B (C) Comments		

Data collector engagement rating (circle one)

0	1	2	3	4	5	6	7	8	9	10
Distracting		Distracted Disinterested		Easily Distracted		Nominally Interested		Interested		Completely Interested and Engaged

Laughing nodding etc. was at appropriate times these did not comprise majority of the minute - just moments

Attention 10
Outcomes 2/

Worksheet E
Analyzing Questionnaire Data

Step 1
Begin by numbering each questionnaire in the upper right hand corner. This will be the visitor number.

Use a spreadsheet program for data transcription and analysis.

Along the top row of the spreadsheet put the following titles: visitor number, date, location, time, gender, question #1, question #2, etc. The titles on this spreadsheet need to correspond to the questionnaires. If it is possible to put an abbreviated version of the question in the titles row, do so. It will make analysis easier in the future.

The first column of the spreadsheet already has line numbers. In the second column put visitor numbers. It is very important to not use the line numbers in place of the visitor numbers. The visitor numbers are those that you wrote on upper right hand corner of the completed data sheets.

2	visitor number	Date	Location	Zip Code	Member	Zoo Visits	1 What can you tell me about the plants, animals and people of Africa?	2. Can you tell me a little about the communities, homes and lifestyles of the African people?	Prompted
3	1	######	SCI	50265	N	10	Like to watch Animal Planet, Tribe that have cattle, tigers - predators - elephants	Different tribes have their own villages - like Swahili. Grow own vegetables - far away from city living - doesn't exist	N
4	2	######	SCI	50265	Y	10	blank zebra, giraffe - like to feed, camel ride, miss elephants at the zoo, remember elephants from CA - very interesting	Oprah's school - we do't hear about metro areas, we hear about Darfur for only nasty places	N
5	3	######	SCI	50009	N	2	Africa is an entire continent - it is very large. many large dangerous animals & a lot of them roam free. People are poor in many areas.		

Step 2
Enter the data for each visitor sheet on the corresponding visitor line.
The next step is to go through each question and compile like responses. Begin by looking at all the responses for a single question. Where are the similarities?

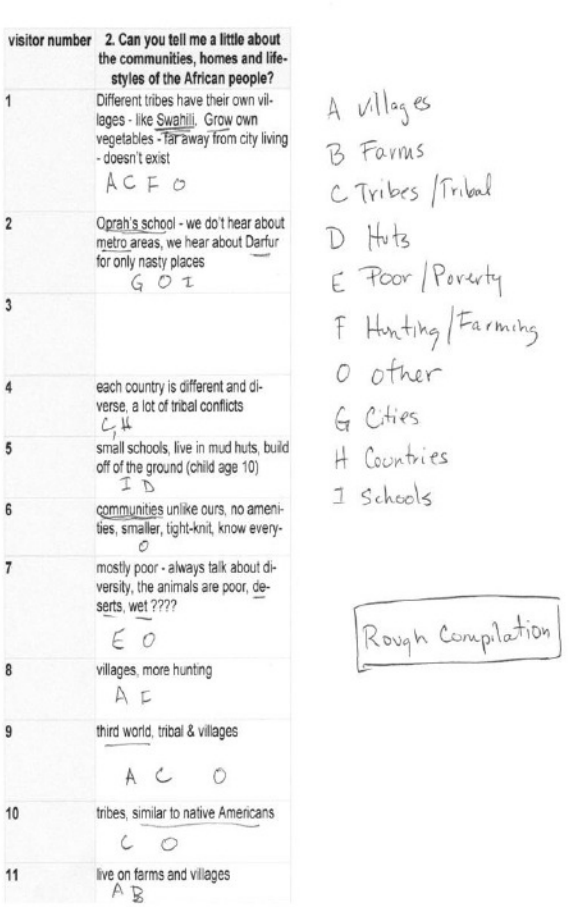
Step 3
For question #2 the analyst found the words "villages" "farms", "tribes" or "tribal" mentioned by several participants.

Each of the words that were found in more than one answer were given their own category. Villages was coded category A, Farms category B, etc. For answers that are unique assign an "other" category. Some visitor responses to question #2 had several codes associated with it.

This is the Rough Compilation. It is included at the end of the report so that readers can refer to it to understand the analyst's thought process. The example below shows how the analyst categorized the responses to question 2.

Do the same analysis with data collected from your project.

Rough Compilation



visitor number	2. Can you tell me a little about the communities, homes and life-styles of the African people?
1	Different tribes have their own villages - like Swahili. Grow own vegetables - far away from city living - doesn't exist A C F O
2	Oprah's school - we don't hear about metro areas, we hear about Darfur for only nasty places G O I
3	
4	each country is different and diverse, a lot of tribal conflicts C, H
5	small schools, live in mud huts, build off of the ground (child age 10) I D
6	communities unlike ours, no amenities, smaller, tight-knit, know every- O
7	mostly poor - always talk about diversity, the animals are poor, deserts, wet ???? E O
8	villages, more hunting A E
9	third world, tribal & villages A C O
10	tribes, similar to native Americans C O
11	live on farms and villages A B

A villages
B Farms
C Tribes / Tribal
D Huts
E Poor / Poverty
F Hunting / Farming
O other
G Cities
H Countries
I Schools

Rough Compilation

After the Rough Compilation has been completed, it is necessary to move around the data on the spreadsheet so that it can be summarized. This is the Final Compilation. This is the data that will be included in the findings of the report.

Do the same with your data. Use this compilation to generate your report.

Final Compilation

A	A-Villages
Visitor #	Question #2
8	villages, more hunting
11	live on farms and villages
13	dirty, a lot of disease. living amongst "wild" animals. Tribal villages. small villages, a lot of hunting and farming
15	working on farms, live in villages
17	Kenya has quakers. Efforts to create national forests. Developed cities, but also have poverty. both cities and villages
Visitor #	Question #2
B	B-Farms
1	Different tribes have their own villages - like Swahili. Grow own vegetables - far away from city living - doesn't exist
11	live on farms and villages
13	dirty, a lot of disease. living amongst "wild" animals. Tribal villages. small villages, a lot of hunting and farming
15	working on farms, live in villages
18	Tribes. more rural life, farmers and herdsman, government conservation. safari business, tour guides business, live in more villages
27	low income, farming communities, culture/tradition, very natural, mud houses
32	have cattle, build "walls" around village (wall of sticks)
40	they live in villages, where several families share huts. Women do the cooking. Men take care of the cattle

Worksheet F

Analyzing Program or Event

Unobtrusive Observation Data

If more than one program is part of the study, divide the data sheets by program before assigning visitor numbers to the sheets. Number each data sheet in the upper right hand corner. This will be the participant number.

Use a spreadsheet program for data transcription and analysis. It is helpful to give each program title its own worksheet.

Along the top row of the spreadsheet put the following category titles: participant number, pre test q 1 , pre test q. 2 (if pre/post test questions were included), Eyes on Presenter, Laughing, Nodding or Shaking Head, Discussing or Interpreting….. use the categories listed on the instrument, Post test q. 1, Post test q. 2 (if pre/post test questions were included), Data Collector Rating, Demographic Data and Comments.

The first column of the spreadsheet already has line numbers. In the second column put participant numbers. Do not use the line numbers in place of the participant numbers. The participant numbers are those that you wrote on the completed data sheets. Enter the data for each participant sheet on the corresponding participant line.

Unobtrusive Observation for Programs Data Compilation

Participant Number	Pre 1	Pre 2	Eyes on	Laugh-ing	Nod/ Shake	Disrup-tive	Post 1	Post 2	DC rating	Pre-senter	DC	M F	Age	Pre/ Post Q.1	Pre/ Post Q.2
1	B	C	30	2	1	0	C	C	10	Jan	KD	F	10	2	0
2	B	C	16	3	2	0	A	C	7	Jan	MW	F	10	0	0
3	C	C	15	4	0	0	B	C	9	Jan	AS	F	10	-2	0
4	C	A	31	2	4	0	C	A	10	Jan	EB	M	10	0	0
5	B	B	25	2	0	0	C	C	8	Katie	MW	F	10	2	2
6	A	C	26	5	0	0	B	C	8	Katie	JM	M	10	0	0
7		A	22	3	0	0	A	C	7	Katie	AS	M	10		2
8	B	A	28	2	2	0	C	B	9	Katie	EB	M	10	2	0
9	C	C	29	2	0	0	C	C	10	Katie	EB	F	11	0	0
10	C	B	34	0	0	0	C	C	9	Katie	AS	F	11	0	2
11	A	C	5	2	2	10	A	A	1	Katie	MW	F	11	0	-2
12	A	B	24	0	3	0	C	C	2	Katie	JM	F	11	2	2
averages			23.75	2.25	1.1666 67	0.8333 33			7.5					0.8	0.5

Participant Number	Coments
1	laughing, nodding etc. was at appropriate times these did not comprise majority of the minutes- just moments
2	
3	
4	very involved really listened, watched, attentive
5	
6	looked at clock once, otherwise very interested
7	asked a lot of questions, seemed interested but monopolized the q /a time
8	
9	really attentive, she was interested the entire presentation
10	
11	was seated by teacher, was having behavior problems
12	totall not interested. Scared of snake… had associate working with her

The bottom of each column has an average of the tally marks for each participant. They are here to get an idea of what is actually happening in the presentation and to verify the dc rating. With the data entered this way, additional sorting and comparisons can be made.

Worksheet G
Front End Evaluation Planning

You already have some information about your audience. You probably already have an idea about who you will create an experience for, where they are coming from, and when they will come. For example: you may want to create an experience for local school district 5th graders. Target audience is 5th graders, they are from Des Moines, West Des Moines and Urbandale School Districts, and they will be most likely to come on weekday mornings. You don't need to collect information you already know as long as you really know it and are not making assumptions. You may have an ideas, but, probably don't know what 5th graders know about the topic, or if they have any misconceptions. You may not know if the topic is associated with positive or negative feelings. You may not know what 5th graders want to learn, or more importantly, what their teachers and school administrators want them to learn. And you may not know how they want to learn….do they want to read it in a book?, do an activity at the park?, watch a video about the topic, play a computer game? These are the things you need to find out.

What I already know	What I need to find out
Ages of target audience	What does audience already know about topic?
Geographic Area	What does audience feel about topic?
When they are most likely to come	What does audience want to know or learn?
When they probably won't come	What is audience interested in?
	How do they want to learn or participate?

Your Turn

What I already know	What I need to find out
• _____	• _____
• _____	• _____
• _____	• _____
• _____	• _____
• _____	• _____

Determine the data collection methods you will use to find out the information that you need to know.

Begin by asking yourself each of these questions:

1. What type of information am I looking for? (knowledge, feelings)
2. What can be done in the most cost effective way? (For this manual we are going to only address questionnaires and focus groups)
3. What type of data collection will the target audience accept? (Will they come to a focus group? Will they take time to complete a questionnaire?)

It may help to look at the examples below. Does your target audience resemble any in these examples? If you see a resemblance, the method listed below it may be the best choice.

Examples: General visitors Visitors waiting for the train Visitors that stop at a wayside **Questionnaires**- good for finding out what people know, how they feel about topic good to use when people are in line waiting, or in situations where they are not in a hurry to go somewhere else. good for general visitors to a park Questionnaires can be in interview or survey format	Examples: Board members Target audiences that are represented by other individuals (pre schoolers, 5th graders-represented by their teachers) People in wheelchairs People who may be illiterate People that only come to the park on Tuesday afternoons. **Focus Groups**- good for **special** and **select** target audiences.

Which method (questionnaire or focus group) seems to be the best fit? Note that there are many more ways to collect front end data. These are the most common.

What method(s) will I use to find this out? _____

Who will I ask to participate? _____

How will I recruit the participants?_____

Where and when will the data be collected? _____

Who will collect the data? _____

What else do I need to do?_____

Worksheet H
Creating a Front End Questionnaire

The purpose of a front end questionnaire is to find out from target audience members or those that represent them, what they know, what they want to learn, what misconceptions they may have, how they want to learn or participate in the experience, or how they feel, their attitudes and behaviors. The front end questionnaire can gather this information. The participant's time and feelings must be respected. A typical questionnaire includes five or less demographic questions, one or two open ended questions, between two and four closed ended questions, a question about feelings and possibly a vocabulary type of question.

Demographic Questions: The purpose of the demographic questions is not to establish who the audience is, but to verify that the data truly represents the audience that is present. Demographic questions should include:

Male / Female Age by category (asking participant to be specific about age is threatening unless they are youth)

Under 10 _____	40s
11 to 19	50s
20s	60s
30s	70s and above

How many people came with you today? _____

Who are you here with today?

Family Friends

Special Group I came by myself

Other _____

Depending on your project and project goals, you may have other demographics you would like to include (race or ethnicity, zip code, park member….. Etc.) For every demographic question you add- take away another. In other words if the experience is intended to increase the ethnic or racial diversity of the audience, add a question about that, but take away another. Keep the number of demographic questions under five.

Helpful Hint: Number the questions, it will help later with compilation and reporting.

Question #1 (closed and open ended)

How much information or interest did this participant come to this experience already knowing?

1. **Do you have any special interest, hobbies or training in Wilderness Survival Skills?**

_____ No

_____ Yes If "yes", please explain:_____

Question #2 (open ended)
What does the participant know about the proposed topic? This early question is very broad and it is not unusual to get muddled answers. The purpose of this question is to direct the participant's brain into thinking about the topic.

2. What can you tell me about *the plants and animals of the Sonora Desert?*

Question #3 (open ended)
Now that the participant is starting to think about the topic, you can ask a more specific topic related question.

3. Can you tell me where the Sonora Desert is located?

Question #4 (vocabulary)
4. I'm going to show you some words written on index cards. As I hold up each word, say the word and tell me what comes to mind. (Prompt: if they are having trouble, ask them to "***try using the word in a sentence***"- Be certain to write a "P" if the participant answers after the prompt.)

conservationist

interdependence

interconnection

Question #5 (closed ended) What are participants interested in learning more about?

5. Please rate this list of topics from 1 to7 Use each number only once. (Show the card)
1 is that which you are most interested 7 is the one you are least interested.

____Sonora Desert weather
____ Homes, villages and cities in the Sonora Desert
____ Sonora Desert Animals ____
____Sonora Desert Plant life
____ Human Desert Survival Techniques
____ Endangered Species of the Sonora Desert
____ other _____

The card which this question refers to: shows the same answers as listed above. By showing the participant the card, they can see their choices without having to look at the interviewer's paper.

Question #6 (open ended) Along the same line as the prior question- what do participants want to know more about or is of most interest to them?

6. We are developing a new program about the Sonora Desert. What do you think people will find most interesting about that topic?

Question #7 What else does the visitor want to tell you? What questions might you have missed? What's on their mind?

7. Is there anything else you would like to tell us?

Worksheet I

Creating a Focus Group Script & Conducting the Focus Group

The 'Ohana Focus Group Script at the end of this worksheet can be used as a model.

Step 1

Begin by defining the purpose of this evaluation (specifically for your experience).

Purpose of the evaluation - (you can have more than one- but keep it to 3 or less)

Step 2

Purpose of the focus group- (you can have more than one- but keep it to 3 or less)

1.
2.
3.

Step 3

Write your guiding questions- What do you want to find out?

The guiding questions guide your script will be used to formulate script questions. Begin at the most general and work toward more specifics. Usually your first question does several things:

It shows your interest in each participant or those they represent
It helps to make the participants more comfortable
It demonstrates that the purpose of the focus group is to hear from the participants and not to influence them.

Guiding Questions

1.
2.
3.
4.
5
6.
etc.

The focus group should never take longer than 1 ½ hours, so be prepared to cut out guiding questions.

You will formulate your script questions from the guiding questions. Look at the First guiding question (worksheet I page 4) that was developed for the 'Ohana Focus Group Script. The first focus group script question (worksheet I page 5) was generated from this guiding question.

Guiding Question		Focus Group Script Question
1. What do the target audience families look like (family is extended, age, gender, personalities…)	→	**1. I'd like to learn a little more about your families. Please tell me about the children in your family, their ages, special interests, other people who you include in family activities.**

Expected Answers

Notice question 3. on the 'Ohana focus group script (worksheet I page 5) After the question is a list of expected answers. By putting your expected answers after the question on the script, it helps to clarify for the moderator if the question is producing the responses that it was written to produce. For example: 3. **What kinds of family activities do you currently participate in?** (Open floor) Expected answers: fishing, hunting, camping, swim, golf, go to farmer's market

If the responses are different than what was expected: "eat dinner together" , "only get together at reunion", "I don't have a family"…… then the moderator needs to clarify the question or change the course of the question.

Probe

A probe is a follow up question that is asked. So for example: Question #4**. Are there any regular, weekly, monthly or annual activities that you do as a family? For instance is there a festival, event or activity that your family attends every year? Or a monthly or weekly event that you never miss?** (open floor) Several people answer the question- the probe is asked in response to each person's answer.

Probes:
H*ow often does that occur?*
Does everyone in your family go?
***Are you volunteering or working at the activity*?**

The moderator must be actively listening to the responses. Not all responses need to be probed further, not all probe questions need to be asked.

Summary

At some point in the script (probably toward the middle or end) you need to summarize the feedback that is coming from the participants and verify that your understanding it correct. This is seen on Question #6 (worksheet I page 5) in the example.

Action questions

The purpose of the focus group it so gather information from the participants that will help in developing the experience. The purpose of the focus group is not to recruit help or resources for developing the experience. However, if the script and answers flow to a point where enlisting participants is natural and appears to be welcomed by participants, then you can cautiously do so. Such was the case with the example focus group script. One of the goals was to begin the development of a new program that involved community members. Questions 7 and 8 of the model script reflect these action questions.

Is there anything else?

Always ask if there is anything else the participants want to share. You may have missed some critical question or the participants may feel that they weren't heard.

Thank them.

Besides health, time is one of the most valuable commodities people possess. Don't assume they know you are grateful. When focus group participants are paid, the purpose is not to influence- but rather to show appreciation. You may not be able to pay focus group participants, but you must show your appreciation in any and every way you can.

After the Focus Group

- Reflection: do this right after the focus group so that you don't forget anything that might have not been caught by the notes

How many people in group_____ Where _____

Overall verbal responsiveness

Non verbal responses/cues

- Thank the participants by letter, email or phone if you have their contact info
- Prove that the focus group was influential. Don't waste their time by conducting a focus group that nothing comes from.
- Prove that the input given by focus group members was heard. That doesn't mean you have to do what they say, but you need to address it in some way.

'Ohana Focus Group Script

Purpose of the evaluation ('Ohana means family) program front end)
1. To determine concepts and delivery methods that will be of most interest to local families. The results of this will be used in the development of a new program.
2. To provide reasons and research background in evaluation and train staff to conduct in house evaluations for future programming.

Purpose of the focus group
1. To determine the type of program that local families need, want or are interested in participating. 2. To assign roles and responsibilities for new program development.
3. To model focus group techniques for staff to conduct a focus group the following day and in the future.

Guiding questions:
What do the target audience families look like (family is extended, age, gender, personalities…)
What activities are families currently doing?
Are there any annual, monthly, or weekly activities in which families routinely participate?
What opportunities are not available that families wish were available?
What are the obstacles that are keeping families from participating in activities that are currently available?
What are the topics of interest to the target families?
Who are the key players in the program design?

Group 1 Focus Group Script

Introductions

Monica Post -MPR Museum Consulting -Facilitator
- Taking notes
Participant and staff introductions

Thank you all for being here and helping to shape this new program. The park is interested in partnering with the community to create a new program that gets families involved in activities in and around the park and builds an interest and enthusiasm for the history, wildlife and geology of the park. Beyond that, the scope is wide open.

You were invited because:
You were born and raised in Puna/Ka'ū,
have a long-standing history in this community,
expressed interest in helping and have expertise in family programming
have a career in this community that provides programs for youth
knows the local community and activities in place

creates and provides activities for families that engages youth in your community and the youth of Puna/Ka'ū

We want to answer the question : How could your park help your families children survive in an ever changing world? The park goal is to help you create a program that your families and students will be interested in and want to participate in.

1. **I'd like to learn a little more about your families. Please tell me about the children in your family, their ages, special interests, other people who you include in family activities**

2. **Who do you believe volcanoes national park is here to serve?**

3. **What kinds of family activities do you currently participate in?**
(May have answered this question previously) (Open floor)
Expected answers: fishing, hunting, camping, swim, golf, go to farmer's market

4. **Are there any regular, weekly, monthly or annual activities that you do as a family? For instance is there a festival, event or activity that your family attends every year? Or a monthly or weekly event that you never miss?** (open floor)
Expected answers: fishing or hunting tournaments, camping/retreats, church, Merrie Monarch…
Probes:
How often does that occur?
Does everyone in your family go?
Are you volunteering or working at the activity?

5. **Are there programs or activities that you've heard about or know about from other places that you wish were available here in this area?** (open floor)
Expected answers: examples from other places
once available but no longer
favorite activities not available often enough

6. **So it sounds like the type of activities your family would be most interested in are**:
(totally dependent on answers from above)
weekly volunteer opportunities
monthly craft making
annual festival
Friday morning preschool programs

Would you agree with that description? (open floor

Expected answers: yes- but you need to make sure …

sort of, but…..

Probe: *what needs to be changed*?

no…maybe other families would do that but mine wouldn't be interested

Probe: *what needs to be changed*?

yes unless…

7. **Who in the community would be the right person to lead this project?**

8. **Where do you see yourself in this project?**

9. **Let's lay out a schedule for the project. When would you like to see this project completely up and running?**

Work backwards from start date to establish the rest of the timeline.

10. **What else would you like us to know or address before leaving this evening?** (open floor)

Mahalo nui loa kākou for coming and sharing your mana'o. Your feedback will shape the program that you will develop with the help of the park. If you have anything else you would like to share with me just come up and talk to me. Thank you all for coming and have a great evening.
Mahalo

Worksheet J

Analyzing the Focus Group Data & Writing the Report

At the conclusion of a focus group you will have a pretty good idea of the direction you need to go with your experience design. The debriefing held right after the focus group helps to clarify any questions that may have come up during the focus group. Take the notes that were generated from the focus group, and begin grouping similar responses:

1. I would like to learn more about your 'ohana. Who do you think of as your 'ohana? Ages, special interests, other people?

Julia. People and youth of the community, no children of my own more Pahala, interact with children in music studies and here at the house. Want to have programs for youth to do, gardening, music. A, B

Leina'ala. the families that our agency reaches out to, every part Hawaiian child who has needs, domino effect extends to their families and schools and communities. I have worked here for our queen Liliuokalani since 1994. I can be helpful. Because I work out of my home, people know me and know where to reach me. Anything we do for youth will touch lots of people. Pele and Keala, Darlene and Jessie k and john and Teresa have all good partners through the years. I always outreach because I can't do if for the queen alone. I must collaborate and reach more people. That's how people are touched. Collaboration and partnering work for me. I go to meetings to get the word out and get it back figure out how we can help and reach. My bosses don't bother me, no reports because they know that I know this community. I depend on you to know how the queen can be part of it. Age of children I work with – 0 – 18. Orphans are priority, but all children half orphan and orphan Hawaiian child. A, C, D

John. Young people of Ka'u. At work, outreach and education are not primary goal, but because of location and situation and because of my personal belief of the importance of education about community, nature for our youth is important. I do work a lot with the youth. You live in beautiful place, have wonderful culture, but you act like Chicago ghetto people. They said Ka'u is boring – nothing here. I know they were never shared about the wonderfulness of their place and land. Want to expose kids to their place. Help them learn their district and plants etc. YCC comes each summer and they kids from every district except Ka'u. When there is teacher training on the island, there are no teachers from from Ka'u. We gotta get in there and kick ass. A

#1
A- Youth of community B- People of community
C-Families of community
D-orphans/half orphans
E- my children
F- children ages 3-18
G- Academic and Disadvantaged youth
H- Grades 9-12
I-Any children that need help

The focus group report will begin with an introduction that explains the purpose of the front end evaluation and focus group. It will specify the moderator, date of the focus group and location. The methods section which follows the introduction will clarify how participants were chosen for the focus group, it will include the guiding questions used to create the script and give details about the focus group event.

The remaining report includes each question, the compiled responses from that question and a summary.

Example

1. I would like to learn more about your o'hana. Who do you think of as your o'hana? Ages, special interests, other people?

Compilation:

A- Youth of Community-4
B- People of Community-1
C- Families of Community-2
D Orphans/ Half Orphans -1
E- My children -1
F-Children ages 3-18 - 1
G-Academic and Disadvantaged Youth- 1
H- Grades 9-12 -2
I- Any students that need help-1

Summary: This group was considerably different than the Puna focus group. The Ka'u focus group participants represented the community. The Puna focus group participants were more focused on the people who lived in their house or were related to them. The representatives of this Ka'u group spoke about community members as their families. They spoke as community organizers, not as representatives of the household. They saw their "families" as the community members.

With the exception of the three people who stated that their families were the *families of the community* or *people of the community* all of the group members focused on children. There was variety on how they specified children. Four people spoke of *youth or children of the community,* one of those four specified *children ages 0-18 that she works with.* One person spoke about "academic and disadvantaged youth" while another spoke of "any student that needs help". As with the Puna group and later in this focus group we hear that *many children don't have a parent or adult to teach them the traditional ways*. This might be what this person was thinking when he said "any student that needs help". His answer indicates that he is not only thinking of academic or disadvantaged youth but those with other needs.

While not all children are students, most of the answers focused on student-age children. Two people mentioned infants as a part of their answer when they specified children ages 0-18, but from the majority of participant responses to this question and from information gathered later in the focus group, it seems that providing any type of program for children under the age of 3 or over the age of 18 is not as critical as between those ages.

Selected Responses:
Julia: "People and youth of the community, no children of my own"
John: "Young people of Ka'u"

Worksheet K
Creating a Media
Formative or Summative Questionnaire

A questionnaire is a useful tool for gathering information about the message outcomes that participants takes away from their experience. Participant's time and feelings must be respected. A typical formative or summative evaluation questionnaire includes five or less demographic questions, between two and four open ended questions, two and four closed ended questions and an affective question.

Demographic Questions: The purpose of the demographic questions is not to establish who your audience is, (you should already know this), but to verify that the data that you gather truly represents the audience present. Demographic questions should include:

Male / Female

Age by category (asking participant to be specific about age is threatening unless they are youth)

Under 10 _____	40s
11 t o 19	50s
20s	60s
30s	70s and above

How many people came with you today? _____

Who are you here with today?

Family Friends

Special Group I came by myself

Other _____

Depending on your project and project goals, you may have other demographics you would like to include (race or ethnicity, zip code, member….. Etc.) For every demographic question you add- take away another. In other words if your event is intended to increase the ethnic or racial diversity of your audience, add a question about that, but take away another. Keep the number of demographic questions under five.

Helpful Hint: Number your questions, it will help later with compilation and report-ing.

Question #1 (closed and open ended)
How much information or interest did this participant come to the park already knowing?

1. Do you have any special interest, hobbies or training in Wilderness Survival Skills?

_____ No

_____ Yes If "yes", please explain _____

Question #2 (open ended)
Does the participant understand the topic? What does he/she think the media product (sign or brochure) is about?

2. What would you say is the purpose of this panel?
To show…..._____

and / or

To make people…_____

Question #3 (open ended)
What are the cognitive outcomes of the participant's experience? What did they learn or remember because of their experience at the event? You can also be more specific- if this questionnaire is being passed out after a performance or presentation you can tailor the
questionnaire for that presentation.

3. What is one new idea that you are taking away today?
I didn't know, or never realized that…_____

and / or

It reminded me that…_____

Question #4 (closed and open ended)
What features does the participant remember were on the media being tested?

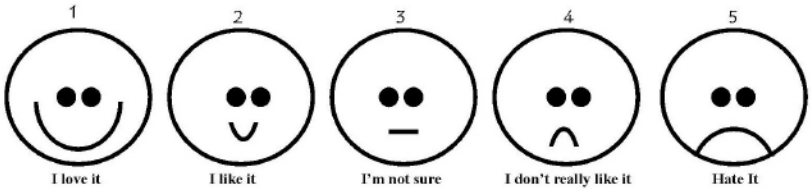
4. Do you remember seeing, or doing anything with that panel? (point to the panel- from a distance)

_____No

_____ Yes If "yes", what do you remember?

Question #5 (closed ended)
What does the participant think about the media that is being evaluated today?

5. Which face best represents your feelings about these signs here today?



Question #6 (open ended)
What else does the visitor want to tell you? What questions might you have missed? What's on their mind?

Worksheet L
Creating a Media
Unobtrusive observation instrument

The purpose of an unobtrusive observation is to measure participant behavior during the experience. Unobtrusive observation is a technique that is used to measure the attraction, holding power and behavior of parts of the overall experience. This measurement tool is quantitative. In other words, it is about the quantities. It is used to measure the number of participants that were attracted to a sign, read a brochure, shared their media experience with another, etc. The instrument used for unobtru- sive observation of media event will vary depending on the type of media that is being studied.

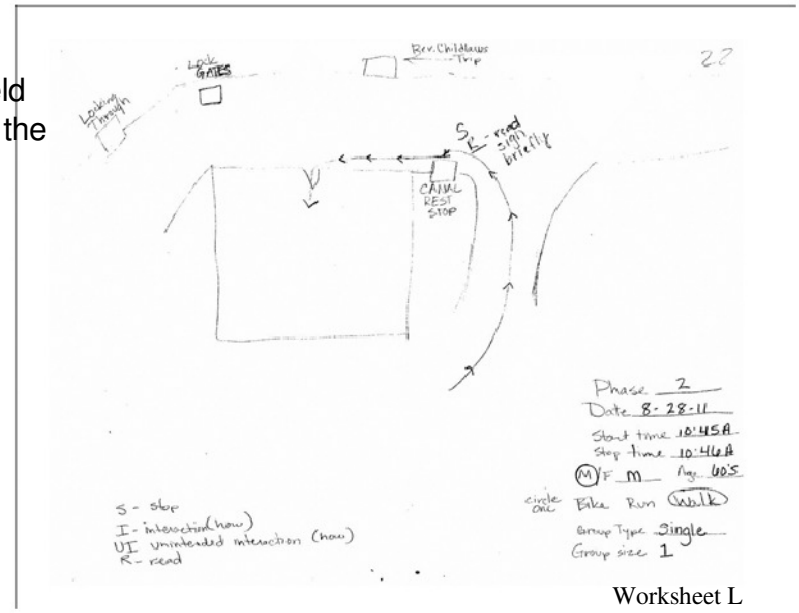
You are measuring visitor behavior. How are they participating? What are they participating in? Do they appear engaged? If your media is comprised of several components (like a visitor center space with several panels and exhibits), you may want to know which panels or exhibits people are drawn to and what they are doing when they approach the sign or exhibit. A map of the space might be the best option to determine this. This map will become a part of your data collection instrument.

Before creating the instrument you will want to know:

- what demographic data do you want to collect?
- what areas will be included in on the map?
- what can be put on the map to clarify it for the data collectors?
- what behaviors will you want to note?

A demographic and behavior code key located somewhere on the map helps make data collection easier.

This map was created in the field and the key was created when the map was created.



Worksheet L

Worksheet M

Collect the Data

Unobtrusive Observation of Media

Using the unobtrusive observation method, we can measure the audience engagement in media such as a sign panel, exhibit or brochure.

Participants in an unobtrusive observation are observed without being aware of their involvement in the study. It is especially important to remember that the participants are not the subject of the study, rather they are a "tool" used to measure the Media. No personal data is collected. Demographic data is assumptive. In other words, the data collector makes demographic assumptions about the participant based on visual evidence. Gender, age, race, family type…. all of these pieces of data are assumptions based on a visual analysis. The purpose of the demographic data is to verify that the audience being studied is representative of the general audience.

This is to be a representative sample of the audience, so random selection is necessary. Unobtrusive Observation data collectors should not wear a uniform or anything that draws attention.

Random selection is intended to take the data collector's bias out of the process. Look at the space around where you will be studying the panel or panels. Determine an entry / exit line in the space. Data collectors will only observe people that cross over that line into the space. Do not try to observe everyone that moves into the space. Instead, begin by observing the 5th person over the age of 8 that crosses that line. As the person moves through the space, note the direction they move with arrows on a line. Note if they stop at a sign panel, if they appear to be reading it, if they interact with it, if they speak to another person about something on the panel. Note any verbal comments they make.

Each study is different, but you will be measuring how a participant behaves when they are looking over the components. You will need to determine your own codes, but here is an example: Whenever a visitor interacts with a component (such as open a cabinet door, or lifts a flap) make an **I** for the interaction on the sheet next to either the component name or sketch. **I** stands for intended interactions- using the exhibit in the way it was intended. If the visitor interacts with the component in an unintended way such as slamming the lift flap, make a **U** for unintended interaction and make a note specifying the unintended interaction.

If a visitor does both an intended interaction and an unintended interaction, such as lifting the flap to read the sign and then slamming the flap over and over to make noise, put an I and a U on the map and make a note about the unintended interaction.

When a visitor looks at a sign or component for 2 seconds or more, then it is considered a read. Put an R on the map. Do not judge whether the visitor read all of the sign or just a part of it.

It is assumed that if a visitor reads or interacts, then they also stopped. However, there will be times when a visitor does not read or interact, but does stop. In those cases put an **X** on the map, but also note what the visitor is doing. For example: waiting for child, looking all around.

Sometimes a visitor stops within the exhibit and does something totally unrelated to the exhibit experience, (such as changes a diaper, or runs into an old acquaintance and visits). Make a note of the length of time that the action took and put the information about the action and the length of time on the map.

Sometimes the person being tracked turns out to be doing something unusual for a typical visitor. For example the person is a professional photographer and is there to take photographs. In these cases, abandon tracking that visitor and start with a new person. Make note of the occurrence on the sheet and turn it in with the others. For example in one instance a young woman sat down and pulled out a drawing pad and began to sketch. She stayed for over two hours.

If five people passed through the area while you were tracking the prior person, you may begin with the next person that crosses the imaginary line.

Worksheet N

Analyzing Media Unobtrusive Observation Data

Number each data sheet. This will be the visitor or participant number.

Use a spreadsheet program for data transcription and analysis.

Along the top row of the spreadsheet put the categories that are shown on your unobtrusive observation instrument. pre test q. 2 (if pre/post test questions were included), Eyes on Presenter, Laughing, Nodding or

The first column of the spreadsheet already has line numbers. In the second column put visitor numbers. The visitor numbers are those that you wrote on the completed data sheets. Do not save a step by using the line numbers for your visitor number. Sorting will scramble all your data. Enter the data for each participant sheet on the corresponding participant line.

Look at the completed instrument on worksheet L. Data from 61 visitors was collected on sheets like this one. The data was then entered in the spreadsheet below. The spreadsheet below was used to generate a report about the findings of this study.

Unobtrusive Observation for Media Compilation

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
5	Visitor #	Stage	Date	Start	Stop	Total	Bike =B, Run = R, Walk = W	Group type	Group size	Male/ Female	Age	Independence) = N , South (from Boston Mill) = S, Parking Lot = P or Vistor Center = V	Locking Through	Lock Gates	Rev. Chidlaws	Canal Rest Stop	Comments
6	1	1	25	1047	1050	3	B	Couple	2	F	5	S					
7	2	1	25	1051	1052	1	W	Couple	2	M	6	P				R	
8	3	1	25	1108	1115	7	B	Alone		F	6	V				R	
9	4	1	28	253	253	1	W	Alone		F	4	N				R	
20	15	2	25	1207	1210	3	W	Group	3	M	7	P				R	
21	16	2	25	1207	1208	1	W	Couple	2	?	?	P					from train
22	17	2	25	1207	1210	3	W	T. Couple	2	F	6	P	RUI	RU			I = taking photo of signs (maybe QR codes)
23	18	2	25	1209	1211	2	W	T. alone	1	F	7	P				R	train
24	19	2	25	1209	1212	3	B	Couple	2	F	3	N	R	R		R	Read Lock Gates sign with companion
43	38	2	28	1125	1126	1	W	Family	3	F	3	P					
44	39	2	28	1129	1131	2	B	Family	4	M	4	N				R	
45	40	3	25	208	208	1	W	Alone	1	M	5	P		R			
46	41	3	25	221	224	3	W	Alone	1	F	6	P				R	
64	59	4	28	1231	1233	2	W	Group	3	F	3	P		R		R	
65	60	4	28	1235	1243	8	B	Family	3	M	3	S				RI	CRS- kids touched exhibit- subject did not until later. Lifted flap. Touched Locking Through
66	61	4	28	1239	1242	3	B	Group	3	F	3	V			RI		moved pieces on Rev. Chidlaw
67											Totals	P=30, N=8, S=9, V=13	R=7, U=2, I=1	R=16, U=3,	R=7, I=3,S=1	R=28, I=8, S=1, U=1	
68											Stage 1 N=12		nothing	R=3	NOT OUT	R=10, I=3	
69											Stage 2 N=27		R=5, U=2, I=1	R=6, U=2	NOT OUT	R=14, U=1	
70											Stage 3 N=6		R=1	R=2	NOT OUT	R=1	
											Stage 4					R=7, I=5,	

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