

Evaluating Interpretation & Education: Getting Started



**Broadcast Training
August 27, 2009
1:00pm – 3:00pm**

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Welcome

Welcome to today's training broadcast titled, *Evaluating Interpretation & Education: Getting Started*. This training is scheduled from 1:00PM to 3:00 PM EST on August 27, 2009 and will consist of live instruction from the U.S. Fish and Wildlife Service National Conservation Training Center in Shepherdstown, West Virginia. Thank you for joining us today. We look forward to your participation.

Background

Join us for the second session of the series, *Evaluation for Interpretation and Education*, designed for Interpretation and Education managers and practitioners. Each TEL course will inspire, provide content and resources, offer take-away tools, give activities to try, and encourage exchange with colleagues and specialists.

This second session will detail five key components of starting an evaluation of an interpretive or educational program or product including: identifying program and evaluation needs; writing and refining evaluation questions; identifying indicators; using existing resources to find the data you need; and, discussing the many tools available to collect the data. Examples from the field will be used throughout the program to highlight the topics covered. Much of the material found in this training broadcast and guide is excerpted from a new workbook entitled, *Evaluating Your Environmental Education Programs: A Workbook for Practitioners*, written by Bora Simmons, Julie Ernst and Martha Monroe.

This series is sponsored by the National Park Service's National Education Council and presented by the Education Evaluation Coordination Team. It supports the Service-wide Interpretation and Education Evaluation Strategy and the I&E Renaissance Action Plan. This session is co-sponsored and presented by the U.S. Fish and Wildlife Service's National Conservation Training Center, Division of Education Outreach.

How to Interact with the Instructors

We encourage you to ask questions and share your comments with the instructors throughout this TELNPS course. If you were physically in the classroom with the instructor, you would raise your hand to let her/him know you had a question or comment. Then you would wait for the instructor to recognize you and ask for your question. We are all familiar with that "protocol" for asking questions or making comments.

There is also a "protocol" to follow for broadcasts to ensure you can easily ask questions and others can participate as well. It may seem a little strange at first asking a question of a TV monitor. Remember, it is the instructor you are interacting with and not the monitor. As you ask more questions and participate in more broadcasts, you will soon be focusing only on the content of your question and not the equipment you are using to ask it.

As part of the distance learning equipment at your location, there are several push to talk microphones. Depending on the number of students at your location, you may have one directly in front of you or you may be sharing one with other students at your table.

When you have a question, press and hold down the push to talk button, maintaining a distance of at least 12-18 inches and say,

“Excuse me [instructor’s first name],
this is [your first name] at [your location].
I have a question (or I have a comment).”

Then release the push to talk button. This is important. Until you release the button, you will not be able to hear the instructor. The instructor will acknowledge you and then ask for your question or comment. Stating your name and location not only helps the instructor, but also helps other students who are participating at different locations to get to know their classmates.



Course Objectives

As a result of participating in this two-hour TEL, the participant will be able to:

1. Write at least one site or program specific evaluation question that can be used to guide the development of a small scale front end, formative or summative evaluation project.
2. Use established criteria to judge whether the evaluation question serves a priority need, can be realistically addressed in one evaluation, and is feasible given available resources.
3. Identify three different sources of information that will assist in answering an evaluation question.



Class Evaluation and Credit

To Receive Credit for this Course:

You **must** register through DOI Learn to receive credit for this training.

By completing the broadcast evaluation you will receive a copy of *Evaluating Your Environmental Education Programs: A Workbook for Practitioners*, a new environmental education evaluation workbook being released this year.

Take the on-line evaluation at <http://tinyurl.com/FWS-NPSTelEval>. Please complete the evaluation by September 17, 2009.



Instructor Bios

Arlene Jackson

Arlene is the Chief of Interpretation at Ulysses S Grant National Historic Site, prior to that she spent 21 years at the Jefferson National Expansion Memorial as a frontline supervisor. She has been active in the National Park Service's Interpretive Development Program over the last 15 years. She is a member of the National Education Council and the co-chair of the Education Evaluation Coordination Team subcommittee.

Bora Simmons

Bora Simmons is the director of the National Project for Excellence in Environmental Education, jointly sponsored by the North American Association for Environmental Education and the University of Oregon's Institute for a Sustainable Environment. She was a professor of environmental education at Northern Illinois University until her retirement in 2007 and has been actively involved in environmental education research, evaluation, and professional development for over thirty years. She is a co-author of *Evaluating Your Environmental Education Programs – A Workbook for Practitioners*.

Julie Study

Julie is an Education Specialist in the Division of Education Outreach at the National Conservation Training Center. She has over 20 years of interpretive and environmental educational experience on national wildlife refuges, national and state parks. She has developed historical and environmental interpretive and educational programs and materials for a wide range of audiences. Julie received her B.S. in Outdoor Education in 1987 from Northland College in Ashland, Wisconsin.

The development team for this session included:

Michael Duffin	Shelburne Farms, a cooperating partner with the NPS Conservation Study Institute
Elizabeth Hoermann	National Park Service
Arlene Jackson	National Park Service
Georgia Jeppesen	U.S. Fish and Wildlife Service
Dawn Lagrotteria	U.S. Fish and Wildlife Service
Julie Study	U.S. Fish and Wildlife Service
Sam Vaughn	National Park Service



Case Studies

Karen Henker

Canyonlands National Park

Do podcasts inspire the same levels of emotional and intellectual responses as in-person ranger programs at the park?

Lisa Matlock

Alaska Maritime National Wildlife Refuge – Junior Biologist Booklet

Are the activities appropriate and engaging to children visiting the Islands and Oceans Visitor Center?

Matt Gay

U.S. Fish and Wildlife Service – Neighborhood Explorers website

How to connect and engage 8-11 year olds in the outdoors who are currently spending an average of six hours in front of some type of screen and not participating in outdoor programs and activities.

Slide Presentation

Evaluating Interpretation & Education: *Getting Started*

A TEL training brought to you by a collaboration between FWS and NPS

August 27, 2009

5 Key Components for Getting Started w/ Evaluation

-  1) Evaluation Needs/Purpose
-  2) Evaluation Questions
-  3) Indicators
-  4) Information Sources
-  5) Tools

Evaluation Needs/Purpose

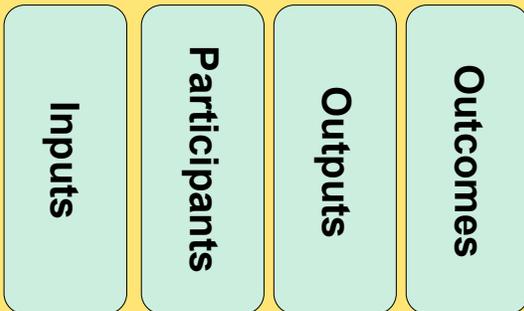


Evaluation is the **systematic** collection of information about a program to make improvements, judgments, and decisions about future programming

**Sense of Wonder Resource Kit
Logic Model**

Goal: *To connect children with nature by recognizing the life and work of Rachel Carson and develop a sense of awareness and appreciation for National Wildlife Refuges through her writings while an employee of the FWS.*

**Sense of Wonder Resource Kit
Logic Model**



**Sense of Wonder Resource Kit
Logic Model**



**Sense of Wonder Resource Kit
Logic Model**

Participants

- Refuge staff and volunteers
- Families with young children
- Early childhood teachers
- Child care providers
- Young children (2-8 years old)

**Sense of Wonder Resource Kit
Logic Model**

Outputs

- On-site refuge family program plan
- Sample press releases
- Early childhood teacher training
- Sample children's activities
- Poster and Bookmark
- Rachel Carson fact sheet

**Sense of Wonder Resource Kit
Logic Model**

Outcomes

- Short term: Refuge staff will develop 1 family event using kit.
- Medium: Families will include more nature based activities in their leisure.
- Long term: Develop a public that appreciates and supports conservation.

Focus On Your Purpose

WHY

are you considering evaluating your program?



WHO

needs the evaluation data and what decisions will they make based on that data?

Sample Purpose Statement

The purpose of this evaluation is to determine to what extent the short-term learning level outcomes of the City Connections program are being achieved, and to identify areas for program improvement.

Sample Purpose Statement continued

The results will be used by program staff in decisions and actions relating to program improvement.

The results will also be used by program staff and the advisory board in efforts to share program outcomes with and encourage support from program funders and to identify new potential funders.

Logistical Considerations



- Availability of staff
- Due dates
- Availability of resources
- Political context/ external factors
- Rules & Regulations

Evaluation Questions

Divergent phase... then... Convergent phase



Selection Criteria

1. Be of interest to the **primary intended user** of my evaluation;
2. Contribute information that is **not already known** about my program;
3. Provide information that **can be acted upon** to make a difference in the program;

Selection Criteria

4. Be of **continuing interest**, rather than following a personal interest or curiosity;

5. Be answerable in terms of **time, money, & skill** available.

Adapted from Fitzpatrick, Sanders, and Worthen (2004)

Selection Criteria

UTILITY –

Will the evaluation you conduct and the questions you ask serve the intended use by the intended user?



FEASIBILITY –

Are the evaluation questions cost-effective and practical given the financial and human resources available?

Dissect Your Question

Sample Question:

Did the fall festival at Sherburne National Wildlife Refuge increase awareness of the refuge?



Indicators



What are you going to look for in order to answer your evaluation questions? Indicators are...

- Concrete (not abstract)
- Specific
- Measurable

Work Book Example

2.1 CHECK FOR UNDERSTANDING ✓

Considering the evaluative context (front-end, formative, or summative), cite at least two potential indicators that could be used to answer each evaluation question.

1. Was the relationship between the Audubon Society and the local school strengthened? (formative evaluation)
2. Did the pre-visit materials prepare students for their visit to the nature center? (formative evaluation)
3. Are field trips meeting the needs of teachers? (summative evaluation)

Answers are found in appendix A.

Indicators - Exercise

Question 3 of Another Example

Are field trips meeting the needs of teachers? (Summative Evaluation)

Information Sources

Who (or what) can provide the information from your questions and indicators?

- Program participants, non-participants, past participants
- Program staff, partners, administrators
- Parents, teachers
- Funders



Information Sources

Don't forget, sources of information don't have to be people!

- Program logs
- Attendance records
- Meeting minutes
- Budgets
- School district records
- Research literature



Data Collection Tools

See page__ in the Participant Guide

Tool Type	Strengths	Limitations	When to Use
Surveys	• Can be used to collect data from a large number of people	• Can be time-consuming to design and administer	• When you need to collect data from a large number of people
Focus groups	• Can be used to explore issues in depth	• Can be time-consuming to conduct	• When you want to explore issues in depth
Interviews	• Can be used to explore issues in depth	• Can be time-consuming to conduct	• When you want to explore issues in depth
Observations	• Can be used to observe behavior in natural settings	• Can be time-consuming to conduct	• When you want to observe behavior in natural settings
Diaries	• Can be used to collect data over time	• Can be time-consuming to collect	• When you want to collect data over time

Data Collection Tools

Interview and Focus Groups

- If Government sponsored, it must meet OMB guidelines

Office of Management and Budget

OMB approval needed for

- asking exact same question to 10 or more non-employees
- studies paid for or sponsored by NPS



www.nature.nps.gov/socialscience/expedited.cfm

Data Collection Tools

Interview and Focus Groups

- If Government sponsored, it must meet OMB guidelines
- Employees can be interviewed
- Outside groups may use these techniques to conduct research
- Focus Group Training
<http://www.psu.uidaho.edu/focusgroup/>

Data Collection Tools

Literature Review

- University Research
- Professional Organizations
- NPS Social Science program studies

In Closing...

- Course evaluation: on the web at <http://tinyurl.com/FWS-NPSTelEval> (and a copy of the workbook will be mailed to you!)
- Eval contact: arlene_jackson@nps.gov or julie_study@fws.gov
- Data can be your friend... be systematic!

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Evaluation — A Brief Overview

What is Evaluation?

We as humans evaluate all the time. Listen in on conversations and you'll hear: "I loved that movie last night". "He is a terrible cook!" "That car isn't worth the price they're charging." In more formal terms, most of us have been evaluated by teachers through the school system or by employers in the work place – often leaving us with negative connotations about both the process and the end results.

Evaluation is a term that is used to represent judgments of many kinds. What all evaluations have in common is the notion of judging merit. Someone is examining and weighing something against an explicit or implicit yardstick. The yardsticks can vary widely, and include criteria such as aesthetics, effectiveness, economics, and justice or equity issues. One useful definition of program evaluation is provided below, with an analysis of its components:

Evaluation is the systematic assessment of the operation and/or the outcomes of a program or policy, compared to a set of explicit or implicit standards, as a means of contributing to the improvement of the program or policy. (Weiss, 1998)

5 Key Components for Getting Started with Evaluation

1. Evaluation Needs/Purpose
2. Evaluation Questions
3. Indicators
4. Information Sources
5. Tools

Program Logic Model

A logic model is an approach to planning and managing projects that helps us to be clear both about what our projects are doing and what they are changing. The word 'logic' is used because of the logical link between the system components: inputs are a necessary precondition to activities; activities need to take place before outputs are possible, etc. Think of your program as a system that has inputs, activities, outputs and outcomes:

Input: The materials and resources that the program uses in its activities. These are often easy to identify, and are common to many organizations and programs. For example: equipment, staff, facilities, etc. These are the resources you need to get the outcomes you seek.

Activities: Activities are what you do to create the change you seek; they are what you do with the inputs you have. Under the headings promotion, networking, advocacy, or training, you describe what the project is doing.

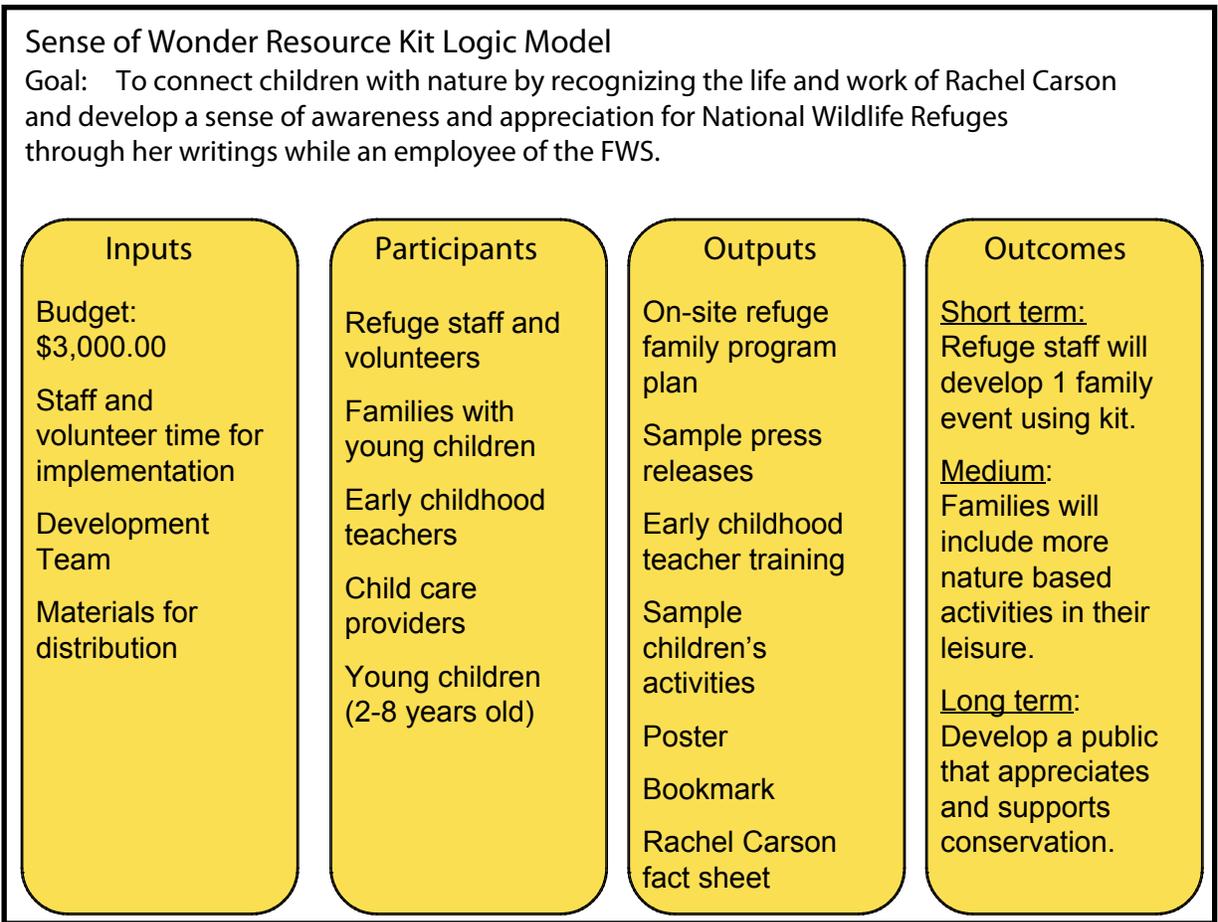
Outputs: Outputs are the most immediate results of your project, and each relates directly to your activities. More importantly, outputs create the potential for desired results; they create potential for your outcomes to occur. Outputs are usually measured as are statistics, and indicate

hardly anything about the changes in clients. (Example: 61 students attended our Ecology Camp).

Outcomes: Outcomes describe the true changes that occur to people, organizations and communities as a result of your program. These are the actual impacts, benefits, or changes for participants during or after your program, expressed in terms of knowledge, skills, values or behaviors. Outcomes may be expressed in terms of enhanced learning, such as increased knowledge, a positive change in perceptions or attitudes, or enhanced skills. For example, an objective of your program might be to “demonstrated increase awareness of the causes and prevention measures of climate change”. Outcomes many also be expressed in terms of physical conditions, such as the development of school-grounds garden.

Impact: This describes your vision of a preferred future and underlines why the project is important. It refers to the longer-term change that you hope your project will help create.

.....
Excerpted from “Measuring the Success of Environmental Education Programs” by Gareth Thomson, Canadian Parks and Wilderness Society; and Jenn Hoffman, Sierra Club of Canada, BC Chapter



Identifying Program and Evaluation Needs

It is this first step in the evaluation process, focusing your evaluation, where you think about your evaluation purpose and identify who will use the results of the evaluation and for what purpose. This step also involves thoroughly describing your program, in order to set the boundaries of what is to be evaluated, as well as identifying logistical considerations that may influence your evaluation process. While there may be a tendency to skip over this step and launch right into developing your data collection tools, this step helps ensure that you don't lose sight of the underlying purpose for evaluating your program. Unfocused evaluations can result in little "payoff" from the resources spent for the evaluation, unjustified conclusions, and a loss of credibility if the intended users' questions are unanswered (Fitzpatrick, Sanders, and Worthen, 2004). Decisions you make during this stage of the evaluation process should guide the remainder of your evaluation.

With the logic model previously described, the following tasks help you complete this first step thoroughly and efficiently.

1. Identifying the Purpose for Your Evaluation

The first task involved with focusing your evaluation is to think through your evaluation purpose. Why are you considering a program evaluation? Who needs the evaluation data and for what reason? Often, the intended users of front-end and formative evaluations are the program staff involved with developing and implementing the program. The intended users of summative evaluations are usually program directors, funders, and other key decision makers.

When you move from paper to the real world, the situation is a bit more confusing. As often as not, many people or groups will express needs and wants regarding the evaluation. Trying to meet all such requests and demands through one evaluation is tricky at best and maybe not even possible, as each evaluation need or purpose often involves its own set of evaluation questions and methods. Thus, in this focusing stage, it may be necessary to clarify and (or) prioritize potential users and uses, ultimately arriving at a primary user of and use for the evaluation.

You may find it helpful at this point to involve key stakeholders in the process of broadly considering all potential users of and uses for the evaluation results and to work together with them to arrive at the primary intended user and use.

The reason for your evaluation, or your articulation of the user of and use for your evaluation, is called an "evaluation purpose statement." Imagine, for example, that you are the director of an environmental education center at a national wildlife refuge. In an era of fiscal cutbacks and accountability, there isn't time and money to do everything: your refuge manager needs to make decisions about what refuge activities to continue and what activities to suspend. You decide an evaluation is needed to understand the educational and conservation outcomes associated with your environmental education programs.

Thus, your evaluation purpose statement might declare: "The purpose of this evaluation is to assess which environmental education programs have outcomes that support the conservation

mission of the National Wildlife Refuge System in order for the Environmental Education Center director and the refuge manager to make summative decisions regarding which programs to continue and which to suspend.”

2. Considering Logistics

The final task involved in focusing your evaluation is thinking through logistics. Who is available to lead and who is available to assist in the evaluation? Do those who will be working on the evaluation have previous experience or skills in evaluation? Other logistical considerations include time, timeline, and money. When are the evaluation results needed?

How much time are those working on the evaluation willing or able to commit? When can data be collected, based on the school schedule and teacher availability? Have money and other resources been allocated for the evaluation? While evaluations can be very expensive, they can also be done at relatively low cost. It’s helpful to keep in mind, though, that even seemingly trivial things, such as duplicating, envelopes, and postage can quickly add up! The context surrounding the evaluation is also important to consider. Are there any contextual factors that would interfere with or preclude a meaningful evaluation, such as an administrator’s not supporting the evaluation or the schedule for state assessment tests preventing data collection during the needed time frame?

TABLE 1.2 Evaluation Focus on *City Connections*



CONSIDER:

A. Purpose for Evaluation

- Who is the intended user of the evaluation results?
Program staff, advisory board, and funders.
- What is the intended use for the evaluation results?
To better understand if program outcomes are being achieved and, if they are not, to identify potential areas for further evaluation and/or program improvement.
- Evaluation Purpose Statement:
The purpose of this evaluation is to determine if the short-term/learning-level outcomes of the City Connections program are being achieved and to identify potential areas for program improvement. The results will be used by program staff in decisions and actions relating to program improvement. The results will also be used by program staff and the advisory board in efforts to share program outcomes with and encourage support from program funders and to identify new, potential funders.

- Are you able to reach consensus among major stakeholders as to the purpose of the evaluation?
- Are the intended use and user of the evaluation clear, specific, and well defined?
- Is what is at stake in this evaluation appropriate for an in-house evaluation? *(If the stakes are very high, then you may want to consider hiring an external evaluator.)*
- Is the evaluation driven by appropriate reasons (as opposed to its being threatened by conflict of interest or unethical motives)?
- Can the evaluation purpose be addressed in a way that respects the rights and dignity of those involved?
- Will evaluation results be used?
- Will decisions be made based on the data that is collected?

B. Description of Program to Be Evaluated

See attached logic model.

- Are the program objectives well defined?
- Is it possible for the program objectives to be achieved with the intended target audience?
- Is the program, as carried out, similar to the implementation intended?
- Is the program grounded in sound assumptions?
- Is the program likely to achieve the stated goals/objectives based on the program's inputs, outputs, and/or assumptions?
- Does the program have the potential for sufficient impact, thus warranting the time and expense of evaluation?

C. Logistical Considerations

- Available staff for the evaluation:
University students enrolled in graduate-level program evaluation course and interested in doing the evaluation as a course project.
- Information reporting timeline:
Program funders, who will need to be provided annually with ongoing information on program outcomes.
- Resources available for the evaluation:
No financial resources available at this time.
- Political context/external factors:
None identified at this point.

- Is the desired evaluation purpose feasible given available staff, time, and resources?
- Given logistical constraints, can an evaluation be carried out that would yield useful and relevant information?



WORKSHEET 1.2

Focusing Your Evaluation*



CONSIDER:

A. Purpose for Evaluation

- Who is the intended user of the evaluation results?
- What is the intended use for the evaluation results?
- Evaluation Purpose Statement:

- Are you able to reach consensus among major stakeholders as to the purpose of the evaluation?
- Are the intended use and user of the evaluation clear, specific, and well defined?
- Is what is at stake in this evaluation appropriate for an in-house evaluation? *(If the stakes are very high, then you may want to consider hiring an external evaluator.)*
- Is the evaluation driven by appropriate reasons (as opposed to its being threatened by conflict of interest or unethical motives)?
- Can the evaluation purpose be addressed in a way that respects the rights and dignity of those involved?
- Will evaluation results be used?
- Will decisions be made based on the data that is collected?

B. Description of Program to Be Evaluated

(In lieu of a description, attach a logic model)

- Are the program objectives well defined?
- Is it possible for the program objectives to be achieved with the intended target audience?
- Is the program, as carried out, similar to the implementation intended?
- Is the program grounded in sound assumptions?
- Is the program likely to achieve the stated goals/objectives based on the program's inputs, outputs, and/or assumptions?
- Does the program have the potential for sufficient impact, thus warranting the time and expense of evaluation?

C. Logistical Considerations

- Available staff for the evaluation:
- Information reporting timeline:
- Resources available for the evaluation:
- Political context/external factors:

- Is the desired evaluation purpose feasible given available staff, time, and resources?
- Given logistical constraints, can an evaluation be carried out that would yield useful and relevant information?

* Worksheet questions based on the work of Fitzpatrick, Sanders, and Worthen (2004), Smith (1998), and Wholey (1987).

Writing Evaluation Questions

Writing Evaluation Questions

Evaluation questions stem from the evaluation focus and provide the evaluation's specific direction. Evaluation experts recommend dividing the task of generating these questions into two phases: a *divergent phase* and a *convergent phase* (Fitzpatrick, Sanders, and Worthen 2004).

The *divergent phase* involves developing as comprehensive a list of questions as possible in an effort to consider all possible directions (Fitzpatrick, Sanders, and Worthen 2004). While this phase *can be* used to map out all possible directions in the broadest sense, you might choose instead to generate as comprehensive a list as possible within the scope of your evaluation purpose. Keep in mind that being divergent within the bounds of your evaluation purpose statement is efficient, but you could also miss a critical question or issue that might reshape your evaluation purpose for the better!

As you develop your list of possible questions, consider these sources: the questions, concerns, and values of stakeholders; the findings or issues raised in your program area's research literature; professional standards, criteria, or guidelines, such as the North American Association for Environmental Education's (NAAEE) Guidelines for Excellence; and views of expert consultants and the evaluator (Fitzpatrick, Sanders, and Worthen 2004).

You may also find it helpful during this divergent phase to go back to your logic model to remind yourself of the range of program aspects that can be evaluated. While the terms "front-end," "formative," and "summative" indicate *how* the evaluation data will be used, they do not necessarily indicate the *nature* of the questions the evaluation will address or the program *aspects* on which it will focus.

To get a better sense of the diversity of possible evaluation questions, imagine you are hosting an annual New Year's Eve dinner party for your friends. You'd like to assess how well this dinner party goes, as you are weighing whether or not to continue giving the party each year. (Ideally you are thinking, "That sounds like a summative evaluation!") What cues or data might indicate whether or not the dinner was successful? You could determine success based on how good the food was, which might be indicated, in turn, by the number of cleaned plates, the number of helpings your friends take, and whether they ask for your recipes. You might judge success by counting the number of friends who attended or comparing the number of friends who attended to all those who were invited. You could perhaps judge success based on the conversation. Were conversations primarily "small talk," or were your friends engaged in meaningful discussions? Similarly, you could determine success based on how long your friends stayed, whether or not new friendships were formed or plans made to get together in the future. In short, many aspects of your dinner party could be evaluated in your decision-making efforts.

This analogy can be applied to an environmental education (EE) program. Perhaps you want to judge the success of your new interpretive exhibit on native butterflies. You might deem this exhibit successful if you stayed within the allowable budget (inputs) or if visits to your center increased after installing and advertising the exhibit (outputs). Or you might decide to judge the exhibit's success based on the number of visitors who signed up to help with the Monarch Watch citizen science program or the number of community residents who planted butterfly gardens (outcomes).

Criteria for Selecting and Refining Evaluation Questions

The possibilities of what could be evaluated are almost endless and the challenge of answering them may feel overwhelming. It nearly goes without saying that to answer all such divergent phase questions in one program evaluation would be almost impossibly hard to manage and terribly expensive. Thus, the *convergent phase* of developing evaluation questions involves selecting and prioritizing questions from the divergent phase list. The following criteria, adapted from Fitzpatrick, Sanders, and Worthen (2004), can be helpful as you select evaluation questions.

For each one, ask yourself if the potential evaluation question would:

1. be of interest to the primary intended user of my evaluation;
2. contribute information that is not already known about my program;
3. provide information that addresses the use of the evaluation results and that can be acted upon to make a difference in the program;
4. be of continuing interest, rather than following a personal interest or curiosity;
5. be answerable within the time, money, and skill available.

As you proceed, you might want to highlight the evaluation questions on your divergent phase list that in general meet all five criteria. Alternatively, you could also first narrow this list based on the one criteria you consider most important, and then go back through the shortened list of potential evaluation questions, sorting through them based on the remaining criteria.

You may find that even after using the five criteria to help you narrow, you still have more evaluation questions than can be realistically addressed in one evaluation and that prioritizing is needed. Narrowing your evaluation questions ultimately involves balancing *utility* (will the evaluation you conduct and the questions you ask serve the intended use by the intended user?) and *feasibility* (are the evaluation questions cost effective and practical, given the financial and human resources available for the evaluation?). Thus, this convergent phase of selecting the “final” evaluation questions is often done in consultation with your evaluation’s intended user or with key program decision makers.

Selection Criteria Worksheet

For each of your draft evaluation questions, ask yourself if it would:

1. Be of interest to the primary intended user of my evaluation?
2. Contribute information that is not already known about my program?
3. Provide information that addresses the use of the evaluation results and that can be acted upon to make a difference in the program?
4. Be of continuing interest, rather than following a personal interest or curiosity?
5. Be answerable in terms of time, money, and skill available?

Identifying Indicators

Evaluation questions are often phrased using constructs (abstractions such as “awareness,” “achievement,” “effectiveness,” and so on). Indicators define these constructs so that they can be measured or observed. In other words, indicators represent what the information or data would look like in order to answer your evaluation question. It might help to think about indicators as signals that help you know something; they are usually specific and measurable. Perhaps one of your evaluation questions involves asking if a specific program objective has been achieved.

The indicator is something you can measure that tells you (or the stakeholders) that the objective has indeed been achieved. For instance, what if the evaluation question at hand were, “Did the Wildland Fire Extension program increase Orange County citizens’ knowledge of steps they can take to minimize the risk of wildland fire to their homes?” What would tell you that Orange County citizens’ knowledge had increased? What kind of information would you need to collect to know if this objective had been achieved through your program? An indicator of such increased knowledge might be the change in citizens’ scores from their pre- to their postcourse assessments. If, instead, your evaluation question were, “Did the program help residents reduce their risk?” then an indicator might be an increase in the amount of woody vegetation at the side of the road for municipal pickup. Another indicator might be an increase in local sales of chain saws! You could also compare sales of more flammable landscaping plants to sales of less flammable plants. If you had made a pre-evaluation record of how much brush was near homes in high-risk neighborhoods, you could do a post-evaluation drive-by to see if some of this brush had been cut back.

It is helpful in both the evaluation questions and indicators to be as specific as is both possible and appropriate. Let’s say your evaluation question is, “Did the fall festival at Sherburne National Wildlife Refuge increase awareness of the refuge?”

One indicator of increased awareness could be the number of attendees at the fall festival who had never been to the refuge before. But would *any* number of first-time visitors constitute a success? If only one of the attendees were a first-time visitor to the refuge, would the objective have been met? Technically, the answer to your evaluation question would be “yes.” But knowing that one additional person visited the refuge probably wouldn’t be all that helpful in making judgments about the festival’s overall success in raising awareness of the refuge.

Evaluation questions and indicators, particularly in summative evaluations, should be phrased in a way that the criteria being used to judge the program’s success is explicit. Thus, with reference to the Sherburne National Wildlife Refuge question above, a well-phrased indicator would *specify* the number of attendees who are first-time visitors by using phrasings such as, “20% of the event attendees are first-time visitors” or “event success will be based on a 30% increase in visitation to the refuge by first-time visitors over the next six months.” Specific indicators such as these might help the program coordinator think differently about the kind of publicity and media the festival needs and whether the ads sound inviting to folks who have never been to the refuge before. In this way, the mere act of developing an evaluation plan can help improve a program.

Specificity of indicators is perhaps less critical for front-end and formative evaluations, as these do not aim for an overall judgment of the program. Continuing with our wildlife refuge example, if you were trying to figure out how to improve future fall festivals rather than judge the success of the event,

then knowing that only one of the attendees was a first-time visitor would be useful information. This information might lead you to explore how the event was marketed and how to better encourage those unfamiliar with the refuge to attend the event.

Many potential indicators may answer your evaluation question. To narrow your choices, it may be helpful to think about what type of data would be most useful, given your intended evaluate on use and user. Would narrative data that are richly descriptive and detailed (qualitative data) be most helpful, or would data that can be summarized numerically (quantitative data) be most helpful? Or perhaps your program funder has a bias toward one particular data type.

Evaluation Tools

Identifying Resources/Sources of Information

Now that you have generated evaluation questions as well as indicators for each of those questions, the next thing to think about is information sources. Who (or what) can provide the information you identified in the indicator column? Often the information source (data) is the evaluation participants. Nonparticipants and previous participants can also be very valuable sources of information. Other common sources of information are program staff or administrators, partners, parents, teachers, and funders. On the other hand, information sources don't always have to be people. Program documents, such as program logs, records, meeting minutes, and the like, can also be appropriate sources of information.

Determining Data Collection Tools

There are many data collection tools available for evaluation. Although selecting the most appropriate tool at this stage requires careful consideration, the selection process is also driven by a number of decisions that have already been made.

Your evaluation question, along with the indicator and information source, will determine to some extent the most appropriate data collection tool(s). Because of the other factors shaping the evaluation process at this stage—the amount of time and money available for the project, along with the skill and philosophy of the evaluator—your job is to choose the tool best suited to your overall situation.

Also keep in mind that no tool is perfect in all situations. Each data collection tool comes with specific aims, strengths, and weaknesses, all of which you must weigh as you make your selection. Table 2.2 summarizes the purpose, advantages, and challenges of each of nine different data collection tools frequently used to conduct evaluations. Because evaluation tools are often developed for a specific purpose and project, what we call a “data gathering tool” sometimes incorporates multiple tools. For example, a survey or interview may include test items. A case study often incorporates observation, document review, and in-depth interviews. During the evaluation planning stage, your job is to *select*, for each evaluation question, the type of tool or tools that will best capture the information you need, given the resources you have available.

Uses, Benefits, and Limitations of Data Collection Methods for Evaluation

Methods	Overall Purpose	Advantages	Challenges
Interviews	To fully understand someone's impressions or experiences or learn more about their answers to questionnaires.	<ul style="list-style-type: none"> • Provides full range and depth of information. • Promotes relationship with respondent. • Allows follow-up questions. 	<ul style="list-style-type: none"> • Can be time consuming. • Can be hard to analyze and compare. • Can be costly. • Interviewers can bias responses. • Generalization may be limited.
Focus groups	To explore a topic in depth through group discussion, e.g. reactions to an experience or suggestion, understanding common complaints, etc. Useful in evaluation and marketing.	<ul style="list-style-type: none"> • Can quickly and reliably produce collective impressions. • Can be efficient way to gather range and depth of information in short time. Can convey key information about projects. 	<ul style="list-style-type: none"> • Can be hard to analyze responses. • Need good facilitator for safety and closure. • Difficult to schedule 6-8 people together.
Questionnaires and surveys	To quickly and/or easily get a lot of information from people in a nonthreatening way.	<ul style="list-style-type: none"> • Can be completed anonymously. • Inexpensive to administer. • Easy to compare and analyze. • Can be administered to many people. • Can get lots of data. • Easy to create: many sample questionnaires already exist. 	<ul style="list-style-type: none"> • Might not get careful feedback. • Wording can bias client responses. • Impersonal. • Surveys may require sampling and statistical expertise. • Doesn't get full story.

Methods	Overall Purpose	Advantages	Challenges
Observation	To gather accurate information about how a project actually operates, particularly about processes.	<ul style="list-style-type: none"> • Allows viewing of project operations as they are actually occurring. • Allows for adaptation of events as they occur. 	<ul style="list-style-type: none"> • Can be difficult to interpret behaviors. • Observations can be difficult to categorize. • Can influence participants' behaviors. • Can be expensive.
Literature Review	To gather information on the audience and/or the issue. To identify what previous investigations have found about the state of the knowledge, skills, behaviors, or attitudes of the intended audience with relation to the issue.	<ul style="list-style-type: none"> • Can provide much information in relatively little time. • Has most likely been reviewed or seen by audience. • Makes use of already-gathered information. • Helps to sort changes over time. • Provides evidence about the problem. • Involves minimum effort or interruption of audience. 	<ul style="list-style-type: none"> • Can be out-of-date (e.g. technology changes quickly). • Data synthesis can be difficult. • May not address specific questions of concern. • Not a flexible means to get data; data restricted to what already exists. • Statistical data may not address perceptions of the problem or may not address causes of the problem. • Reports may be incomplete.
Concept maps	To gather information about someone's understanding of and attitudes toward a complex subject or topic.	<ul style="list-style-type: none"> • Can offer a more comprehensive and complex view of someone's thinking than a test does. • Could be a better tool for visual learners or test-phobic people. • Can gather qualitative and quantitative data. 	<ul style="list-style-type: none"> • Takes training to complete properly. • Takes training to administer. • Can be challenging and time consuming to score. • Can be difficult to analyze and interpret.

Methods	Overall Purpose	Advantages	Challenges
Document or product review	To gather information on how the project operates without interrupting the project; comes from review of applications, finances, memos, minutes, etc.	<ul style="list-style-type: none"> • Provides historical information. • Doesn't interrupt project or client's routine in project. • Information already exists. • Few biases about information. 	<ul style="list-style-type: none"> • Often takes much time. • Information may be incomplete. • Reviewer needs to be quite clear as to what information is sought. • Not a flexible means to get data; data restricted to what already exists.
Case studies or peer review	To fully understand or depict client's experiences in a project, and conduct comprehensive examination through cross-comparison of cases.	<ul style="list-style-type: none"> • Fully depicts client's experience in project input, process, and results. • Powerful means to portray project to outsiders. 	<ul style="list-style-type: none"> • Usually quite time consuming to collect, organize, and describe. • Represents depth of information, rather than breadth. • Information gathered cannot be generalized.

Adapted from McNamara (n.d.).

Other Resources/Contacts

This broadcast is just a snapshot of the details involved in completing an evaluation that will provide you with the information you need to ensure your programs are effective. Fortunately, there are lots of resources and training available to you. Below are a few of them.

Ernst, J. A., Monroe, M. C. & Simmons, B. (2009) *Evaluating your environmental education programs: A workbook for practitioners*. Washington, DC: NAAEE.

University of Wisconsin – Stevens Point. *Applied Environmental Education Program Evaluation*. http://www.uwsp.edu/natres/eetap/aeepe_course_page.aspx
On-line course. Next offering Fall 2009. Register online.

National Conservation Training Center. *Education Program Evaluation Course*.
Next offering June 2010. Register through DOI Learn.

National Park Service. Social Sciences Program.

University of Michigan, EPA, US Forest Service. My Environmental Education Evaluation Resource Assistant – MEERA. <http://meera.snre.umich.edu/>

<http://www.nature.nps.gov/socialscience>

Dr. Jim Gramann

Visiting Chief Social Scientist

National Park Service

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Phone: 202-513-7189

Fax: 202-371-2131

University of Idaho Park Studies website <http://www.psu.uidaho.edu>

Indiana University - Recreation, Park and Tourism Studies Department

Visitor Studies Association website - <http://www.visitorstudies.org/>

VSA is today's premier professional organization focusing on all facets of the visitor experience in museums, zoos, nature centers, visitor centers, historic sites, parks and other informal learning settings. We're committed to understanding and enhancing visitor experiences in informal learning settings through research, evaluation, and dialogue.

