Ron M. Beech
Amy F. Dake

Designing an Effective Communication Program

A Blueprint for Success

University of Michigan
School of Natural Resources and Environment

Prepared for
U.S. Environmental Protection Agency, Region 5

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We would appreciate your comments on this handbook. Have you used it? Did you find it helpful? What didn't work and what did? What is missing? Please direct your comments to...

Ms. Nancy Phillips
U.S. Environmental Protection Agency
Region V
77 West Jackson Blvd.
Chicago, IL 60604–3590

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Chapter 1 **A Blueprint for Success**

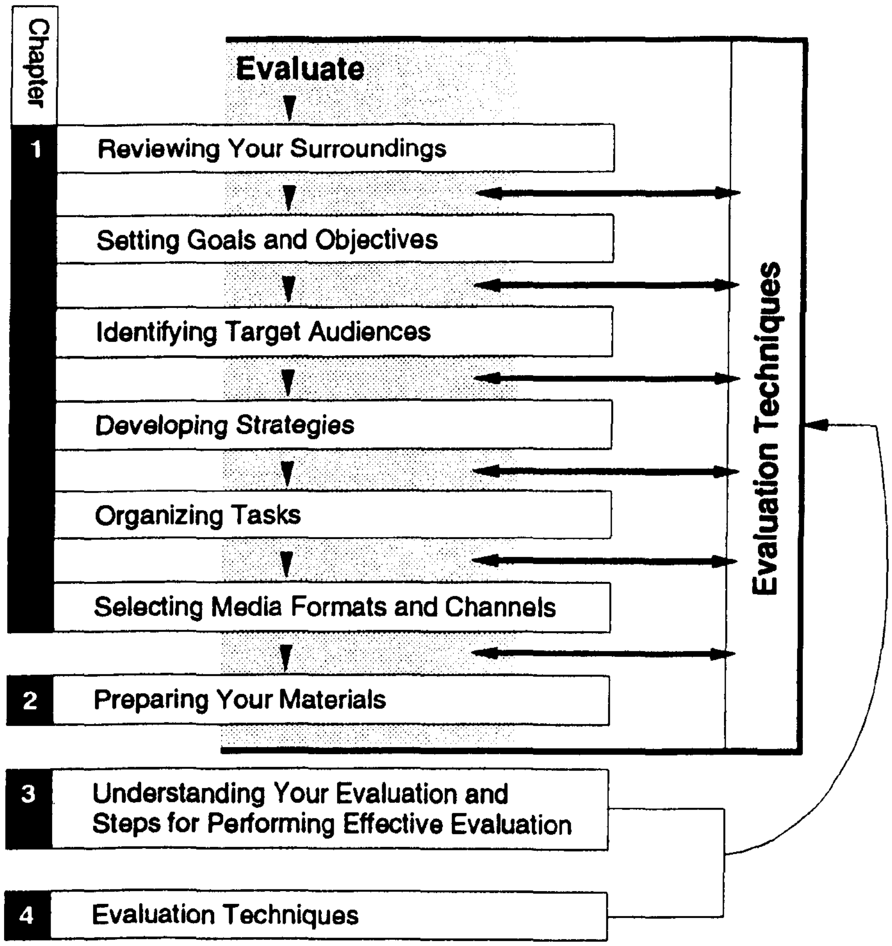
Chapter 2 **Tips for Material Design**

Chapter 3 **Understanding Your Evaluation**

Chapter 4 **Evaluation Techniques**

Appendices

The Blueprint . . .



This diagram summarizes the contents of the book. Starting at the left-hand side of the page, you notice the chapters one through four. The horizontal rectangles list the most important subjects included in each chapter.

Chapters one and two provide information for developing an effective program. However, unless you evaluate the steps of the process, you will not know if your efforts are effective. The grey shaded areas represent this idea. Chapter three provides the fundamental knowledge needed to understand evaluation and chapter four explains the techniques used to accomplish evaluation.

On the right-hand side of the page, you see arrows that represent the interactive nature of evaluation. Once the techniques are used, they can provide feedback that will improve the program. We hope that the information in this book will be your blueprint for success.

Using This Handbook

Introduction

So you're going to design an environmental communication program. Congratulations! It should be a lot of fun, and hopefully, won't give you too many headaches. This handbook is designed to help you get through the tough parts and avoid many common mistakes.

Specifically, this handbook will guide you through each crucial step involved in designing an environmental communication program. It will help you design your entire program, from setting your goals and objectives to evaluating your successes. It will also provide you with many tips that have been shown to increase the effectiveness of communication materials and programs.

Chapter 1 **A Blueprint for Success**

Chapter 1 describes each critical step in the planning process for a communication program. It takes you through analyzing your own surroundings, setting your goals and objectives, identifying your target audience, and choosing your media formats and communication channels. Each step in the planning process is crucial to the success of your program; this chapter guides you painlessly through the process.

Chapter 2 **Tips for Material Design**

Chapter 2 gives you tips on designing effective communication materials, by doing such things as creating white space on a page and using graphics effectively. While some of these tips may seem obvious to you, they are often quickly forgotten once your program begins. However, these tips are vital—if you don't use them, people may not even read your materials or listen to your presentation! The tips included in this section have been shown to increase the effectiveness of communication materials by increasing attention and memory, or persuading people to change their behavior.

Chapter 3 **Conducting an Evaluation**

Chapter 3 introduces you to the most important concepts of evaluation. It explains how you can relate these ideas to your evaluation design. Evaluation is a crucial step in your program—if you don't do some evaluation, how will you ever know whether you are accomplishing anything? While evaluation is a very important step, it is often skipped because people think that it will be too complicated, expensive, or time-consuming. This does not have to be true, as is shown in Chapter 4.

Chapter 4 **Evaluation Techniques**

Chapter 4 provides a description of different evaluation techniques, most of which are fairly easy and inexpensive to complete. For each technique, advantages and disadvantages, procedures, and estimates of staff time and resources are provided. By using some of these techniques, you should be able to conduct a good evaluation of your program and your materials. Doing this will enable you to know what is working and what is not, and then to change your program accordingly.

Throughout this handbook, we give you references that you can go to to get more information. We also provide checklists and worksheets to help you design and implement each critical step in your communication process.

Appendices

Appendices A and B provide you with a list of sample projects that have been done under EPA's Chesapeake Bay Program and Puget Sound Water Quality Authority's Public Information and Education Fund. Appendix C describes in detail the steps to do one of the evaluation techniques.

We hope that using this handbook will help you conduct a successful environmental communication program, thereby increasing awareness, bringing about changes in human behavior, and ultimately, improving environmental conditions in your area. Good luck!

Chapter 1

A Blueprint for Success

Introduction

Would you want a construction contractor to build your home without blueprints? Assuming you answered "no," then why would you spend money on communication programs without drafting a plan? Although communication plans are complicated and subject to many changes, it is still necessary to develop a plan.

This chapter will explain the important steps in planning a communication program. The following lists includes similarities between communication plans and blueprints.

Blueprints reveal how electrical, plumbing and mechanical systems are interconnected with the structure. Similarly, communication plans show the relationships between the different program objectives and tasks and how organizational resources will be used to meet those needs.

Without knowing the details of a design, a house cannot be built. In the same way, program plans lay out the details of how, when and where a communication program will achieve its goals.

Good blueprints allow the contractor to estimate the quantity of supplies, number of construction workers and time needed to complete the building. Without a good communication plan you will lack the essential information needed to plan financial budgets and personnel assignments. Embarrassing mistakes can result that may tarnish the reputation of your organization.

Most importantly, blueprints communicate the plans to all the parties that are involved and allows them to coordinate their work. For example, a plumber may need to complete a task before the electricians can do their job. Effective communication programs are also dependent upon plans because they allow staff members and volunteers to coordinate their work.

Many other analogies could be developed, but it is most important to realize that communication programs deserve the same rigorous planning process as other worthwhile endeavors. Every step of a plan should be spelled out, from the first goal to the final task. This is not something that one person does in his or her head; it must be written down and formulated with the help of all people involved. This chapter will help you plan a successful communication program. It will explain step by step how to develop your program. If you follow it carefully, you will be prepared to achieve your goals.

A Review of Your Surroundings

Let's assume that your organization has identified an environmental problem that is affecting the community. You know the causes of the problem and the preventive measures needed to improve the situation. To solve this problem, you want to develop an outreach effort that will affect the community in a positive way and provide a solution. However, having a great idea or a solution is rarely enough. It is critical to research and carefully construct a detailed plan of how you will make your ideas a reality. This cannot be successfully accomplished by just one person. It requires exchanging information among everyone within the organization and being aware of the external surroundings in which your organization operates.

Before an organization can begin any program that will involve interaction with people or other organizations, it is imperative that the program managers and staff ask themselves some very important questions about their surroundings. These questions fall into four categories: social, political, economic and organizational. Three categories involve examining the external environment and the other requires looking inside your organization. Each question should be examined from two time frames.

1 The current conditions in which the organization operates.

2 The expected future conditions in which the organization will operate once the program begins.

Write down your responses to the questions that follow and share them with others in your organization. It is doubtful that good answers can be obtained without some research, so the next section offers several resources that should be consulted before answering the questions. After providing realistic answers to these questions and others that may be appropriate, the organization must formulate realistic goals, objectives, strategies and tasks to carry out the program.

Social Surroundings

Following is a list of questions an organization should examine regarding its social surroundings. Remember to answer these questions from both the current and future points-of-view.

- Is the community agenda focused on your issue or are there many other concerns on the horizon?
- Is there a positive or negative demand for your ideas?
- Are citizens aware of the problems and the solutions?
- What are the existing activities that address the problem?
- How does the problem affect the community?
- Has the media focused on the issue?
- Why has the situation not improved? Is there a lack of knowledge, or do attitudes and behaviors need to change?
- Which agencies or other organizations are currently involved with the issues?

Political Surroundings

An organization must also ask itself questions about its political surroundings.

- What are the existing federal, state and local laws and rules that are influencing the situation?
- Have you identified and properly defined all the important political forces?
- Who will support your ideas in the political structure?
- What will be the reaction of those who do not support your program?
- Do you understand what motivates both allies and critics?
- How will your goals and objectives be influenced by both allies and critics?
- What relationship does the board of directors or management team have with those in the political structure?

Economic Surroundings

In addition, you must examine your organization's economic surroundings.

- Are factors such as high unemployment or inflation affecting the quality of life in your community?
- What economic impact will your program have on businesses and other profit-making enterprises?
- Will the target audience be asked to give up time or money if it follows your advice?
- Does your program provide the maximum benefits for the minimum costs?
- Have all the social benefits and costs that do not have market values been included in your analysis?
- What additional benefits can be offered to satisfy community concerns?
- Have you considered the economic impact of your program over different time frames?

Organizational Surroundings

Finally, you must analyze your organizational surroundings.

- Have your organization's resources been inventoried? Is there enough staff and are they properly trained? Also, is there enough money and equipment to manage the project?
- Is the staff trained to interact with the target audience?
- Are incentives present for staff to accomplish the goals, objectives and tasks of a new program?
- Is your organizational structure designed to interact with the intended audience?
- Does your organization's mission intertwine with the proposed program?
- Have previous programs prepared your organization for new programs?
- How will the standard method of doing work change in your organization?
- Will departments or staff work together in new ways?
- Will the program require staff to work closely with others outside your organization?
- How will your organization's financial and political supporters respond to a new program?
- Are management and the board of directors prepared for this effort?
- What systems are in place to handle the new program: accounting, filing, communication, computers?
- How is your organization's image perceived in the community?
- Does your organization have the proper image to be responsible for this program?

How to Research the Questions About Your Surroundings

Reviewing secondary data that has already been compiled by others is a good place to begin answering the questions about your surroundings. Usually it is inexpensive and can quickly provide the clues needed to begin forming program goals and objectives. However, it is important to remember that secondary data may not provide specific answers to your questions and the quality will vary. However, the positive benefits usually outweigh the negative aspects of these resources. Following is a list of possible resources that can be used to answer the questions about your surroundings.

Where to Find More Information

Stewart, D. 1984. *Secondary Research: Information Sources and Methods.* Newbury Park, CA: Sage Publications.

Sources of Secondary Research

- Permit records from local, county, state and federal agencies
- Voting records
- Census data from U.S. Census Bureau
- County and regional planning agencies
- Professional associations
- Trade associations
- Community service groups
- Religious institutions
- Citizen-action nonprofit groups
- Organization correspondence files
- Existing organizational data collected from previous programs
- Supporters list
- Newspapers
- Public opinion polls
- Local, state and university libraries
- Demographic publications
- Advertising agencies
- Corporations
- Foundations
- Polling companies
- Nonprofit organizations
- Clearinghouses
- City and county directories
- Chamber of commerce lists
- Yellow pages
- Trade journals

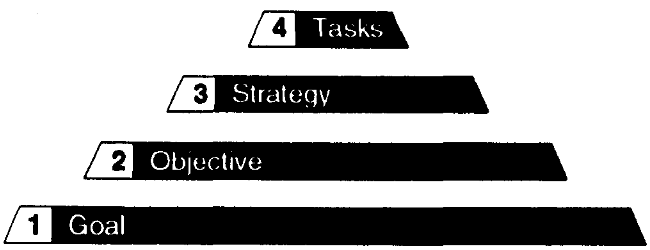
Goals and Objectives

Now that you have:

___ Used secondary research to answer questions about your social, political, economic and organizational surroundings,

you are ready to identify goals and define objectives.

The program's goals and objectives will form the foundation to develop programing efforts. They are the prerequisites for moving forward with planning a program. Once goals and objectives have been established, the next crucial step is to develop strategies and tasks.



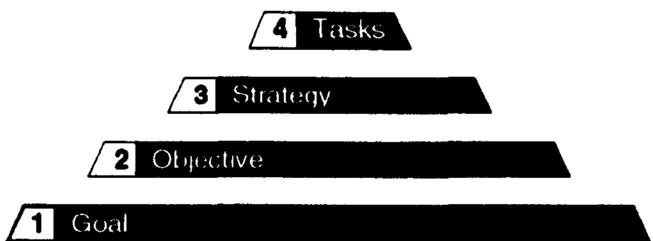
Goals

Program goals are usually general, broad and all–encompassing, and should include the very essence of a program's purpose. However, they also should include some measure of the expected outcome. This can relate to what the organization wants to change or what should remain the same. They should not be in conflict with other organizational goals and objectives.

Usually they are developed for different functional areas of a program. There may be goals related to fund–raising, management of staff and volunteers, program advertising, marketing, etc. Most importantly, goals:

- ➢ Provide the staff with something to strive toward;
- ➢ Supply guidance to the program's staff when making decisions;
- ➢ Are internally consistent;
- ➢ Communicate the purpose of the program to the public and entities external to your organization;
- ➢ Provide the basis for developing objectives, strategies and tasks; and
- ➢ Unite the program staff toward the achievement of a common purpose.

An Example of a Goal



To protect the Puget Sound and its watershed by linking and supporting citizens and organizations who are working locally for protection of wetlands and water quality.

Staff Involvement with Goals and Objectives

Before these goals can be accomplished, everyone involved in the program must have input and "buy into" the ideas. Otherwise goals and objectives will mean little to the staff and will not be seriously considered when carrying out the program. Also, goals may mean different things to different people in the organization. It is essential to develop the goals jointly with the staff through a meeting or other forums that are appropriate in your organization.

Objectives

Now that you have:

- ___ Used secondary research to answer questions about your social, political, economic and organizational surroundings; and
- ___ Identified reasonable goals in consultation with your staff;

you are ready for the next vital step in program development – defining objectives.

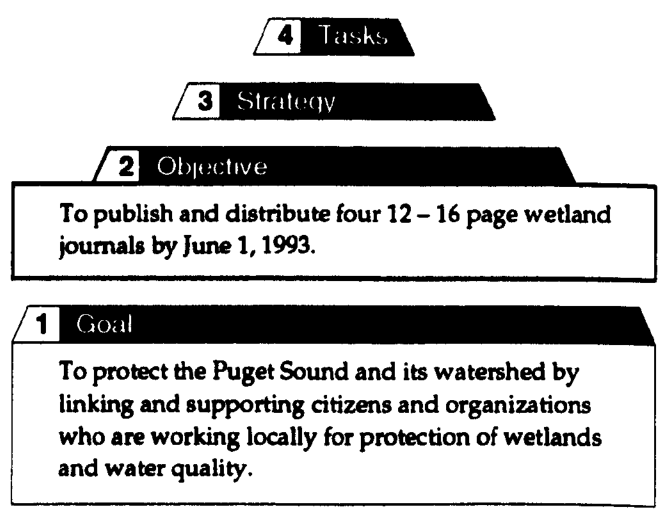
In contrast to goals, objectives should be specific about what will be done from a program-operations perspective. They narrow down the very broad vision of the goal to something that can be accomplished through organizational resources (e.g., staff, money, ideas.)

Objectives should be:

- ➤ Prioritized;
- ➤ Important to the organization;
- ➤ Internally consistent;
- ➤ Measurable or quantifiable; and should have:
- ➤ A strong action verb that describes what organizational action is necessary to achieve a goal;
- ➤ A specific purpose (several objectives could be included for one goal)
- ➤ A single outcome
- ➤ A date of completion

Each of these components is essential because it lays the groundwork for developing specific strategies and tasks, the next crucial step. Also, these components of objectives provide the benchmarks to evaluate whether the program has achieved the desired results.

An Example of an Objective



Target Audiences

Ok, now that you have:

___ Used secondary research to answer questions about your social, political, economic and organizational surroundings;

___ Identified reasonable goals in consultation with your staff; and

___ Defined specific objectives;

it is necessary to identify, understand and break down your target audience into smaller groups before continuing with strategies and tasks.

Who will you reach and in what ways will you achieve your goals and objectives? Defining goals and objectives is necessary, but is not specific enough to answer the previous question. Next, it is essential that you identify your target audience and then develop strategies and tasks to reach this group. Many programs are unsuccessful because they do not put any effort into these vital steps in the planning process.

Target audiences are groups that have common characteristics. These characteristics could range from education levels to attitudes, behaviors or needs. Often, several of these characteristics will overlap. In a sense, the target audience is the consumer of your message and program. Your audience must be treated as special as customers that purchase products or services from for-profit businesses. Your internal organization design and programing decisions should be a reflection of this fact. All of your organization's decisions should be designed to meet the needs of the target audience – not made for the convenience of your organization.

You may ask why this target audience stuff is so important? The explanation is simple; if you do not understand the target audience, it will be impossible to develop an effective outreach campaign. Therefore, you will not achieve your goals and objectives. If the goals and objectives of your project are not achieved, your organization's reputation may be tarnished and it may be difficult to obtain funding for future projects.

Exchange Concept

Often there is an exchange that occurs between the organization and the target audiences. It might be as simple as providing information about proper lawn fertilizing. In exchange, people may take steps to protect their groundwater or ensure that their streams are free of extra nutrients that cause algal growth.

By researching the target audience, enough knowledge can be obtained to understand what is important to your audience. Also, it helps your organization define what you have to offer this group. However, before this exchange can occur, it is important to know whether there are subgroups within the target audience.

Breaking Down Your Audience

To reach your target audience, you must know specifically who is in it and what they are like. This involves breaking groups down into subgroups that exhibit similar characteristics or traits. Some possible ways of breaking audiences down include: demographics, language, lifestyle, geography, products or services purchased, attitudes, distribution channels used to purchase products or services, benefits derived, or communication channels used.

Breaking down your target audience is critical. This step allows you to develop messages and programs in a way that will reach and influence these subgroups. However, it is important to note that often these groups do overlap. Different audiences may live in the same geographic area, speak the same language or share many other characteristics.

The following examples are characteristics that can be used to break down your audience.

Demographics
level of education, geographic location, occupation, number of people in household, type of household (single unit, duplex, apartment), number of rooms, owner or renter, income, age, martial status, sex, cultural characteristics, value of owned units, rents paid for rental units, distance from work, etc.

Behavior
types of media (e.g., section of newspaper people read or type of radio station they listen to), membership in organizations, activities that affect the environment in positive or negative ways, sports, hobbies, etc.

Attitudes
perspectives on environmental issues, beliefs about an individual's impact on the environment, the role of government in environmental protection, etc.

Here is an example of how a target audience can be broken into different groups. Let's say that your outreach campaign has targeted those who purchase fertilizer used on lawns and gardens. In reality, this includes several subgroups.

Apartments

An employee of the management company or owner may make the decisions concerning fertilizer, purchases.

Condominiums

Most of these developments have committees that are made up of the unit owners. Perhaps the landscaping committee is involved in the decision–making.

Lawn care companies

These companies may apply fertilizer to multi–family housing units, businesses or to individual homes.

Homeowners

Many homeowners apply their own fertilizer. Usually they purchase this from a local hardware or lawn and garden store.

Government property

A grounds manager for a local, county or state government must make decisions based upon local ordinances or purchasing policies. Managers of property owned by the federal government may also have similiar constraints that affect what products are used and how they are used.

Gardeners

Flower and vegetable gardeners also purchase fertilizer from hardware and lawn and garden stores.

Farmers

Farmers may order large quantities of fertilizer from co-ops or directly from manufacturing representitives.

As you can see, what seemed to be a homogeneous group suddenly became divided. Other variables could also segment these audiences, such as:

Source

Managers of multifamily housing units, farmers, and lawn care companies are likely to purchase larger quantities from wholesalers or the factory.

Methods/Equipment Used

Each subgroup may use different equipment to spread the fertilizer. For example, some may use liquid fertilizer instead of solid forms.

Communication Channels

A farmer would be exposed to trade journals and other sources of information specific to farming, while a multifamily unit manager would be interested in real estate management journals.

Geography

Many people who grow flowers may live in urban areas. In contrast, farmers are more often located in rural areas.

In summary you want to define the target audiences in a way that separates them from the general population of your region. A description should include all the information that is available from the sources presented in the next section. A target audience should include only one group. For examples farmers and fishermen are very different groups and should be considered different target audiences. It should be very, very specific and describe the audience from many different perspectives (e.g., social, economic, demographic characteristics). Simply stating that your program is designed for the residents of your county is a *very poor* description of a target audience. However, a good target audience would be: married men between the ages of 20–45 who change their own oil, own homes, subscribe to automobile magazines and buy their oil from small auto-parts stores. Unfortunately, this type of information cannot be obtained without research.

Examples of *GREAT* target audience descriptions from water quality programs:

- Minority and learning disabled 6th graders from Coe Elementary and North Kitsap Middle Schools.
- Children between the ages of 6 and 13 enrolled in the Eastside Day Camp.
- 250 members of a professional graphic art association that includes commercial graphic designers, illustrators, photographers.

Examples of *OK* target audience descriptions from water quality programs:

- Citizen activists and community groups in North Mason County.
- Sixth grade through high school students in the Green River Valley.
- The 900,000 Puget Sound residents who visit the Woodland Park Zoo each year.
- Construction contractors in King, Pierce, Snobol and Thurston counties.
- Gardeners and small farmers in King County.
- Retired citizens, tribal members and 4–H youth in the Sequim Bay watershed.
- Auto shops in Pierce County.
- Auto body and repair shops, small boat yards, photo labs in Snohomish, King, Pierce and Thurston counties.

Continued...

Examples of *POOR* target audience descriptions from water quality programs:

- ➤ Citizens in Pierce, King, Kitsap, Jefferson, Island and Mason Counties.
- ➤ Anyone eight years of age and older in the Puget Sound Region.
- ➤ Resource management professionals, concerned individuals, and state and local government officials.
- ➤ Snohomish County citizens interested in aquatic resources.
- ➤ Residents of Whatcome County.
- ➤ Residents of Chimacum, Quilcene, and Brinnon watersheds.
- ➤ Farmers, fishermen, native groups, and individual communities around Boundary Bay and school children on both sides of the border.

Learning More About Your Target Audience

Before you begin developing messages, it is a prerequisite to find out what your target audience knows about the issue that is included in your program. Does the target audience have misconceptions, or misinformation? By gathering this type of information, you can then work backwards and develop a program and messages that start from the end–users perspective.

Often, it is important to gain an understanding about the intended behavior change and how the program can affect the behavior. Through target audience research you can decide what factors influence the behavior and which aspects could be changed through your program. Also, it is a good idea to ask questions about your audience's beliefs, attitudes and current skill level. For example, members of a target audience may be damaging the environment because they believe that their activities have no impact. Also, their knowledge about environmental issues could be inaccurate. Or they may have the attitude that protecting the environment is too time–consuming and expensive. Another possibility is that they know they are having an impact, but do not know how to change their current behavior.

Also, it is important to find out what communication channels are used by the target audience and the credibility of those channels. For example, how much time does the target audience invest in listening to the radio and television? What shows do they watch on these sources? Do they read newspapers and magazines? Which ones do they read and what sections are most often read? How do they respond to other sources such as billboards, direct mail, exhibits at public events, posters and bumper stickers? Do they rely on organizations for information? Perhaps they respect the leaders of these groups or they rely on the newsletters, attend meetings or volunteer their time or money.

Methods used to find out more about a target audience:

Existing External Sources

➢ Conduct literature searches about stories related to topic.

➢ Consult special libraries and information centers.

➢ Review books that list sources of marketing research.

➢ Contact professional associations involved in marketing, public relations, non–profit management and communications.

➢ Consult computerized databases, which are available from many on–line data services. Sometimes these services are available at libraries.

➢ Consult bibliographic databases, which are available at most college libraries and many public libraries. These resources can be used to search thousands of publications.

➢ Consult trade associations, which often gather information on specific topics. There is an association that represents almost any topic. Libraries usually carry books that list these organizations.

➢ Review existing public polls and review publications like *The Gallup Poll Monthly* and *American Demographics*.

Continued...

- Review surveys that monitor consumer product purchases. These services annually publish books that cross-reference the purchase of products with lists of demographic, social, and economic information. They include purchases of motor oil, fertilizer and other products that could have a negative impact on water quality.

  Some examples of items tracked include: age, education, income, sex, household size, and occupation. Also, information about the use of channels is included, such as type of radio stations, TV shows, newspapers and magazines read.
- Contact both state and federal agencies which constantly collect data on economics and social characteristics. Often this information is published regularly in reports and is available in different geographic formats.
- Contact the Census Bureau which has demographic information in easy-to-read formats. The 1990 census can be downloaded into spreadsheet programs and then manipulated. Many universities have this capability. Also the data is in formats that can be loaded into geographic information systems.
- Contact marketing research consulting firms which often prepare original research and sell this information for a fee. They can manipulate census data and other information to provide unique perspectives. Some services combine lifestyles and values with census data to gain an unique view of a specific geographic region. For example, a report could include information about everyone that lives within five miles of a stream or other body of water.
- Review other programs that targeted the same audience.

Original Research

- Conduct focus group interviews.
- Conduct telephone, mail and personal interviews.
- Interview community leaders.
- Interview staff in agencies or organizations that have contact with the target audience.
- Interview experts.
- Observe behavior by systematically recording information at random locations.
- Use omnibus surveys, which are often conducted by universities and other groups. The survey costs are shared by a number of clients keeping the costs per question very low.
- Contact college professors who teach courses in marketing and social research. They are often looking for projects and will complete market research for a small fee.
- Contact MBA programs that have clubs that will do consulting on target audience research.
- Interview organizational leaders.
- Establish a contest requiring entrants to answer a few simple questions about your existing or future program.
- Include a questionnaire with a newsletter or other correspondence from the organization.
- Establish a panel or advisory review committees.

Example of Original Research

Before a professional graphic art association designed a water quality education program for their members, they developed a questionnaire. The questionnaire was designed to determine the depth of awareness of water quality issues, their existing office practices and product specification habits.

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Develop Specific Strategies and Plan Program Implementation

Ok, now that you have:

___ Used secondary research to answer questions about your social, political, economic and organizational surroundings;

___ Identified reasonable goals in consultation with your staff;

___ Defined specific objectives;

___ Identified and broken down your target audience; and

___ Learned more about your audience;

you are ready to develop the strategies that will be used to reach each of these groups.

! As you begin to develop specific strategies, you should simultaneously begin to identify media formats and channels you want to use. This step is described starting on page 23, but in reality, these steps must be done in unison.

Strategies are simply the plans by which the organization's objectives will be accomplished. Where objectives focus on *what* will be done, the strategies focus on *how* it will be done. Again this step is vital to a successful program. If you do not spend the time *planning* your communication strategies, chances are, you will spend more time and money later.

Strategies should:

- ➤ Achieve organizational objectives;
- ➤ Describe actions to be taken;
- ➤ Consider the external environmental threats and opportunities;
- ➤ Respond to changes in internal and external surroundings; and
- ➤ Guide daily operation decisions and tasks.

What is accomplished at this level is often dependent upon the resources of your organization. It is important to ask whether your organization can afford to reach out to each subgroup of your target audience. In many cases, the list may need to be narrowed down. Many subgroups in the target audience may require an unique program. Each program can require a range of different skills and organizational resources. Thus, it is important to do a thorough job and pick only those subgroups that you can effectively reach.

Strategies can be added to our previous example of the wetlands journal.

4 Tasks

3 Strategy

Include an article describing how citizens can get involved in the public process and discussing strategies for wetlands protection through the local planning process.

2 Objective

To publish and distribute four 12 – 16 page wetland journals by June 1, 1993.

1 Goal

To protect the Puget Sound and its watershed by linking and supporting citizens and organizations who are working locally for protection of wetlands and water quality.

Tasks

Now that you have:

___ Used secondary research to answer questions about your social, political, economic and organizational surroundings;

___ Identified reasonable goals in consultation with your staff;

___ Defined specific objectives;

___ Identified and broken down your target audience; and

___ Learned more about your audience;

___ Developed specific strategies; and

___ Selected media formats and channels (see page 23);

you are finally ready to plan the tasks that will be used to reach the target audience. Do not skip steps to get here! If you have not completed the steps listed above, go back and do them. Your time is valuable, don't waste it on projects that are ineffective and lack a planning agenda.

Tasks usually involve using machines and people to accomplish the goals of the project. Examples of tasks are included in our previous example of the wetlands journal. The example to the right briefly summarizes the entire process beginning with goals and ending with tasks.

4 Tasks

1 Write and edit articles.
2 Select printer and paper type.
3 Develop mailing lists.

3 Strategy

Include an article describing how citizens can get involved in the public process and discussing strategies for wetlands protection through the local planning process.

2 Objective

To publish and distribute four 12 – 16 page wetland journals by June 1, 1993.

1 Goal

To protect the Puget Sound and its watershed by linking and supporting citizens and organizations who are working locally for protection of wetlands and water quality.

The timing of tasks is very important. Some tasks can be completed simultaneously, while others must occur in order. The following worksheet will help you organize the tasks and communicate them to your staff. For example, if you were going to produce a brochure about nonpoint source pollution, before you could print the brochure, you would have to write and edit the text, design the layout, and choose a printer. However, you could select a printer while the other steps are being performed. Also, planning the timing of tasks will help you plan the commitment of your resources. If you have budgeted 100 hours of work for August and only have one staff person available for thirty hours, the schedule must be modified.

Major Tasks	January	February	March
Develop Journal Concept	X	X	
Expenses			
Salary	$1,340	$670	
Office	$100	$400	
Travel	$25	$25	
Materials	$48	$30	
Staff Assigned	Jay Doe	Jay Doe	
Staff Hours	80	40	
Organizational Resources			
Computer	X		
Car		X	
Slide Projector		X	
Secretary	X		
Manager in Charge	Jane Doe	Jane Doe	

Media Formats and Channels

Ok, now that you have:

___ Used secondary research to answer questions about your social, political, economic and organizational surroundings;

___ Identified reasonable goals in consultation with your staff;

___ Defined specific objectives;

___ Identified and broken down your target audience;

___ Learned more about your target audience; and

___ Started developing specific strategies;

you are ready to start thinking about how you want to get your message out to your audience. Do you want to use printed materials, such as fact sheets or newsletters? How will you distribute these? Or would you rather prepare a videotape? Where would people see it? What about workshops? Radio? Television? What would be most appropriate?

Media format refers to the type of material you produce, such as a newsletter, fact sheet, video tape, slide show, etc. ***Channel*** refers to the way that you distribute your material. For instance, you might choose to produce a video and show it at community group meetings. The video would be the media format you have chosen, and the community group meetings would be the channel.

There are many media formats and channels–and there are no set rules for which ones work best. Choosing the right media formats and channels really depends on a number of factors. These include:

- your message — its complexity, sensitivity, style, purpose, content, and length;
- your audience — its size, distribution, level of awareness, and preference for certain media formats and channels; and
- your available resources — money, time, staff availability, staff skills and knowledge.

The examples on the following pages list some common media formats and channels. The pros and cons of using each are compared on page 27.

Examples of Media Formats

- TV public service announcement
- TV news story
- radio public service announcement
- radio news story
- newspaper story
- newspaper advertisement
- newsletter
- fact sheet
- pamphlet
- report
- magazines
- magazine advertisement
- magazine article
- books
- billboard
- transit cards (i.e., in buses)
- "freebies" (i.e., bumper stickers, magnets, etc.)
- t-shirts, hats, etc.
- displays

How do these factors affect your decision?

Message

Consider whether your message is long, technical, complex, or sensitive. Consider what you want people to do with your message. For example, do you want them to just read it and remember it? Or use it, and refer to it frequently? Or share it with their friends and neighbors? These considerations will help you to decide what media format and channel to use.

If your message is fairly long and/or technical, you will probably want to send out print material, such as a fact sheet or newsletter. But be careful! Even with print material, you want to keep your message as brief and non-technical as possible. TV and radio are not usually adequate for conveying technical information. However, videotape can be very useful for demonstrating a behavior that you would like your audience to adopt.

If your message is very sensitive (for instance, you want to discuss the negative effects of runoff from farms, but you don't want to offend or blame the farmers) a more personal channel would likely be more effective. You might still choose to prepare a pamphlet describing the more technical aspects, but instead of mailing it, you might choose a more personal channel such as a workshop, community meeting or personal visit.

If you want people to simply read your information, print it on recycled, recyclable paper that is easily disposed. If you would prefer that people keep and refer to your material, you might choose a heavier, glossier media format, more like a magazine, that could be kept on a bookshelf or coffee table. (You can still use recycled paper to produce this type of material.) Or, depending on the content of your message, it might be more appropriate to produce a magnet for the kitchen refrigerator.

Examples of Channels

- workshops
- community meetings
- church meetings
- school meetings
- one-on-one personal contact
- opinion leaders (i.e., community leaders, parents, teachers, friends, etc.)
- "event" days
- fairs
- libraries

Your Audience

Consider your audience. You should already know a lot about them, having done your target audience research. How big is your audience? How widely distributed are they (such as in a rural area)? How much do they already know about the issue? What types of media formats do they use and to what channels do they respond? How likely are they to change their behaviors?

In order to reach a large target audience, you may choose to send out newsletters or other print material. You may be able to print a large number of newsletters (in fact, printing costs go down with larger "runs"). However, make sure that you can afford to mail them, if that is the distribution channel that you choose.

To reach a large audience, you may also choose to run public service announcements (PSAs) on TV or radio. PSAs are free announcements; they may be issued by government agencies or non-profit organizations. TV has the largest general audience. However, PSAs are often run late at night, when viewers may not be watching TV. Running a radio PSA allows you to choose stations to match your target audience. Be aware that both TV and radio receive many requests to run PSAs; you may be in competition with others.

Other ways to reach a large audience include displays at public places such as libraries, fairs, and shopping centers; "transit cards" on public buses and subways; billboards; and "freebies" such as bumper stickers and buttons.

Make sure that your audience responds to the media format and channel that you choose. For instance, if you are dealing with an area that has a high rate of illiteracy, newsletters would not be your best bet. Workshops would probably not be most effective in a very rural area, where people would have to travel long distances to attend. Some people are very skeptical about things that they see on TV; therefore, television PSAs would not work best for them.

Perhaps most importantly, make sure that you are communicating in the language that your target audience uses! While this seems obvious, nevertheless many materials are sent out printed only in English, when the target audience speaks another language. Communicate in your target audience's language, as an organization in the Puget Sound area did—they printed pamphlets for dry cleaners in both Korean and English.

Budget, Time, and Other Resources

Consider your available resources. How much money do you have to spend on production and distribution? How much time do you have? How many staff people are available and what are their skills and expertise?

Producing your communication materials will likely be a major cost of your program. Make sure that you have enough money to produce sufficient *quantities* of your materials, and that you can afford to *distribute* them. It is no use to have 5000 wonderful pamphlets sitting in boxes because you can't afford to mail them out. As one coordinator of a Puget Sound project stated "people should be aware that any time you print something, it costs a bundle to mail it. I ended up driving the materials around, but you can't do that forever."

Consider the number of people that you want to reach as a function of the amount of money you will be able to spend. You can easily calculate a "cost per person" by dividing the total cost of production by the number of people that will be reached. This will allow you to compare different media formats and channels on a cost basis. A video, for instance, might have seemed cost-prohibitive at first, but if you can reach a large number of people with it, it might be worth the cost. Keep in mind, however, that reaching people is not the same as changing their attitudes or behaviors. You may be able to reach a large number of people through one media format, but have little or no impact on them. Whereas, by using another media format, you may reach fewer people, but get your message across much more effectively.

If you are a non-profit organization, here's a hint on reducing your production costs... get others to pay! Ask local companies, printers, graphics agencies, paper merchants, and typesetters to contribute work or materials for free (or at least, at a discount) in exchange for credit in the publication. You can also get volunteer labor from scouting troops, church groups, community organizations, schools, and other volunteer organizations. For example, one organization in the Puget Sound area was able to get the following donated: printing costs and paper donation (from a local paper mill); additional printing (from a printing company); use of a mail permit (from the town); displays, videotapes, and awards (from various businesses participating in an "event day"); volunteer labor (from a Boy Scout troop); and stencils for storm drains (from a regional graphics firm.)

Allow enough time to prepare your materials. Writing and production almost always take longer than you think they will! If you need to get information out to your audience in a hurry, consider a press release (if your audience is very large) or personal visits (if your audience is very small). Above all, **plan ahead!**

Match your media formats and channels to the skills and expertise of your staff. If your staff consists of highly-skilled scientists who understand very technical issues, but are scared stiff in front of an audience, it probably isn't a good idea to send them out to conduct workshops with community groups.

Finally, consider the timing of the release of your materials with whatever else is going on in the community. For instance, you might not want to release a pamphlet in the mail during local election-time, when people tend to receive a great deal of similar information in the mail. You might not want to hold a workshop on the same day as another significant event. Remember that whatever you are trying to do, you are competing for the time and attention of your audience.

Choosing Channels

Even with all the factors described above under consideration, there are still a few things to think about when choosing channels. Channels fall into several categories: mass media, personal contact, and community channels. Each type of channel has different characteristics that may make it more or less suitable to your audience.

Mass Media

Mass media is the best way to raise your audience's awareness of an issue in a general sense, mainly because it reaches a large audience, and is seen as a credible source of information. Most people rely on the mass media (e.g., television, radio, newspaper) as their primary source of information. However, the mass media are less effective at motivating people to change their behaviors.

Personal Contact

More personal contact has been shown to work better in persuading people to change their behaviors. Information from peers, friends, and family usually is regarded as more useful or more credible than information that comes from an "expert." People are often more likely to believe information that comes from people they know than information from a stranger, especially if that stranger is considered an "outsider" to the community. You may be most effective if you are known and respected within the community. If not, get to know the community's leaders, who may then be able to pass the message along. Try channels that offer more personal, informal contact, such as workshops and staffed exhibits.

An organization in the Puget Sound area found that telephone calls worked better than sending flyers. According to the coordinator of the project, "just sending out flyers is not very effective at all. Newspaper articles are good. But the best method is to start a word-of-mouth campaign with people you know are interested. Calling people on the phone is good. It's personal. They feel like you really want them to help. Then they'll call people they know."

Another organization, also in the Puget Sound area, met with dairy farmers in "kitchen meetings" to discuss water-conscious methods of managing farm animals. Staff members showed a videotape that had been prepared using a narrator familiar to the target audience—a prominent farm broadcaster with a dairy radio talk show. They then started an informal discussion of the issues with the farmers.

Community Channels

Community channels fall somewhere between the media and personal contact. Examples of community channels are schools, companies, community organizations, and religious organizations. These organizations often offer open channels, such as meetings, where you may make presentations and conduct workshops. Even better, the activities of the organizations may reinforce and expand upon your message. For instance, if you give a presentation on local water quality, the organization with which you are working might decide to do a stream-walk or start a citizen monitoring program.

How Many Channels?

Using more than one channel may increase the effectiveness of your message. People are involved in many activities, and you can probably reach them through more than one channel. For instance, people may go to work during the day, and then come home and watch the evening news and read their mail, and then go to a community meeting in the evening. All of these activities offer channels through which you may reach them. Reaching people through more than one channel increases their exposure to the message, and may increase their chances of remembering it or even acting on it. As an example, one group in the Puget Sound region hand-delivered a brochure to peoples' homes. Of those who read it, the majority found it very effective. However, only half of the audience even remembered receiving it. This organization would have benefitted by using another channel in addition to hand-delivering the brochure.

However, be careful if you decide to use more than one channel. Don't spread your resources too thin. It will not be more effective to use more than one channel if you can't use any of them well, and if you can't sustain your program. If you are constrained by resources, choose one channel and use it well. If you have more resources to spread around, then consider using more channels.

Characteristics of Some Media

MEDIA FORMAT	CHANNEL	PROS	CONS
Newsletters	mail, handout	can reach a large audience	printing/mailing is costly
		can be more technical	staff time
			passive, not participatory
Videotape	workshops	can reach a large audience	relatively expensive
	mail	visually pleasing	must be done well
	cable TV	more participatory	
		can show behavior	
Public Service Announcements	TV	free	sometimes aired at night
	radio	can reach a large audience	competition for air time
		can target audience	very passive
			difficult to evaluate
Mass Media	TV	can reach a large audience	constrained by time, space
	radio	good for raising awareness	must be "newsworthy"
	newspapers	usually considered credible	can't explain complex issues
			bad for persuasion
Presentations	workshops	can be participatory	reach smaller audience
	conferences	good for persuasion	staff time
	group meetings	can show behavior	can be too technical
		more personal	people may not attend
Exhibits	libraries	can reach a large audience	staff time
	malls	visually pleasing	must be durable
	fairs		
Freebies	fairs	increases awareness	very short message
i.e., bumper stickers,	"event" days	inexpensive	weak on persuasion
buttons, magnets,		easy to produce	
hats, etc.			

Things to consider when you are choosing media formats and channels

Is your message:

- ___ long?
- ___ sensitive?
- ___ technical?

Do you want people to:

- ___ read or listen to it?
- ___ remember it?
- ___ act on it?
- ___ save it?
- ___ share it?
- ___ refer to it?

Do you want your message to:

- ___ raise awareness?
- ___ inform people how to take action?
- ___ give feedback on action?

Is your audience:

- ___ large?
- ___ spread out geographically?
- ___ well-informed?
- ___ active?
- ___ responsive to messages like yours?
- ___ responsive to the media format you are considering?

Do you have:

- ___ enough money to produce *and* distribute your materials?
- ___ skilled staff capable of carrying out your program?
- ___ available staff, with the necessary time to devote to your program?
- ___ enough time to produce and distribute your materials?

Where to Find More Information

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Fazio, J. R. and D. L. Gilbert. 1986. *Public Relations and Communications for Natural Resource Managers* (2nd ed.) Dubuque, IA: Kendally/Hunt Publishing Company.

National Cancer Institute. 1988. *Making Health Communication Programs Work: A Planning Guide.* Washington, D.C.: National Institutes of Health.

Puget Sound Water Quality Authority. 1991. *Public Involvement and Education Model Projects Fund; 47 Success Stories from Puget Sound.* Olympia, WA: Puget Sound Water Quality Authority.

Planning Your Evaluation

Now that you have:

___ Used secondary research to answer questions about your social, political, economic and organizational surroundings;

___ Identified reasonable goals in consultation with your staff;

___ Defined specific objectives;

___ Identified and broken down your target audience;

___ Learned more about your audience;

___ Developed specific strategies;

___ Selected media formats and channels (see page 23);

___ Planned the tasks and prepared a timeline;

you are ready to plan your evaluation.

Evaluation is a critical element of any program. If you don't do evaluation, how will you know whether you have accomplished anything you set out to do? Because it is an essential part of any communication program, we have devoted two chapters of this handbook to the topic. Chapter 3 describes the planning process for evaluation and Chapter 4 describes specific evaluation techniques you can choose.

Recording the Plan

Now that you have:

___ Used secondary research to answer questions about your social, political, economic and organizational surroundings;

___ Identified reasonable goals in consultation with your staff;

___ Defined specific objectives;

___ Identified and broken down your target audience;

___ Learned more about your audience;

___ Developed specific strategies;

___ Selected media formats and channels (see page 23);

___ Planned the tasks and prepared a timeline; and

___ Decided on an evaluation plan;

you are ready to summarize your program.

At this point, you should have a good idea of how your project will be organized. The planning worksheet on page 33 will summarize your program. This approach requires that you investigate the operational details of the program and estimate the resources required to complete the tasks. Finally, it communicates a lot of information about the project to staff members, management, board members and supporters outside the organization. With this information you can move to chapter two, which discusses how to develop effective messages.

Preparing Your Materials

Now that you have:

- ___ Used secondary research to answer questions about your social, political, economic and organizational surroundings;
- ___ Identified reasonable goals in consultation with your staff;
- ___ Defined specific objectives;
- ___ Identified and broken down your target audience;
- ___ Learned more about your audience;
- ___ Developed specific strategies;
- ___ Selected media formats and channels (see page 23);
- ___ Planned the tasks and prepared a timeline; and
- ___ Decided on an evaluation plan;

you are ready to start preparing your materials.

Chapter 2 gives you tips on designing effective materials, ranging from format and design to using graphics to enhance your materials.

Planning Worksheet

Program ____________________ Project Manager ____________________

Relevant Goals ____________________

Relevant Objectives ____________________

Relevant Strategies ____________________

Target Audiences ____________________

Planning Variables	Planning	Implementation	Follow Up
1. Source of funding			
2. Budgeted expenses			
Salary			
Office Expenses			
Travel			
Materials			
3. Proposed date of completion			
4. Evaluation techniques			
5. Staff members assigned			
6. Budgeted staff time			
7. Organizational resources needed			
8. Interactions with other departments			
9. Interactions with outside agencies or subcontractors (also contact person)			
10. Managers in charge and their date of approval			
11. Possible problems and proposed strategy for a solution			

A Checklist for Planning an Effective Communication Program

Reviewing the Surroundings

Have you analyzed the social surroundings and how they affect your program?

___ What are the political forces that will affect your program? What components of your program will be hindered and improved by these forces?

___ How will your program affect the economy of your community?

___ Is your organization prepared for this program? How can you change the organization or the program to improve the results?

___ Have you answered these questions about your surroundings based upon current conditions and future conditions anticipated once the program begins?

___ Have you relied on the sources of secondary research to answer your questions?

Goals

Have you developed goals that:

___ Are general, broad and all-encompassing, but not conflicting;

___ Provide the staff with something to strive toward;

___ Supply guidance to the program's staff when making decisions;

___ Are internally consistent;

___ Communicate the purpose of the program to the public and entities external to the organization;

___ Provide the basis for developing objectives, strategies and tasks; and

___ Unites the program staff toward the achievement of a common purpose?

Objectives

Have you developed objectives that:

___ Are prioritized;

___ Are important to the organization;

___ Are internally consistent;

___ Are measurable or quantifiable;

___ Have a strong action verb that describes what organizational actions are necessary to achieve a goal;

___ Have a specific purpose (several objectives could be included for one goal)

___ Have a single outcome; and

___ Have a date of completion?

Target Audiences

Have you identified your target audience?

___ Did you conduct research to identify unique characteristics about the target audience?

___ Have you identified the exchange that will occur with the target audience?

___ Have you broken down the target audience into subgroups?

___ Do you understand what the target audience's current level of knowledge is about the issues included in your program?

___ Do you know what communication channels are used by the target audience and whether they have credibility?

Strategies

Have you developed strategies that:

___ Achieve organizational objectives;

___ Describe actions to be taken;

___ Consider the external environmental threats and opportunities;

___ Respond to changes in internal and external surroundings; and

___ Guide daily operation decisions and tasks?

Tasks

Have you:

___ Described the tasks that must occur to reach your target audience?

___ Filled in the planning sheet that summarizes your goals, objectives, strategies and tasks?

___ Filled in the monthly planning sheet that summarizes organizational resources devoted to the completion of each major task?

Media Formats and Channels

Have you:

___ Considered how your message, audience, and available resources affect what media formats and channels you choose?

___ Used the table on page 27 and the checklist on page 28 to help you choose media formats and channels?

Evaluation

Have you:

___ Read Chapters 3 and 4 and selected evaluation techniques?

Recording the Plan

Did you:

___ Summarize information about the project using the summary planning sheet?

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Stein, J., 1986. "The Cancer Information Service: Marketing a Large-scale National Information Program Through the Media." in Leathar, D., Hasting, G., O'Reilly, K., Davies, J. (Eds.) *Health Education and the Media II*. Elmsford, NY: Pergamon Press.

Chapter 2

Tips for Material Design

Ok, now that you have:

- ___ Used secondary research to answer questions about your social, political, economic and organizational surroundings;
- ___ Identified reasonable goals in conjunction with your staff;
- ___ Defined specific objectives;
- ___ Identified and broken down your target audience;
- ___ Learned more about your target audience;
- ___ Developed specific strategies;
- ___ Selected media formats and channels;
- ___ Planned the tasks and prepared a timeline; and
- ___ Decided on an evaluation plan;

you are ready to begin actually designing your materials!

Introduction

This chapter gives you tips on designing effective communication materials. "Effective" materials are ones that people pay attention to, remember, and use. Effective materials should persuade people to change their behaviors to more environmentally-friendly ones, and perhaps, go out and influence others to change *their* behaviors too.

Each tip includes a box called "Link with" that relates it to another tip, as well as a box called "Media" identifying the appropriate media formats. In addition, we have provided examples illustrating these tips from materials produced for EPA's Chesapeake Bay Program and the Puget Sound Water Quality Authority's Public Involvement and Education (PIE) Fund.

The tips provided in this chapter are vital—if you don't use them, people may not even read your materials or listen to your presentation! These tips have been shown to increase the effectiveness of communication materials by increasing peoples' attention and memory, or persuading people to change their behavior.

These tips should help you create appealing, interesting materials that people will pay attention to, remember, and act upon, ultimately improving environmental conditions in your area.

Useful, Relevant Information

Link with	- Concrete Language - Use of Graphics
Media	- All (newsletters, video, workshops, etc.)

All people crave information; that's part of what makes us human. Information helps us understand the world around us and helps us function in that world. However, there is a lot of information out there—too much for most of us to be able to deal with it all. Because of this, people tend to ignore information that doesn't seem like it will be useful to them. If we, as environmental communicators, want to give some information to other people, then, it is very important to give them information that is useful to them, that is relevant to their lives.

Most of us who write about environmental issues probably think that we are writing important, relevant, useful stuff that people should pay attention to. But too often, environmental literature talks about the problems—the greenhouse effect, eutrophication, erosion and runoff, etc. Solutions are rarely discussed (with the exception of books such as *50 Simple Things You Can Do to Save the Earth*.) Knowing more about the problems isn't useful to people; knowing more about solutions is. Therefore, if you can talk about the problems *and* suggest ways that people can tackle the problems, the chances that your audience will pay attention are likely to increase dramatically.

You would think that at least "educating" people about the problems would help. But it usually doesn't. Study after study has shown that simply providing people with information doesn't usually make them change their attitudes, and rarely makes them change their behavior. Think about it; most people know that recycling saves resources. But not everyone recycles. One study has shown that the main reason people don't recycle is that they just don't know how. In this case, people need information that tells them *how* to take action.

Just talking about the problems may raise awareness, but is not likely to lead to changes in behavior that might help improve the situation. Talking about the problems is just giving people more information—information that may very well be ignored because people don't find it useful. People need to know more about the solutions and about actions that they can take. This information is more useful and relevant to them.

What to Do

To make information more useful and relevant to people, explain what they should do with it. Provide solutions. For instance, rather than just talking about the problems associated with runoff from suburban lawns, explain *what* people can do and *how* to go about doing it. If possible, go a step further and explain *how* people can know whether their action worked. And if the action didn't work, *what* should be done next.

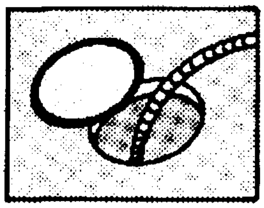
To make your message even more useful, *show* solutions. Use simple graphics. In a video or slide show, you can show pictures of people "doing the right thing." In a workshop or classroom, for instance, you could demonstrate how to make alternative household cleaners in order to reduce the amount of household hazardous waste.

Giving people this more detailed information about what they can do provides a mental link between the problem and personal action that leads to a solution. It is more likely to lead to actual changes in behavior than simply describing the problem. And changes in people's behaviors are more likely to lead to a cleaner environment.

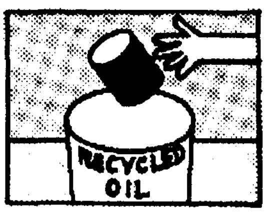
Example of Useful, Relevant Information

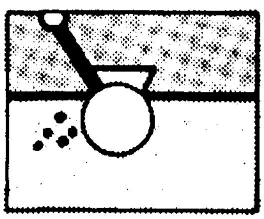
What You Can Do

As important as federal, state and county efforts for cleaner water are, concerned people are still the Severn's primary guardians. The Severn River Association, for example, a group of concerned private citizens, has kept watch over the river since 1903, making it one of the nation's oldest river protection organizations. You can help keep the Severn beautiful.



If your property has a private septic system, be sure it is cleaned and maintained regularly. Whenever possible, replace solid paving with gravel or vegetation that will trap stormwater. Limit fertilizers and, if your land is on a steep grade, take steps to prevent erosion by encouraging the growth of shrubs and other dense ground cover. Make sure that you properly maintain and operate engines and sanitation devices on your boat. Properly dispose of toxic and hazardous substances including oil, paint, anti-freeze, etc.,





instead of pouring them on the land or into stormdrains that go directly into the River. Finally, let your representatives in the government of the city of Annapolis, Anne Arundel County and the state of Maryland know that you and others require that Maryland's Scenic Capital River be restored to good health and sustained for the future.

— from *The Severn River*, a fact sheet produced by **Alliance for the Chesapeake Bay.**

Where to Find More Information

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Concrete Language

Link with	– Useful, Relevant Information – Use of Graphics
Media	– All

Language that is more concrete is more understandable and more likely to be remembered, especially if it is easy to imagine. People tend to skip over more abstract language, but concrete language forms pictures in people's minds that are better remembered—"cemented" in memory.

For example, "pollution" is an abstract term and is difficult to picture. Try it. You are probably picturing a specific type of pollution. "Shiny, oily muck covering the shoreline" might be a more concrete, descriptive phrase for what you are trying to say. If you want people to read (or listen to) and remember your message, make your language concrete. Give people something they can grab onto. Cement your message into their minds.

What to Do

Here are some tricks to help you use more concrete language:

- Stay away from jargon.
- Use examples.
- Use analogies.
- Use descriptive adjectives and adverbs.
- Use active verbs.
- Avoid technical, scientific language.
- Try to picture what you are saying.
- Use graphics to illustrate what you are saying.

Example of Concrete Language

"Earth and water continue to compete for this territory, redrawing the shoreline as land is built up in some areas and lost beneath the waves in other places."

— from *The Chesapeake Bay*, a fact sheet produced by the Alliance for the Chesapeake Bay.

Another Example of Concrete Language

"The variety of conditions supports some 2,700 species. All are linked in a complex, interdependent web of producers and consumers. From the eagle's huge nest high in a wetland tree to the worms in the Bay's bottom sediments, from the microscopic free-floating plants to the pine trees along the Shenandoah, all have a part in maintaining this system's balance."

— from *The Chesapeake Bay*, a fact sheet produced by the Alliance for the Chesapeake Bay.

Where to Find More Information

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Vivid Language

Link with	– Concrete Language
Media	– All

Just as concrete language gives the reader something firm to grasp onto, vivid language allows people to paint a picture in their minds of a scene or situation. Vivid language draws attention and increase peoples' ability to remember the situation being described. By writing vividly, then, you can attract your audiences' attention and increase their chances of remembering what you've said.

How To Create Vivid Language

- Tell a story to draw your reader in and add more "human interest."
- Personalize the information, by giving examples that are closely related to your audience, or by describing people that are similar to those in your audience.
- Describe consequences of action (or no action) in terms of an individual or family rather than a mass such as "the public."
- Use colorful, descriptive adjectives and adverbs.
- Describe something unusual or striking.
- Use emotional or fear appeals. (However, be careful when using fear appeals, as they can also cause your reader to become overwhelmed. You should provide your reader with a way to handle the fear, for instance, by describing actions the reader can take to avoid the fearful situation.)
- Use anecdotes and examples to add color, action, life and interest.
- Encourage your audience to actively participate (even if they are reading) by saying things like "imagine..." or "try to picture..."

Example of Vivid Language

"If you were a Susquehannock Indian living in the early 1600s, the Bay was a mystery—both a source of edible delights and a pathway for your adversary, the Piscataways. If you were a soldier in the War of 1812, you might have fought some bloody battles on its waters. And if you were a coffee merchant in Baltimore in the early 1900s, you very likely depended on the arrival of *The Josephine* for your livelihood."

— from *The Chesapeake Bay*, a fact sheet produced by the Alliance for the Chesapeake Bay.

Where to Find More Information

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Format

Link with	- Use of Titles and Headings - White Space - Use of Graphics - Page Layout and Type
Media	- Written materials

It is important that you create a clear and consistent format in order to help your reader find desired information quickly and easily. An audience that is confused or overwhelmed by the format will not read the material. However, if you are consistent with your format, you will help your reader learn how to use your document, and will greatly increase the chances that your materials will be read. Think about it; how many times have you put a book or article down, even though you know the information you want is in there, because you just can't find that information quickly and easily?

How to Format

Formatting can consist of almost anything, as long as you are consistent about it, and it easy to identify. For instance, some documents show different chapters with different colors or with inked edges. You can set apart titles and headings with lines and blocks. Begin a new section on a new page. Set aside a block on each page that provides a certain type of information, such as a list of "things you can do" or "where to find more information."

Be creative in the way that you format your document. Make it neat and easy to follow, and above all, be consistent. Good formatting essentially allows you to lead your reader by the hand through your document.

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Example of Formatting

23

Car Care

Motor oil, battery acid, gasoline, car wax, engine cleaners, antifreeze, degreasers, radiator flushes, and rust preventatives are examples of automotive products containing toxic chemicals. Some car owners do their own maintenance work: 25 percent change their car's oil, and many of these people pour the used oil down the storm drain. One quart of oil can contaminate up to two million gallons of drinking water. The oil from one engine—four to six quarts—can produce an eight-acre oil slick.

The only recommended way to dispose of used oil is to put it into a sturdy container, like a plastic milk jug, and take it to your neighborhood garage or oil recycling center. Maryland, Pennsylvania, Virginia, and the District of Columbia all have a number you can call to find an oil recycling station near your home.

Disposing of antifreeze is also a problem. Antifreeze contains ethylene glycol, which is poisonous to people, fish, and wildlife. Many cats and dogs have died after drinking sweet tasting puddles of antifreeze they find on driveways in the winter.

Instead of pouring antifreeze down the drain or washing it into storm drains, ask your local service station to add the liquid to their used antifreeze storage drum. You can also dilute the antifreeze and pour the mixture into a gravel pit or any area with good drainage. This method takes advantage of the soil's natural filtering capacity.

Disposing of Household Toxics

The kinds of household toxics described in this chapter should not be disposed of "down the drain." Your drain leads either to a home septic system or a municipal treatment plant, neither of which is designed to completely remove toxic chemicals from wastewater. At least some of the toxics pass through the treatment process and end up in a stream, river, or groundwater. Read the section in this guide on septic systems for further cautions.

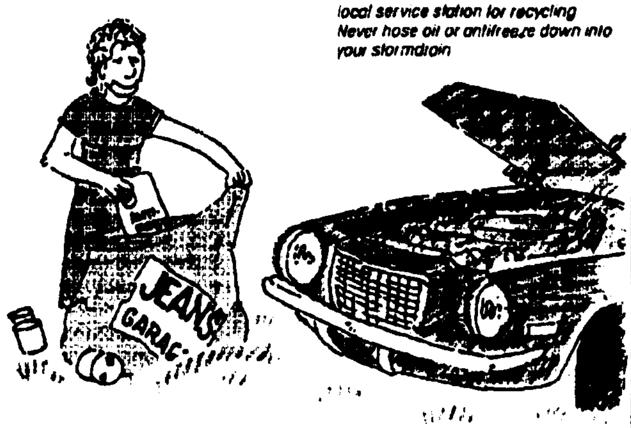
Effective sewage treatment is essential for treating the large volume of wastewater that comes from our homes. Improving municipal treatment plants is a part of the strategy to clean up Chesapeake Bay. Well-run treatment plants can remove some nutrients, organic materials, and heavy metals from wastewater. The chlorine used to disinfect can also be removed by a process called dechlorination. Individuals and communities should insist that the publicly-owned treatment plants that serve them are maintained and operated at peak efficiency. This may mean added cost to consumers, but is essential to good water quality in our rivers and Bay.

The products described in this chapter should also never be poured on the ground or into gutters where they will eventually enter storm sewers, which generally lead directly to a nearby stream.

In many areas, the only available disposal method is the local landfill. While probably better than flushing a toxic chemical down the drain, landfills are not a good long-term solution to our waste disposal problems. New energy needs to go into finding better solutions.

Where household hazardous wastes must be sent to a landfill, a couple of steps can be taken to reduce the environmental risk. First, wrap the product in its original container in newspaper, and then wrap in an old plastic bag. Liquids can be poured into containers filled with absorbent kitty litter, then wrapped in plastic.

Some states are dealing with the problem of hazardous household wastes by sponsoring amnesty days. On amnesty day, small quantities of your unwanted household chemicals and pesticides are collected and disposed of in an approved facility. The actual collection and disposal of the waste should be performed by technicians who know which chemicals should not be mixed together. Amnesty days are designed to educate the general public about the potential hazards of improper use and disposal of consumer products that contain toxic chemicals. Check with your state or county government to find out about amnesty days in your area.



Oil can be recycled. Used oil and antifreeze should be taken to your local service station for recycling. Never hose oil or antifreeze down into your stormdrain.

WHAT YOU CAN DO

Here are some general rules of thumb for handling and disposing of household chemicals.

- Read the label—know what you are buying and what the potential hazards are.
- Store products in their original containers so the label can be referred to whenever the product is used.
- Use alternative, less harmful products whenever possible (for example, boric acid is very effective in controlling roaches).
- Use the least toxic product you can find and never buy more than you need.
- Dispose of your unwanted household chemicals in sanitary landfills. Pour liquids such as cleaning fluids into a plastic container that is filled with kitty litter or stuffed with newspaper. Allow it to dry outdoors before taking it to the landfill.
- Take used motor oil and antifreeze to a gas station with an oil recycling program.
- Insist on effective sewage treatment for your community.

H O U S E H O L D C H E M I C A L S

— from *Baybook* produced by the **Alliance for the Chesapeake Bay.**

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Link with	- Use of Titles and Headings - White Space - Use of Graphics - Page Layout and Type
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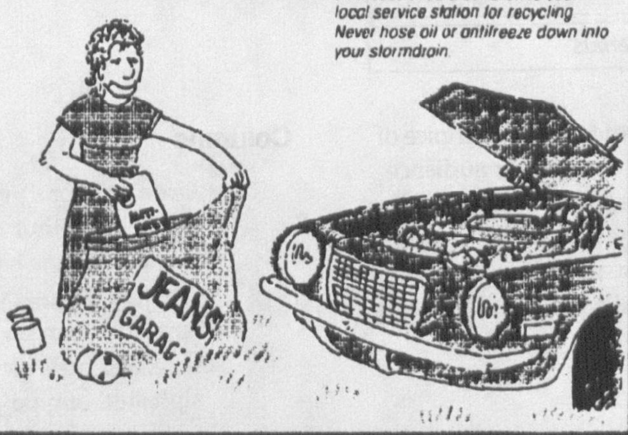

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Insist on effective sewage treatment for your community.

H O U S E H O L D   C H E M I C A L S

— from *Baybook* produced by the **Alliance for the Chesapeake Bay.**

Page Layout and Type

Link with	– Use of Titles and Headings – White Space – Use of Graphics – Format
Media	– Written materials

Like formatting, page layout and your choice of type can determine whether or not your audience will read your material. An appealing layout and easy-to-read type will greatly increase the chances that a person will become a reader. Crowded pages with small type and little white space will probably not be read.

Tips for Effective Page Layout

Type

➤ Use a simple typeface, such as Roman, which is the easiest to read. There should be variations in stroke width, but no serifs.

➤ Use "normal" type for most of your text, rather than bold or italics. Use those only for titles, headings, and occasionally, for extra emphasis. People will not generally read more than one or two lines in italics.

➤ Use a medium-weight type. Avoid delicate types especially if your document is to be printed on textured paper, such as some recycled paper. Avoid heavy type especially if your material is to be produced on a copier.

➤ Use large enough type, generally 10-point or above. If your type is too small, people simply won't read it.

➤ Don't mix type-faces; it is distracting to the reader.

➤ Use black type rather than color type. Use color type only for titles, headings, or bullets.

Columns

➤ Use a two- or three-column format. An easy rule-of-thumb for choosing line width is to choose the type style and size you will use, and then set your line width at no narrower than one lowercase alphabet of type, and no wider than two lowercase alphabets of type.

Other Attention-grabbers

➤ Use bullets.

➤ Use boxes and side-bars.

➤ Use shading or other methods of highlighting.

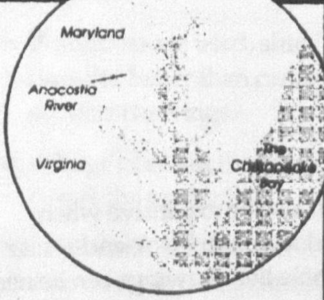
Where to Find More Information

Click, J. W. and R. N. Baird. 1986. Magazine Editing and Production (4th edition) Dubuque, IA: Wm. C. Brown Publishers.

Wilson, K. C. 1986. "How to Create Persuasive Marketing Tools" in C. Degen (ed) *Communicators' Guide to Marketing*. New York: Longman.

Example of Page Layout and Type

Anacostia



THE ANACOSTIA AND THE CHESAPEAKE BAY

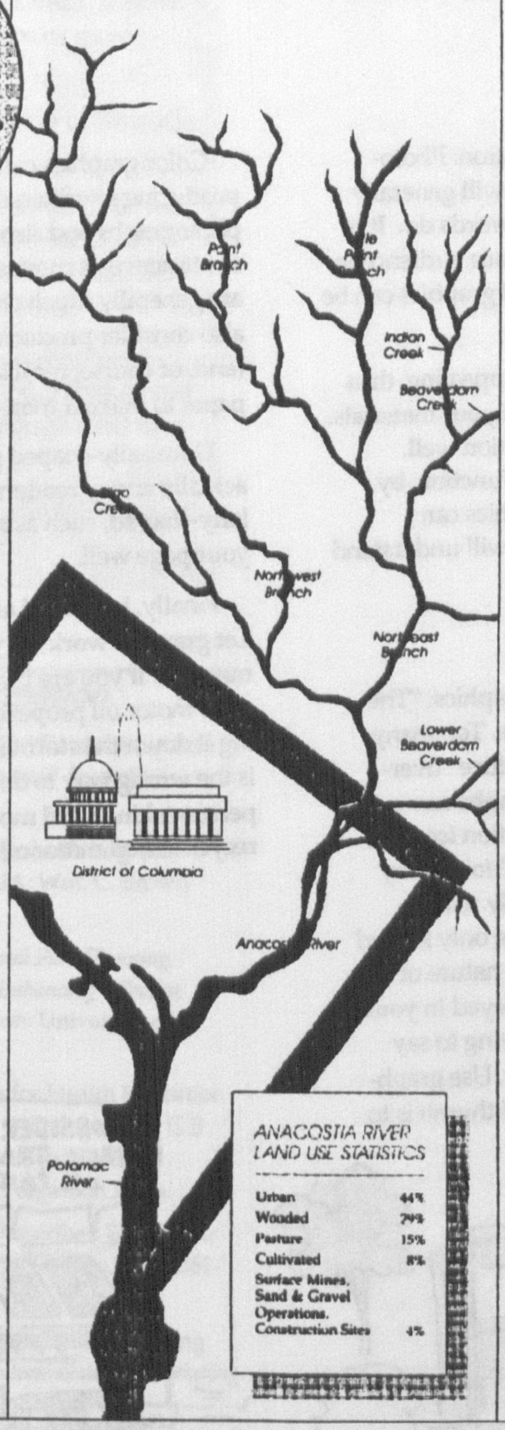
The Chesapeake Bay is a body of water and, like a human body, its health depends on what goes into it. The Chesapeake is fed by 10 major rivers and numerous smaller streams that flow out of Virginia, Maryland, Pennsylvania, and Delaware. These rivers bring the nutrients and fresh water that, when mixed with the ocean's salt water, make Chesapeake Bay the most productive estuary in the United States.

But, as everyone knows, the Chesapeake is not as healthy as it once was. The problems stem, in part, from the declining quality of the rivers that feed the Bay. This fact sheet explains how the Anacostia River contributes to the Bay and outlines some ways to help you keep your river clean.

THE BASIN

The Anacostia proper begins at Bladensburg, Maryland, where the two principal branches of the Anacostia—the Northwest and Northeast branches—meet. The many smaller tributaries of the branches form a broad, fan-shaped drainage basin of 170 square miles. Just below Bladensburg, the Anacostia drops to near sea level and changes from a free-flowing river into a tidal freshwater embayment of the Potomac estuary.

The Anacostia provides a safe harbor for many recreational boaters in the D.C. area. Much of the shoreline of the Anacostia is publicly owned and there is a stream park in almost every portion of the basin. Within the District of Columbia's borders are the Kenilworth Park and Aquatic Gardens, Fort Dupont Park, and Anacostia Park. The National Arboretum also is adjacent to the Anacostia. These natural areas support an array of plant and animal communities and bring a host of outdoor opportunities within reach of many city residents.



ANACOSTIA RIVER LAND USE STATISTICS

Urban	**44%**
Wooded	**29%**
Pasture	**15%**
Cultivated	**8%**
Surface Mines, Sand & Gravel Operations, Construction Sites	**4%**

The sluggish waters of the tidal Anacostia slow and trap sediment and other pollutants that wash into the river. Thus, whatever gets into the Anacostia stays there.

What gets into a river depends a lot on how the land around the river is used. Within the Anacostia basin, land use takes many forms. Outside the Capitol Beltway, rural and suburban areas dominate, while inside the Beltway the landscape becomes increasingly urban. Each type of land use contributes characteristic pollutants to the Anacostia.

ANACOSTIA: TROUBLED WATERS

The Anacostia has been called a lot of dirty names. Words like noxious, foul, and contaminated are frequently applied to this main tributary of the Potomac, a river with headwaters in rural Prince George's and Montgomery counties in Maryland and a main channel in the densely populated sections of Washington, D.C.

The Anacostia's troubles go back a long way. During the eighteenth and nineteenth centuries, large portions of the river's basin were cleared for tobacco, corn, and cotton. Severe erosion followed and sediment accumulated in the Anacostia. (The Anacostia was prone to sedimentation even in its natural state, because of the composition of the surrounding soils.) By the mid-nineteenth century, it was impossible for ocean-going ships to navigate up river to the once thriving port of Bladensburg.

Suspended sediment in the Anacostia limits the river's ability to support game fish and other aquatic life. Other conditions, including high levels of ammonia and harmful bacteria, low amounts of dissolved oxygen, and excessive amounts of trace elements such as iron, lead, and zinc add to the Anacostia's share of troubles.

— from *The Anacostia River*, a fact sheet produced by the **Alliance for the Chesapeake Bay.**

Use of Graphics

Link with	– What Kind of Information – Concrete Language
Media	– fact sheets, newsletters, workshops, speeches, video, slides

Graphics Can Be Great

Graphics tend to capture our attention. Photographs, drawings, maps, and graphs will generally attract our eyes on a page before the words do. It is important to attract the attention of your audience in order to get your message across, and graphics can be a useful way to accomplish this.

Graphics can also be emotionally appealing, thus increasing your reader's enjoyment of your materials. Beautiful photographs serve this function well. Graphics also serve an informational function, by visually simplifying your point. Graphics can increase the chances that your reader will understand and remember the text.

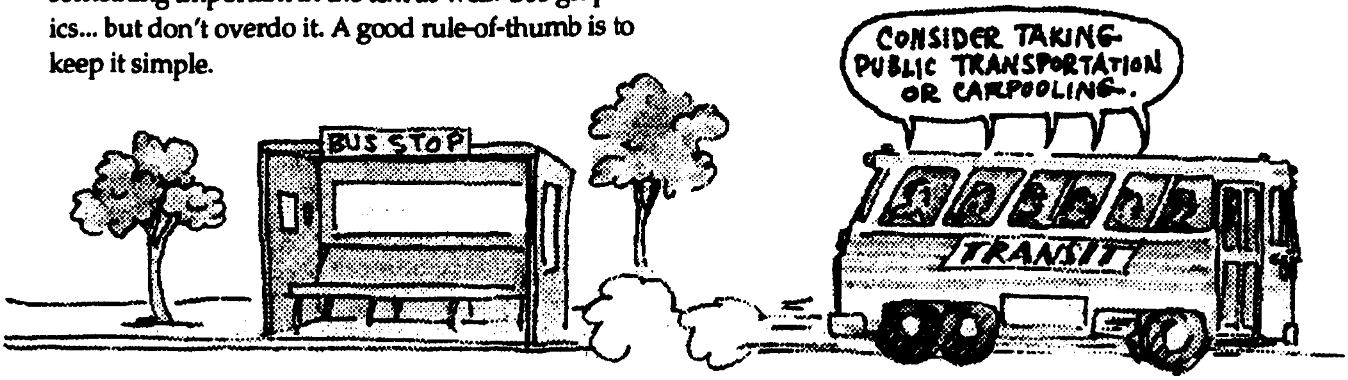
But Be Careful

However, be careful when using graphics. "The more, the better" is not necessarily true. Too many graphics and too many colors can produce "overload" and overwhelm us. Complex graphs can confuse us. Graphics can capture attention *too* well, drawing attention away from the text. How many people, for example, have never actually read a "National Geographic" article, but have only looked at the pictures? The attention-grabbing nature of graphics is fine if your message is conveyed in your graphics, but is less useful if you are trying to say something important in the text as well. Use graphics... but don't overdo it. A good rule-of-thumb is to keep it simple.

Color graphics can also be expensive when producing a written document. Black-and-white photographs and simple line drawings can be nearly as attractive as more elaborate, color graphics, and are generally much cheaper to produce. You might also consider producing your document on colored (and, of course, recycled) paper stock instead of white paper to make it more eye-catching.

Unusually-shaped graphics have been shown to actually annoy readers. Make your graphics regularly-shaped, such as square or rectangular, to fit your page well.

Finally, be careful about what your graphics say! Let graphics work for you by reinforcing your message. If you are trying to get people to dispose of used motor oil properly, *don't* show someone pouring it down the storm sewer, even if the text says this is the wrong way to do it. Instead, show a picture of a person taking used motor oil to a garage that clearly recycles used motor oil.



— from the *The Puget Soundbook* produced by the Marine Science Society of the Pacific Northwest. Used with permission.

Tips on Using Graphics Effectively

- ➤ Large illustrations are better than small ones.
- ➤ Photographs are more effective than sketches.
- ➤ If sketches are used, simple, clear, realistic ones are better than cartoons or more abstract drawings.
- ➤ A large photo at the beginning of an article draws the reader in.
- ➤ Bright colors attract our attention, but we react to their "temperatures." Reds and oranges are considered "hot" while blues and greens are considered "cool."
- ➤ Pictures grouped together have greater interest than pictures scattered throughout an article. They can also then be used to "tell a story."
- ➤ Graphics are especially useful for showing "how to" type information.

Where to Find More Information

Click, J. W. and G. H. Stempel, III. 1976. "Reader Response to Front Pages with Four-Color Halftones" *Journalism Quarterly*, 53: 736-738.

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Stewart, A. 1986. "The Design of Print for Health Education — Principles for Communication" in D.S. Leather, G.B. Hastings, K. O'Reilly, and J.K. Davies (eds.) *Health Education and the Media II*. Oxford: Pergamon Press.

Taylor, J. G. and T. C. Daniel. 1984. "Prescribed Fire: Public Education and Perception" *Journal of Forestry*. 82(6): 361-365.

Wilson, K. C. 1986. "How to Create Persuasive Marketing Tools" in C. Degen (ed) *Communicators' Guide to Marketing*. New York: Longman.

Titles and Headings

Link with	– Format – Graphics
Channels	– written materials, speeches, workshops

Titles

Like graphics, titles serve a very important role in getting the attention of your audience. The purpose of a title is to capture your audience, to get their attention, and to persuade them to read what follows.

There are two types of titles: descriptive titles, which tell your reader what the article is about, and suspenseful titles, which tease your reader and arouse curiosity by withholding information that the text will reveal. Descriptive titles are probably used more frequently and are used under the assumption that the subject of the text is interesting enough to entice the reader.

Headings

Your audience is much more likely to read your material if it is laid out clearly and logically, so that the reader is able to navigate through the material. Just as a person travelling in a strange new place looks for landmarks and signs as clues to help understand the environment, a reader looks for organizational clues to help understand the structure of the material and the types of information that are to be found. Headings contribute greatly to this effort, serving as "landmarks" for the reader. Your audience is much more likely to read your material if they can just glance at it and get an understanding of how it is organized and what is to be found within it. And, as we've stated before, getting your audience to read your material is the first step in getting them to change their behaviors.

Judging from the research that has been done, it doesn't seem to matter whether your headings are placed within the text or are placed to the side of the text in the left margin. However, it has been shown that headings help people recall, search, and retrieve information from your material. So, by using headings, you can not only get your audience to read your material, you can also help them to remember and use it. And chances are, this is exactly what you are trying to accomplish.

Creating Good Titles and Headings

- Make sure that your title is specific enough that it could not easily fit another article.
- Use a very basic typeface (such as Roman); people don't like fancy, unfamiliar fonts.
- Make your titles and headings a little bigger than your text so that they stand out.
- Use boldface or italics (but do not use italics for more than one line of text; studies have shown that people do not like to read italics.)
- Set your titles and headings off from your text with some space above and below them. By doing this, you make your titles and headings stand out more and you increase the amount of white space on your page.
- Use rhyme, alliteration, puns, figures of speech, and other literary tricks to make your titles more "catchy."
- Use subtitles to create a "bridge" from your title to your text.

Example of an Eye-catching Title

and heavy metals remain in the water for many years and end up in the fish and shellfish we eat and the water our families drink.

Cleaning up our polluted waters and shoreline can cost millions of dollars which we all pay for eventually. But, by properly disposing of used motor oil you can be part of the solution and prevent water pollution.

HERE'S THE GOOD NEWS!

Luckily, used motor oil never wears out. Dirty motor oil can be reprocessed and then recycled and used again because it never loses its lubricating properties.

To recycle your used motor oil, use the attached coupon at any of the retail C.A.R.* Oil Committee companies listed below for a discount on the purchase of a reusable oil recycling kit. The people in each store can tell you how to collect your used motor oil and where to take it for recycling.

— from a brochure prepared by the *Change and Recycle (C.A.R.) Oil Committee.*

Use Headings in Speeches Too

Even if your audience will be listening to a speech or workshop, or viewing a videotape, it is important to provide them with a "map" of your presentation by enabling them to understand the structure of your presentation. People should be able to identify the headings in your presentation, even if they aren't always spoken out loud.

Another trick to helping your audience understand the organization of an oral presentation is to hand out an outline with the headings on it. Be careful though; you don't want to have so much writing on your outline that your audience is reading instead of listening to your talk. Use brief phrases or bullets— just enough to allow the audience to follow along easily.

Where to Find More Information

Click, J. W. and R. N. Baird. 1986. *Magazine Editing and Production* (4th edition) Dubuque, IA: Wm. C. Brown Publishers.

Kaplan, S. and R. Kaplan. 1982. *Cognition and Environment: Functioning in an uncertain world.* New York: Praeger.

Simmons, D. A. 1983. *The Use of National Park Planning Workbooks for Citizen Participation: Enhancing Effective Communication.* Doctoral dissertation: University of Michigan.

Stewart, A. 1986. "The Design of Print for Health Education — Principles for Communication" in D.S. Leather, G.B. Hastings, K. O'Reilly, and J.K. Davies (eds.) *Health Education and the Media II.* Oxford: Pergamon Press.

White Space

Link with	– Format and Page Layout
Media	– written materials

When preparing your newsletters, fact sheets, or brochures, chances are that you will have a lot of information that you want to share. But you probably also have a page limit. BEWARE! Don't just "pack it all in" by reducing type size or margins. People are easily turned off by a busy page that looks like it has too much information.

"White space" refers to the empty space around text and graphics. While it may seem like a trivial detail (after all, what you have to say is important!) keep in mind that the amount of white space on a page has been shown to affect whether or not people keep reading and whether they remember what they have read. If you want people to read and remember your document, make sure you have plenty of white space on the page!

There isn't any rule-of-thumb for deciding what the "right" amount of white space is. But since you will most likely err on the side of too little white space rather than too much, keep this in mind, and make a concerted effort to create white space. Graphic designers are generally experienced at judging white space; consult one if you can.

Creating White Space

While judging white space is somewhat intuitive, there are some easy ways to create more white space on a page.

- ➤ Use wide margins.
- ➤ Use a two-column format.
- ➤ Leave space around your graphics; don't let your text overlap your graphics.
- ➤ Use shorter words, which creates more spaces between words.
- ➤ Leave a line between paragraphs.
- ➤ Indent paragraphs, rather than blocking them.
- ➤ Leave at least one line above and below headings or titles.
- ➤ Don't wrap text around graphics.
- ➤ End paragraphs toward the beginning of a new line, which creates white space by leaving the rest of the line blank.

But be careful!

Don't create too much white space toward the inside of your layout. It tends to make your layout seem less unified. Put much more white space toward the outside of your layout, for instance, by using wide margins, to create a better feeling of space and to unify the text.

In addition, if you decide to use another paper color besides white, be sure that there is still sufficient contrast between the ink color and the paper color.

Example of White Space

We all use Puget Sound

The quality of our lives depends greatly on the quality of the environment in Puget Sound.

Puget Sound's wealth of habitats provides food and shelter for more than wildlife: humans have shared the abundance of the Sound for more than 10,000 years. The Sound's first residents built their homes, harvested shellfish, caught salmon, hunted coastal birds and mammals and used native plants in ways that barely altered the natural order of the Sound.

Puget Sound continues to support a wide range of human endeavors. While all of these activities contribute greatly to the economy of the state, they also present new challenges to Puget Sound.

— from *Puget Sound: Our Heritage at Risk* produced by the **Puget Sound Water Quality Authority.**

Where to Find More Information

Bostian, L. R.. 1970. "Effect of Line Width on Reading Speed and Comprehension." *Journalism Quarterly*. 53:328-330.

Click, J. W. and R. N. Baird. 1986. *Magazine Editing and Production* (4th edition) Dubuque, IA: Wm. C. Brown Publishers.

Smith, J. M. and M. E. McCombs. 1971. "The Graphics of Prose" *Journalism Quarterly*. 48:134-6.

Swartz, D. 1987. "The Newsletter" in *Media Resource Guide*. Los Angeles: Foundation for American Communications (FACS).

A Checklist for Effective Material Design

Have you...

provided useful, relevant information by:

- ___ explaining specifically what your audience can do to help *solve* a problem, in addition to describing the problem?
- ___ showing solutions through graphics or presentations?

used concrete language by:

- ___ avoiding jargon?
- ___ using examples?
- ___ using analogies?
- ___ using descriptive adjectives and adverbs?
- ___ using active verbs?
- ___ avoiding technical, scientific language?
- ___ picturing what you are trying to say?
- ___ using graphics to illustrate what you are saying?

used vivid language by:

- ___ telling a story?
- ___ personalizing the information to your audience?
- ___ describing consequences in terms of an individual or family?
- ___ describing something unusual or striking?
- ___ using emotional or fear appeals?
- ___ giving anecdotes or examples?
- ___ encouraging your audience to actively participate?

created an easy-to-follow and appealing format by:

- ___ using colors or shaded areas?
- ___ using lines or blocks?

used an effective page layout and type by:

- ___ using a simple typeface, such as Roman?
- ___ avoiding italics and bold face except for titles, headings, and occasional emphasis?
- ___ using a medium-weight type?
- ___ using large enough type?
- ___ avoiding a mix of types?
- ___ using a two- or three-column format?

Have You...

used graphics effectively by:

- ___ using a large picture to draw your audience in?
- ___ using photographs?
- ___ using bright colors that evoke the right "temperature"?
- ___ using simple line drawings?
- ___ avoiding overload?
- ___ avoiding complex graphs?
- ___ avoiding unusually-shaped graphics?
- ___ using your graphics to show what you are saying?

created an adequate amount of white space by:

- ___ using wide margins?
- ___ using a two- or three-column format?
- ___ leaving space around your graphics, titles and headings?
- ___ using shorter words?
- ___ leaving a line between paragraphs?
- ___ indenting paragraphs?

used titles and headings effectively by:

- ___ creating a title that is specific?
- ___ using a basic typeface, like Roman?
- ___ making your titles and headings larger than your text?
- ___ using boldface or italics?
- ___ leaving white space around your titles and headings?
- ___ using rhyme, alliteration, or other literary tricks?
- ___ using subtitles to create a bridge from your title to your text?
- ___ constructing your oral presentation so that headings can be clearly understood?
- ___ prepared an outline to hand out for your oral presentation?

Chapter 3

Understanding Your Evaluation

Introduction

Evaluation is as critical as the goals and objectives of your program. You should begin formulating your evaluation when the program begins; it is part of the planning process. Without an evaluation system you will be wasting precious time and money.

If you are ever hesitant to use evaluation in a program, ask yourself the following question: would you invest your own money knowing that you would not get any feedback on the performance of the investment? If your answer is "no," then why would you bother to spend thousands of dollars and many hours working on an outreach program without knowing whether it has achieved its goals and objectives?

Unfortunately most projects do not use evaluation. Those that do use evaluation often make many misleading assumptions.

For Example

A $39,350 grant was used to explain wetland functions to real estate developers. The success of the project was based on requests for workbooks, slide shows or additional information and evaluation forms from workshops. Although these are good components of evaluation, the requests for information cannot be directly related to a developer's understanding of the material or a change in attitude or behavior.

Others think that evaluation is expensive and requires much expertise. Sometimes this is true, but there are easier and less expensive methods that can be used. If you understand the tradeoffs between using less complicated evaluation methods, then it is easier to make a decision and justify your choices.

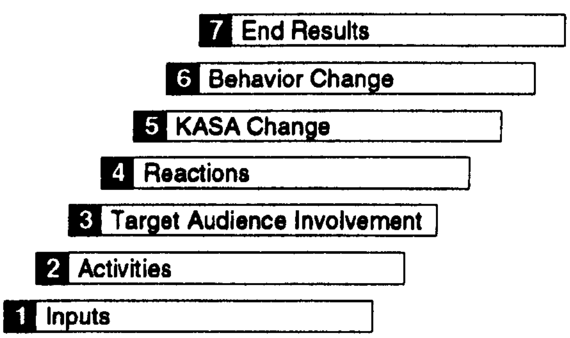
This section will give you a better understanding of evaluation and its role in your program and it will explain the four types of evaluation. Also, you can expect to learn about the trade-offs that occur when you select different evaluation methods. Keep in mind that Chapter 3 presents an overview of evaluation. Please consult the references listed at the end of the chapter before you begin the evaluation. In the next chapter, you will be exposed to specific evaluation techniques.

Understanding the Relationship of Evaluation to the Program

Before deciding on the evaluation techniques you want to use, it is important to think about the components of most outreach programs. Typically, programs follow a natural flow of development. The end results of the programs are often obtained if the following events occur:

- **End results** are the ultimate objectives, and are reached by...
- **Changes in behavior**, which result from...
- **Changes in knowledge, attitudes, skills and/or aspirations (KASA)** influenced by...
- **Reactions** to the program, which are a function of...
- **Target audience involvement**, which happens due to the...
- **Educational activities** offered as a result of...
- **Inputs** into the program of time and other resources.

This list, called "Bennett's Hierarchy of Evidence for Program Evaluation," is a good description of how many programs should transpire. The same list is exhibited below in a summary format.



It is important that you understand what is included in each of the Hierachy's components. The following descriptions give a brief summary of each step.

1 **Inputs** – Program inputs are the resources that are used to make the program work. They could include money, staff, volunteers, office space and supplies.

2 **Activities** – Activities can include internal events such as planning and the external events that involve the target audience.

3 **Target Audience Involvement** – The target audience should be involved in the program activities. They could participate in a survey, read an article or do water sampling.

4 **Reactions** – The target audience members will have some type of reaction to the activities. Reactions could range from "I really don't care about your program!" to "That was interesting; how do I find out more?"

5 **KASA Change** – The program may change either knowledge, attitudes, skills or aspirations of the participants. For example, a member of the target audience may learn how to recycle motor oil safely.

6 **Changes in Behavior** – Hopefully, as a result of the activities, there will be some sort of change in the behavior. For example, participants are now recycling their oil instead of pouring it into the sewer.

7 **End Result** – Results should closely reflect the program's overall goals and objectives developed when the program was planned.

Try to think of the components of your program that would fit into these steps and then list each component on a worksheet. With this knowledge you can begin to think about the types of evaluation that you will use to evaluate the different steps of the program.

Hierarchy Steps	Your Program Components
7. End Results	
6. Behavior Change	
5. KASA Change	
4. Reactions	
3. Target Audience	
2. Activities	
1. Inputs	

Understanding the Types of Evaluation

Now that you have:

___ Related your program components to Bennett's Hierarchy;

it is imperative that you learn about the four types of evaluation, each of them focusing on unique parts of the program.

Evaluations can be done at the beginning or end of a program, as well as anywhere between these points. Evaluation methods have been designed for each of these periods. The four types of evaluation and examples from the Puget Sound (Washington) program follow.

Formative Evaluation (before)

A formative evaluation is undertaken to test materials and ideas and to understand target audiences before a project is started.

Example

Materials for an elementary–school wetlands program were selected by an advisory group of experienced teachers.

Process Evaluation (during)

Using process evaluation, you can monitor activities of the program and provide timely information to staff and sponsors. Process evaluation allows you to change your program in response to feedback.

Example

The City of Bellevue, Washington, wanted to reduce nonpoint pollution by developing workshops that targeted businesses. They monitored the number of businesses attending workshops and requests for technical assistance.

Outcome Evaluation (afterwards)

Short-term results of the program can be measured using outcome evaluation.

Example

An evaluation form was attached to a handbook produced about the Skagit River Watershed. The questionnaire asked questions about behavior change and a general understanding about the handbook.

Impact Evaluation (much later)

Longer-term results may vary from the short-term, so impact evaluation can be used to measure the ultimate outcome of the program.

Example

An education program designed to educate septic system pumpers was established by the Thurston County Health Department. To measure the success of a certification course, the County continuously monitors the number of reports of illegal sewage dumping and improperly pumped tanks.

Linking Evaluation Techniques to the Steps of the Hierarchy

Now we can add another column to the previous planning worksheet. You must decide which evaluation techniques will be used at various steps in the program. However, this is not an easy step in the process, because there may be more than one evaluation method at any given step and there are tradeoffs when deciding when to do evaluation.

Hierarchy Steps	Your Program Components	Type of Evaluation Selected
7. End Results		
6. Behavior Change		
5. KASA Change		
4. Reactions		
3. Target Audience		
2. Activities		
1. Inputs		

Since this can be a very complicated process, the following table can be used as a general guide. The table shows which types of evaluation are appropriate for each step in the hierarchy.

	Type of Evaluation			
Hierarchy Steps	Formative	Process	Outcome	Impact
7. End Results		X	X	X
6. Behavior Change		X	X	X
5. KASA Change		X	X	X
4. Reactions		X	X	X
3. Target Audience	X	X	X	
2. Activities	X	X		
1. Inputs	X	X		

Once you know the possible types of evaluation, you can begin the more complicated process of selecting specific techniques. In the next section, you will learn about the specific steps that must be taken to develop an evaluation. Also you will be exposed to several of the tradeoffs that exist when you are selecting a technique.

Step 1 of Developing Your Evaluation

Now that you have:

___ Related your program components to Bennett's Hierarchy; and

___ learned about the four types of evaluation;

the purpose of the evaluation must be defined. This will allow you to begin planning which types of evaluation will be used in your program.

Step 1 Decide on the purpose of the evaluation.

Usually the criterion for this decision is based on the program's goals and objectives. First, turn each of the objectives into questions. To answer the questions, decide upon a type of evaluation. Finally, specific evaluation techniques must be selected to gather the evidence.

Here is an example of how to apply this to your project.

Program Goal

Protect surface and groundwater quality by developing programs that influence the target audiences.

This goal could result in the following objectives at each level in the hierarchy.

Hierarchy Steps	Program Objectives
7. End Results	Improve the average water quality levels in the watershed by 4%, before June 1, 1993.
6. Behavior Change	Encourage the target audience to increase the volume of used motor oil that is recycled, at the three recycling centers, by 50% before June 1, 1993.
5. KASA Change	Ensure that 20% of the target population has the knowledge needed to dispose of used motor oil by April 1, 1993.
4. Reactions	Eighty percent of the members in the target audience should think that the program brochures and presentations are understandable by the end of the first month of activities.
3. Target Audience	At least 60% of the program participants should exhibit the characteristics of the target audience by the end of the first month of the program.
2. Activities	Staff will decide, through market research, who is most likely to change his or her own motor oil at home and how many people are in this group. This will occur by September 1, 1990.
1. Inputs	Staff members will recruit two volunteers that can contribute 300 hours over the life of the project, before July 1, 1990.

For this example we will focus on step six of the Hierarchy. Perhaps your program wants to change the behavior of people who perform maintenance on their cars at home. The program could seek to ensure that used motor oil is properly disposed at collection centers that recycle the oil.

Next, turn the objective into a question and develop the framework for the evaluation:

Hierarchy Step	Program Objective	Objective as a Question
6. Behavior Change	Encourage the target audience to increase the volume of used motor oil that is recycled, at the three recycling centers, by 50% before June 1, 1993.	Has the volume of used motor oil increased by 50% at the designated centers before the deadline? Did the target audience cause the increase of 50%?

Step 2 of Developing Your Evaluation

Now that you have:

- ___ Related your program components to Bennett's Hierarchy;
- ___ Learned about the four types of evaluation;
- ___ Defined the purpose of the evaluation; and
- ___ Turned your objectives into questions that must be answered in the evaluation;

you are ready to go on to Step 2.

Step 2 Identify internal and external constraints.

Many internal and external factors will influence your ability to select evaluation techniques. These constraints must be identified and their impact on the evaluation must be understood. These internal and external factors will affect:

1. At what stage of the program an evaluation will occur.
2. What techniques will be used to complete the evaluation.

Next, ask yourself several questions that will help you evaluate the internal and external issues affecting your evaluation.

Internal Constraints

- ➤ How much money is available to complete an evaluation?
- ➤ Does the staff have any experience with doing evaluations?
- ➤ Are experts available and is money present to pay for these services?
- ➤ Are there enough computers and support staff to manage the information collected through evaluation?
- ➤ Do you need quick and regular feedback from the evaluation?
- ➤ What is the time frame for the program?
- ➤ Has it been difficult to develop common goals and objectives that everyone could agree upon?
- ➤ Would the full impact of the program be noticed before the funding ends?
- ➤ Can the evaluation method be applied if the program changes?
- ➤ Is the purpose of the evaluation to focus on program improvement while the program is going on?
- ➤ Is the evaluation designed to learn about the overall effectiveness of the program?
- ➤ Does the staff or management feel threatened by having their program evaluated?
- ➤ Are the staff and management prepared to make program changes based upon evaluation results?
- ➤ Are organizational policies in place that promote program change based upon critical feedback?
- ➤ What will be done with the results of the evaluation?
- ➤ Will the results be used by program staff to improve the program?

External Constraints

- Are there external factors that could affect the results of the evaluation?
- Is the program accountable to the public, other organizations or to funding sources?
- Will the results be used by contributors or management to decide whether the program achieved the expected outcomes?
- Are you dependent on external parties to complete the evaluation?

Answers to these important questions will help you decide at what levels of Bennett's Hierarchy you should evaluate. Information included in the following step will assist you with this decision.

Step 3 of Developing Your Evaluation

Now that you have:

___ Related your program components to Bennett's Hierarchy;

___ Learned about the four types of evaluation;

___ Defined the purpose of the evaluation;

___ Turned your objectives into questions; and

___ Identified internal and external constraints;

you are ready to go on.

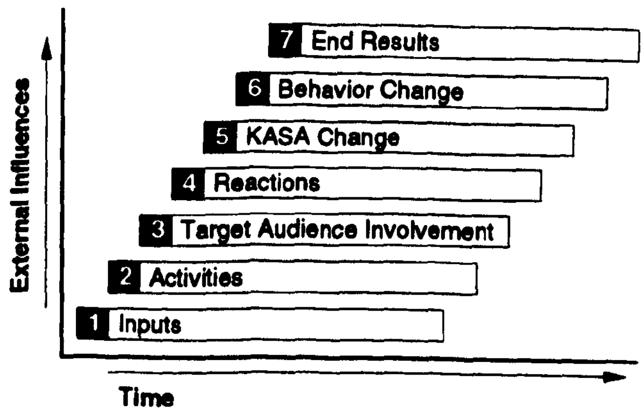
Step 3 Decide at what stages of the program you want to do evaluation based upon the internal and external constraints.

Since your organization's resources may be limited, this is a critical decision. Of course, there are tradeoffs when deciding when to do the evaluation, but if you have good information you can make intelligent decisions. Also, your organization can explain the weaknesses and strengths of selecting various techniques to sponsors and critics that are interested in your program.

The points included in this section are not designed to discourage you from selecting steps to evaluate. Instead, they are included to help you plan and make rational decisions. Just think of these comments as words of wisdom. They could save you time, money and frustration. You will be able to avoid mistakes and false starts if you rely on these ideas. However, there are exceptions to every one of these rules, so if you are certain that it does not apply to your program, then please, disregard it!

External Influences

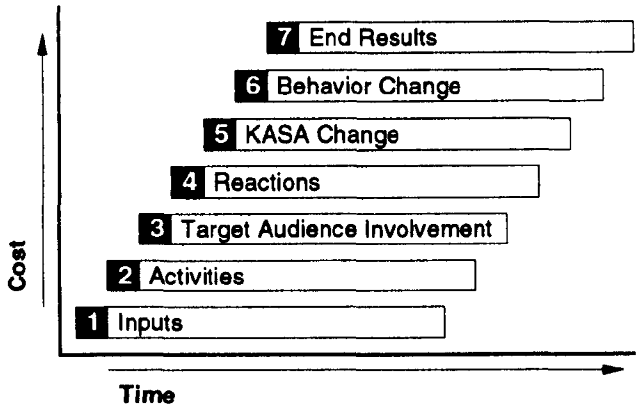
The higher up the hierarchy that you go, the greater probability that the program results will be influenced by external factors. Therefore, it is more difficult to design evaluations that can deflect those problems.

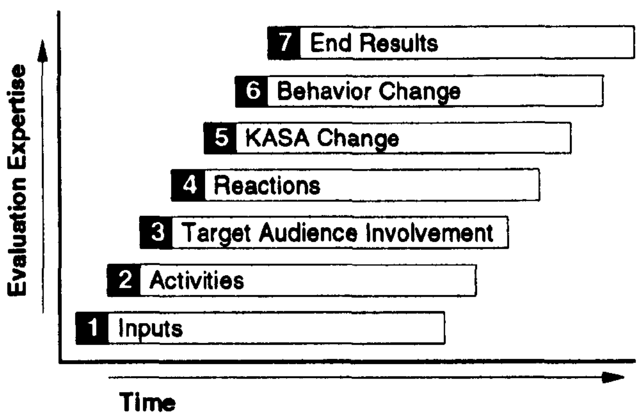


The world does not stop as your program progresses. The ultimate results of the program may be influenced by many factors along the way. For example, people are becoming more aware of environmental issues because of news coverage etc., so they may change their behavior or receive new knowledge even if the program did not exist. Also, local zoning ordinances or state and federal laws could change, requiring higher levels of water quality. Again these changes could influence any of the expected outcomes in the program. Finally, it is hard to control who enters the program, when they enter and when they decide to drop out of the program. Therefore, it is often difficult to associate results, which may occur long after program activities, with the efforts of the program.

Cost and Evaluation Expertise

As you move up the hierarchy, it is usually more expensive to collect data and requires more time to obtain results. Also, more expertise is required to design evaluations, analyze data and provide feedback.



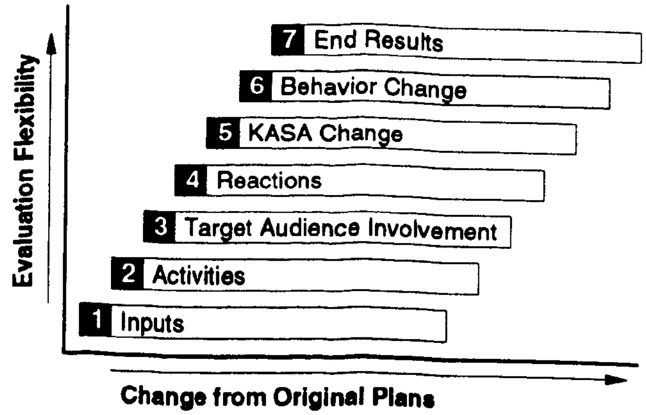


Evaluating higher levels, such as program outcomes, can be much more difficult than evaluating lower levels of the Hierarchy. This is usually true because the results are often far removed from the program activities. The sources of evidence linking the program activities to the results are scattered. Sometimes it is not clear whether the program activities caused the results. Evaluation techniques require more expertise to separate external influences from the actual program. Therefore, the cost of collecting data increases.

Evaluation Flexibility

The program is likely to change as it develops. Program evaluation techniques that are selected for higher levels of the hierarchy must be flexible enough to respond to change.

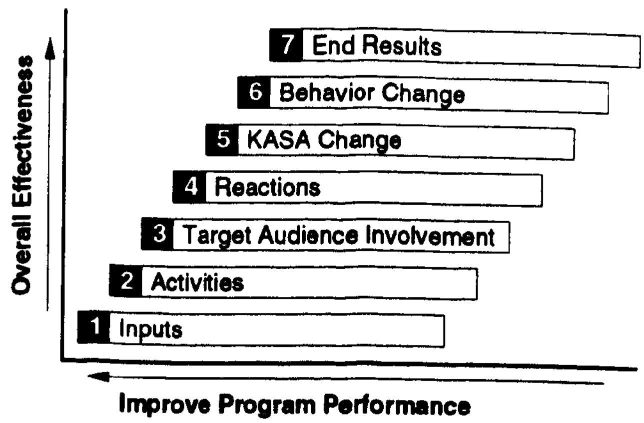
Your program will start off with a master plan, but those plans may have to change. If you select an evaluation technique that is rigid, you may have trouble using the approach. Simple studies that question the before–and–after results of a program may not be useful if the program content changes. Many evaluation techniques are not flexible enough for change. Often they require systematic comparisons of the conditions before the program began to determine the impacts of the program.



Overall Effectiveness

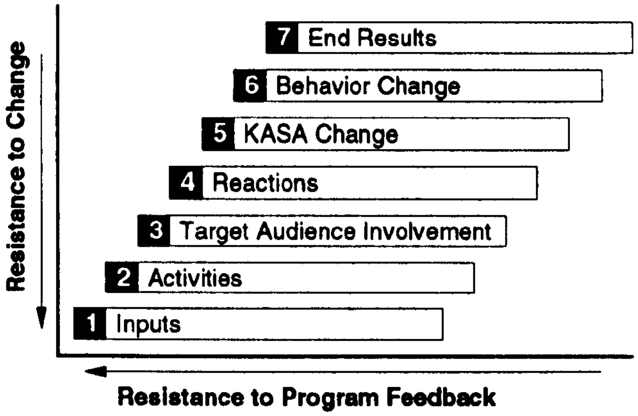
If the main focus of the evaluation is to increase the program's performance, it is important to apply more evaluation techniques at the lower levels of the hierarchy. Overall program effectiveness requires evaluations to be conducted at the upper levels of the hierarchy.

If you are going to improve a program, the evaluation information must be collected early in the program. Changes can then be made to the program and results monitored. However, if the focus is to evaluate whether the overall program was effective, then behavior change or end results may be more important. Of course, a program could include both objectives.



Resistance to Evaluation

Selecting techniques to evaluate the lower end of the hierarchy would be better if your staff or management is resistant to change or feedback.



Many organizational structures seem to be surrounded by concrete. Although they may try a new program, often they do not change their ways. Their organizations are not motivated to improve or make changes. This can be caused by upper management or by lower level employees. Or it can be caused by policies, rules or regulations. Most evaluation activities that focus on the higher levels of the Hierarchy are more involved and require greater levels of commitment by the organization. Staff may resent these activities and ignore the results.

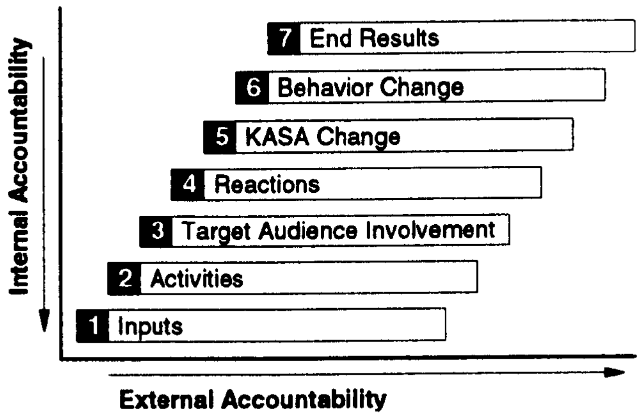
In contrast, evaluation at lower levels is often less threatening and can involve the staff and management in positive ways. Usually these evaluations require fewer resources and occur over a shorter period. Also, they usually require less technical knowledge.

Additional benefits of this type of approach are:

- ➤ the staff can accept ownership for the ideas;
- ➤ opponents will discount their impact because they are small changes;
- ➤ many of these evaluation tools require less change in employee routine; and
- ➤ large program improvements can come from small changes.

Upper End Evaluation

If your organization is accountable to external sources, there may be more concern with evaluation at the upper end of the hierarchy. However, internally, evaluating the lower end of the hierarchy often has a greater impact on the success of the program.



Evaluations that pretest ideas and messages are most important internally. These methods can provide the feedback that allows the program managers to make appropriate changes. In contrast, forces outside the organization are more likely to want information about the end result. It is important to balance these goals and ensure that there are evaluations occurring at levels of the program that are beneficial to those inside and outside the organization.

Step 4 of Developing Your Evaluation

Now that you have:

___ Related your program components to Bennett's Hierarchy;

___ Learned about the four types of evaluation;

___ Defined the purpose of the evaluation;

___ Turned your objectives into questions;

___ Identified internal and external constraints; and

___ Considered the tradeoffs involved with deciding what levels of the Hierarchy to evaluate;

you are ready to continue.

Step 4 Select a type of evaluation to be used at the different levels of the hierarchy.

Based upon the previous section, you should have some idea of the tradeoffs of conducting evaluation at different stages in the program. Now you need to decide what types of evaluations you want to complete. As mentioned at the beginning of this section, there are four categories of evaluation. Each type has unique applications at different steps of the program.

Overall evaluation results will be improved by doing evaluations at several different points in the program and by applying more than one type of evaluation. For example, it would be better to apply formative *and* process evaluation instead of only using process evaluation.

	Type of Evaluation			
Hierarchy Steps	Formative	Process	Outcome	Impact
7. End Results		X	X	X
6. Behavior Change		X	X	X
5. KASA Change		X	X	X
4. Reactions		X	X	X
3. Target Audience	X	X	X	
2. Activities	X	X		
1. Inputs	X	X		

Formative Evaluation

Formative evaluation involves pretesting ideas and/or messages or other program materials. There are many techniques that can be used at this level of program development.

1 – Confirming Target Audience

Formative evaluation techniques may be used to confirm that the target audience was defined properly and to find out more about the audience. Important subgroups can be identified and their characteristics confirmed. Review the target audience section of chapter 1 to find out more.

2 – Concept development

The staff of the organization may have some ideas for developing a program. Also, perhaps they have a good understanding of the target audience. But often it is still difficult to narrow down the choices. An example of some choices are listed below:

- Should there be a spokesperson used?
- Should the appeal be based on humor, fear or factual information?
- What channels should be used to distribute the message?
- Should one message or several messages be developed?

Using formative research can result in new ideas or more refined ideas from the target audience.

3 – Pretesting Materials

Once specific materials have been produced it is essential to test their appeal to the target audience. There is no reason to print and distribute 100,000 brochures unless you know that it meets the program's goals and objectives. Pretesting is mandatory if you are really concerned about achieving results. The factors that should be evaluated in pretesting include:

1 **Attention and Recall** – If the audience is attracted to the message and remembers the content, it will be more effective.

2 **Comprehension** – The messages must be understood by the audience before they can respond.

3 **Personal Relevance** – People will be more interested in a message if they feel like it was designed specifically for them.

4 **Sensitive or Controversial** – Is the message considered offensive by certain segments of the audience? (However, sometimes controversial messages may have positive benefits.)

5 **Strong and Weak Points** – There may be certain parts of a message that mean more to the audience. Also, parts of the message could be confusing or misinterpreted.

6 **Attractive** – Is the message visually appealing? Does it attract your audience's attention?

Examples of Formative Evaluation

When the Metropolitan Park District of Tacoma, Washington, produced materials for a wetlands curriculum, they conducted field test with students before a final design was selected.

A program designed to educate theater professional about local and global ecology issues produced a handbook. The handbook discussed ways to reduce and control toxic and hazardous materials and waste. The publication was written in close cooperation with theater personnel. During development, theater personnel were regularly asked about the clarity, usefulness and thoroughness of the handbook.

Process Evaluation

Process evaluation occurs during your program; it is an evaluation of the ongoing process. It can encompass every aspect of program evaluation from the development of the goals and objectives, until the last evaluation report is presented. It provides the links to bring the program together and monitor all the activities. It can summarize everything from the documentation of events to participant surveys. However, it does not have to include everything. It can include only those things important to program sponsors. There are three main emphases of process evaluation.

1 Monitoring interactions with the target audience.

2 Monitoring the surroundings within which to the program operates.

3 Monitoring the organization activities.

The information collected from a process evaluation is usually recorded through a record-keeping system. It can be done manually, but it is better to use a personal computer and a popular database or spreadsheet program. Using this system, data can be combined, cross-referenced and analyzed in many different combinations.

Examples of Process Evaluation

The City of Bellevue, Washington, presented a series of water quality workshops to the business community. They monitored the number of businesses attending workshops and requests for technical assistance.

A brief report, traveling mural and slide show was produced on the condition of the Dungeness River. The project staff tracked the number of reports distributed and presentations given.

An environmental park education program was established in South Mason County. To monitor the program, the number of people using the park were tracked and the volume of litter was monitored. Media coverage of program activities were tracked.

What can process evaluation accomplish?

1 It monitors the program activities by **recording activities systematically**. These can include such things as how many hours are spent by staff on different tasks, goals and objectives. Also, it can include information about interactions with the target audience, financial information or any other aspect of the program. It can be as simple as written records summarizing decisions and program steps or as complicated as a large computer database.

2 These documented activities can serve many purposes. The ultimate result is to **inform, change ineffective approaches and affirm effective approaches** to the staff and supporters of the program.

3 Based upon timely information, **changes can be made in the strategies used to develop messages and to carry out programs**. The immediate impact of the changes can then be evaluated.

4 The information collected allows the program managers to **evaluate cost effectiveness** at every stage of the program.

5 Once information systems are developed, they can provide those that fund the program and other external supporters with **timely feedback on the program's progress.**

6 If the program is judged successful, **it can be replicated easily by others.** This is possible because information that describes how the program was operated is recorded.

7 In an environment where program staff are working at a fast pace, it is important to have a method of ensuring that everyone is aware of the program and sees the "big picture." Process evaluation **provides a formal channel of communication** between program staff and can ensure that everyone is exposed to program information.

In summary, the list of items that can be tracked using process evaluation may seem overwhelming. However, it should be noted that you are not required to monitor everything. Select the items that are important to your program. Also, be innovative and creative; develop other items to track that meet the needs of your organization.

Outcome Evaluation

No evaluation is complete unless there is an emphasis on the outcomes of the program. Outcome evaluation is used to measure the short-term results of the program as opposed to long-term changes. There are several issues to consider when using outcome evaluation.

1 It could be applied to measure changes in **knowledge, attitudes, awareness, skills, aspirations or behavior.** Usually the time frame for this monitoring begins after the initial contact with the target audience and can continue for six months.

2 Does a particular outreach program work with everyone or **does it work best with a certain audience?**

3 Does the change occur after the first time a person is exposed to the program's components or does it take several exposures? Or do certain components of the program work after one exposure and others take repeated exposures?

4 Will the **changes go beyond the desired effect?** Do the program participants experience changes in other areas of their lives?

Factors to Evaluate

The most common type of outcome evaluation compares the before-and-after results of a project. Usually this involves comparing data collected before the project begins to data collected after the program ends. When possible, it is very important to select appropriate outcome indicators that truly reflect the goals and objectives of the project. Sometimes this is difficult due to the constraints of time and money, so it is critical that you select the best possible outcome indicators available.

If the program changes greatly during implementation, it may not be possible to rely on a before-and-after study. Often this occurs with new programs that are innovative. Data collected before the program begins may not be relevant to the results. In this case it is appropriate to rely on studies that just focus on results.

Examples of Outcome Evaluation

The Metropolitan Park District of Tacoma, Washington, produced a homeowners watershed protection guide. To measure the results, the staff surveyed those that received the guide to determine their response. Also, inflows of phosphorous and nitrogen were monitored in the watershed and compared to baseline data.

A mobile interpretive center was used to educate farmers and other groups in the Boundary Bay region of Washington. To determine the success of the project, questionnaires were circulated to groups exposed to the program.

The City of Olympia, Washington, conducted family day camps and seminars to reduce nonpoint source pollution. Day camp participants received pre- and post-surveys to measure the change in knowledge, attitudes and behaviors. Also, they conducted a survey after a six-month interval through a mailed questionnaire.

Impact Evaluation

Impact evaluation is the most difficult type of evaluation to complete. It measures the long-term impacts of programs.

The **durability of the program's goals and objectives is very important.** Does the program have to reinforce the change often or does it work over long periods of time? Also, what is the degree of the change? Does the quality of the change decrease over time or does it actually improve? This is a formidable task to accomplish, since many factors can influence the results. Impact evaluation must be designed to filter a host of external variables that could sway the outcome of the program.

For example, let us assume that your program was designed to protect water quality. An evaluation would have to be designed very carefully. If water quality measurements, made one year after the program ended, were used as an indicator of success, changes in land use, industry, or environmental laws could have induced the change. Usually this type of evaluation requires the help of a trained professional and it often involves social science measurement techniques. Therefore, this type of evaluation will not be discussed any further in the handbook.

Step 5 of Developing Your Evaluation

Now that you have:

___ Related your program components to Bennett's Hierarchy;

___ Learned about the four types of evaluation;

___ Defined the purpose of the evaluation;

___ Turned your objectives into questions;

___ Identified internal and external constraints;

___ Considered the tradeoffs involved with deciding what levels of the Hierarchy to evaluate; and

___ Selected the type of evaluation to use at each level of the Hierarchy;

you are ready to continue.

Step 5 Decide what type of evidence you would like to collect.

By turning objectives into questions you can decide upon the types of evidence that are available. But before you can evaluate the evidence that can be collected, it is important to record your alternatives using the worksheet shown previously. This can be accomplished by listing the objectives that were turned to questions and then recording sources of evidence that could be used to collect the data.

Once you have listed some sources of evidence, it is important to evaluate the evidence. Often there are many types of evidence that can be collected during evaluations. For example, there could be statistically-valid studies completed based on professionally-developed methodology, which can be very expensive. Or you can just ask the staff to record their observations about the program outcomes, which costs only staff time and a few pennies for some paper. Deciding between these types of choices is not always easy.

Hierarchy Step	Objective as a Question	Evidence of Outcome
6. Behavior Change	Has the volume of used motor oil increased by 50% at the designated centers before the deadline? Did the target audience cause the increase of 50%?	Record the volume of motor oil collected weekly and compare to past collections. Must know whether the people who brought the oil to the center meet the criteria of the target audience.

Evaluations that are based upon valid information are more useful in decision-making.

Some evaluation methods may answer your questions, but they may not reflect the true opinions, attitudes and perspectives of the people who were evaluated. For example, if you observed a group of participants in an activity, you might draw conclusions that could be included in an evaluation. However, if you asked the people what they thought about the activity, their responses may be very different from your conclusions. In a sense, the survey would be "hard data" and the observation would be "soft data."

Even with the survey, there are many factors that could influence the results, such as

1. The number of people surveyed could be too small.
2. The survey answers may not be reliable because several people asked questions in slightly different ways.
3. Respondents are usually aware that the program is being evaluated, so that may influence their answers.

However, surveys can be designed to avoid many of these problems. You may wish to consult someone experienced in survey design.

Evaluation information that truly reflects the target audience is more useful in decision-making.

Generally, a sample of people are surveyed, instead of interacting with every possible member of the target audience. Therefore, it is important to ask whether the results of evaluation represent the target audience. Someone involved with your program or an evaluation consultant needs to make this judgment. Usually there is not a simple answer, but it is important to consider. You should carefully weigh the pros and cons of selecting different methods of collecting data from the target audience.

Hard data is generally more "comfortable" when used to make program decisions. However, hard data is usually more expensive and time-consuming to acquire, especially at the upper end of Bennett's Hierarchy.

Often evaluation programs must rely on many forms of data; some are objective and quantified and others are not.

Examples of hard data include:

- ➢ The amount of money spent to print brochures.
- ➢ The number of brochures that were handed out at an activity.
- ➢ The change in dissolved oxygen levels in a stream.
- ➢ Results of a statistically-valid random sample survey on knowledge and attitudes.
- ➢ Observation of an increase in the volume of motor oil recycled.

In contrast, soft data examples could include:

- ➢ Staff recording their own observations about the audience response to a program.
- ➢ Asking the staff, or several experts, their opinions about how the target audience might respond to an educational program.
- ➢ Relying on information tracked in newspaper stories to develop new programs.
- ➢ Using a small group of people from the target audience to evaluate educational materials.

Often hard data is too difficult to collect and consumes too much time and money. Therefore, many evaluation efforts with small budgets must rely on soft data. In fact, many examples of evaluation techniques in this publication will be from the soft data category. Soft data can give you an unique perspective on the program. However, some decisions may warrant hard data. For example, if your program is going to be duplicated on a larger scale in several areas around the county, then it would be a good idea to spend the extra time and money to gather hard data. If the program was really ineffective or had some major flaws, it would be very important to identify those flaws before they were repeated.

Step 6 of Developing Your Evaluation

Now that you have:

- ___ Related your program components to Bennett's Hierarchy;
- ___ Learned about the four types of evaluation;
- ___ Defined the purpose of the evaluation;
- ___ Turned your objectives into questions;
- ___ Identified internal and external constraints;
- ___ Considered the tradeoffs involved with deciding what levels of the Hierarchy to evaluate;
- ___ Selected the type of evaluation to use at each level of the Hierarchy; and
- ___ Decided to collect hard or soft data (or both);

you are ready to continue.

Step 6	Select evaluation techniques to use to collect evidence.

Specific evaluation techniques will be discussed in the next chapter. However, to help plan this process, you can take the previous worksheet and add another column. The third column will list the evaluation method that could be used to collect the evidence listed in the second column. The worksheet allows you to select evaluation techniques early in the planning process when goals and objectives are formulated. This allows the staff to evaluate the pros and cons of the project early in the planning stages before the program begins.

Hierarchy Step	Objective as a Question	Evidence of Outcome	Evaluation Techniques
6. Behavior Change	Has the volume of used motor oil increased by 50% at the designated centers before the deadline? Did the target audience cause the increase of 50%?	Record the volume of motor oil collected weekly and compare to past collections. Must know whether the people who brought the oil to the center meet the criteria of the target audience.	Review the invoices from the vendor that collects oil and note the volume collected. Collect information from everyone that drops off oil (or collect information on a sample basis.) Decide whether they are in the target audience and whether they are recycling more oil than before the program began.

Now it is time to turn your own objectives into questions. Decide what type of evidence to collect and then read chapter 4 to gain an understanding of evaluation techniques.

Step 7 of Developing Your Evaluation

Now that you have:

- ___ Related your program components to Bennett's Hierarchy;
- ___ Learned about the four types of evaluation;
- ___ Defined the purpose of the evaluation;
- ___ Turned your objectives into questions;
- ___ Identified internal and external constraints;
- ___ Considered the tradeoffs involved with deciding what levels of the Hierarchy to evaluate;
- ___ Selected the type of evaluation to use at each level of the Hierarchy; and
- ___ Decided to collect hard or soft data (or both); and
- ___ Started to consider evaluation techniques;

you are ready to continue.

Step 7 Determine how you will use the evaluation technique.

One more topic must be discused before you can begin using the evaluation techniques. It is important to understand how the techniques can be used. There are three common ways of employing the techniques presented in this handbook.

1. Before-and-After
2. Single Measure
3. Repeated Measures

Before you can decide on a technqiue you must decide how it will be used in your evaluation.

Before-and-After Studies

The title of this approach simply explains its function. Data is collected before the outreach efforts begin and is compared to the information collected after the program or steps in the program are completed. For example, a program was developed to educate children about wetlands. To evaluate the program, the children were asked to draw a wetland before the program began. After the education was completed they were asked to again draw pictures of a wetland. In comparison, the drawings were remarkably different; the drawing completed afterwards included a lot more detail about wetlands.

This approach can be applied in the formative, process and outcome stages of the evaluation. An outcome evaluation that did not complete a before-and-after study would not be credible. Also, it may be used with other techniques that are not included in this handbook. For example, you could monitor the chemical characteristics of stream water quality before and after a program. The innate weakness to this approach is often that it is difficult to separate out program effects from outside influences. If there is a long time lag between the before-and-after studies this can be a very serious concern.

Repeated Measures

With this method, information is collected at various points throughout the program. By recording information at different points in time, the staff can begin to understand how the program is affecting the target audience. Process evaluation is best suited to this approach, but it can also be applied with formative and outcome evaluation. Many of the techniques discussed in this handbook will allow you to carry out this method of study. For example, each month a small number of questionnaires could be mailed to participants. Over time, changes might be seen in the responses. The changes could be compared to program components and assumptioms made about the results.

Single Use

Some evaluation techniques may only be used once during the program. Techniques that fall under the formative type of evaluation are most likely to be used only once. For example, the signal stopping technique may be used to improve the writing in a brochure. Once the test is completed, and the brochure is modified to include feedback, the technique may not be used again. In process and outcome evaluation it is more important to employ an evaluation technique more than once.

A Checklist for Developing Your Evaluation Program

Understanding the Relationship of Evaluation to the Program

Do you understand the components of Bennett's Hierarchy?

___ Have you related components of your program to Bennett's Hierachy?

Step 1 of Developing Your Evaluation

Decide on the purpose of the evaluation.

___ Have you decided on the purpose of your evaluation?

___ Were objectives placed in Bennett's Hierachy?

___ Did you develop articulate questions that spell out what you are trying to evaluate?

Step 2 of Developing Your Evaluation

Identify internal and external constraints.

___ Did you take the time to gather answers to the questions about the internal and external evaluation constraints?

___ How will these constraints affect your evaluation design?

Step 3 of Developing Your Evaluation

Decide at what stages of the program you want to do evaluation based upon the internal and external constraints.

___ Are you familiar with the tradeoffs that occur with evaluation at different stages of the program?

___ Have you decided what issues are most important to your organization when making tradeoffs?

Step 4 of Developing Your Evaluation

Select a type of evaluation to be used at the different levels of the hierarchy.

___ Do you have a good understanding of the four types of evaluation available and have you made appropriate selections?

Step 5 of Developing Your Evaluation

Decide what type of evidence you would like to collect.

___ Do you understand how the quality of evidence can impact your evaluation?

___ Can you justified your choices of evidence?

Step 6 of Developing Your Evaluation

Select evaluation techniques to use to collect evidence.

___ Have you read chapter 4 to gain an understanding of selected evaluation techniques?

___ Which evaluation techniques will you use and why have you choosen them? Are you aware of the good and bad points about these techniques?

Step 7 of Developing Your Evaluation

Decide how often you should use the evaluation technique.

___ Have you decided when the evaluation techniques will be used?

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Chapter 4

Evaluation Techniques

Introduction

This chapter describes techniques that can be used in program evaluation. They range from simple to difficult and cover three different types of evaluation. Many techniques are available to evaluators, this chapter only covers a few examples of options that could be used with your program. When appropriate, consider variations of these techniques and refer to the references included in Chapter 3 and 4 for other options. However, tradeoffs are always present when selecting a technique, it is important to explicitly consider the advantages and disadvantages.

At the beginning of each description, in this chapter, you will find a summary of information that will help you decide whether the technique will be appropriate for your organization. Followed by this summary, you will find a description of the technique, the procedures you should follow, the advantages and disadvantages of the technique, and a list of sources you can review for more information.

Below is a summary of the techniques that are covered in the chapter listed by type of evaluation.

	Type of Evaluation		
Evaluation Technique	Formative	Process	Outcome
Proofreading Software	X		
SMOG Test	X		
Expert Reviews	X	X	
Signal Stopping	X		
Interaction Monitoring		X	
Surroundings Monitoring		X	
Organizational Monitoring		X	
Program Activities		X	
Polls	X	X	X
Focus Groups	X	X	X
Observations	X	X	X
Self-administered Questionnaires	X	X	X

Proofreading Software

SUMMARY

Evaluation Catagories	**Formative**			
Evaluation Objectives	Comprehension			
Overview	A computer program that reviews word processing files for grammar mistakes, style, usage, punctuation, spelling and readability.			
		Low	**Medium**	**High**
Amount of Organizational Resources Required	Preparation Time	X		
	Staff Time	X		
	Staff Skill	X		
	Costs	X		
Types of Resources Required	Personal computer: Apple or IBM compatible, printer, word–processing program.			
Interaction with Target Audience	None			

Introduction

Proofreading technology is probably one of the most innovative uses of computer software. Proofreading software can ensure that wording is not too complex, thus reducing audience comprehension. It also ensures that all communication is free of grammar, spelling, style and usage mistakes. Most users will find the program feedback less threatening than discussing mistakes with another person and it saves a manager's valuable time. Also, custom styles can be designed by the users, which ensures that a consistent image is presented. For example, you can easily program the software to replace common abbreviations like "DO" with "dissolved oxygen." These programs can perform thousands of tests on a document within a few minutes and require minimal experience to use.

Variables Checked by the Program

A fundamental component of all of the programs is the evaluation of the rules of grammar and the mechanics of sentence structure. Beyond these factors, there are many variables of communication that can be checked by the program. Below is a summary of the variables.

Reading Comprehension

Several scales have been developed that allow the user to calculate the education level needed to understand written communication. Most of the scales are calculated based upon the number of words in sentences and syllables per word. If the audience that you have targeted consists of scientists or engineers, then your writing may include more complex words and sentences. However, if your audience is more general, it may be appropriate to keep the writing at a sixth-to-ninth grade level. The program will allow you to monitor the grade level of your writing.

Document Statistics

A summary of document components is very useful. It helps you to prepare a user–friendly communication that is useful and effective.

Several components can be tracked in documents:

- ➢ Number of paragraphs
- ➢ Average number of sentences per paragraph
- ➢ Number of sentences
- ➢ Average number of words
- ➢ Number of sentences ending with '!' or '?'
- ➢ Number of words in document
- ➢ Average syllables per word
- ➢ Average word length

Word Usage

A summary of all the words used in a document can be produced. It can help to identify words that are used too often.

Writing Style

The styles of writing should vary depending upon the audience. For example, a letter written to a friend may be very different from one written to a mayor or governor.

Proofreading software allows you to adjust the style based upon many variables including:

- ➢ Passive voice
- ➢ Long sentences
- ➢ Split infinitives
- ➢ Gender specific
- ➢ Consecutive nouns and prepositional phrases
- ➢ Vague adverbs

Procedure

1 Install the word-proofing software and become familiar with its functions.

2 Complete your written communication with a word-processing program and save it in a file.

3 Open the word-proofing program and select the word-processing file that was saved.

4 Make changes to the file as necessary. This should be based upon your understanding of the target audience and program goals and objectives. The programs allow interactive feedback. So you can change things as you view the text or the entire document can be checked by the program and reviewed later. The user has almost complete control over criteria used to examine the document. Therefore, only criteria that are important to the user are reviewed by the program. Changes are always presented as suggestions, which gives the user complete editorial authority.

Advantages

- + Easy to install and operate, which results in immediate feedback.
- + Program flexibility allows the user to control and create the parameters used to check the text.
- + Allows the organization to maintain consistency in all external communications.
- + Through on-screen suggestions, the programs can improve the user's writing ability.
- + The programs can be used for all word–processing applications.
- + Writers with technical backgrounds are required to evaluate critically their writing styles to ensure that others can understand the text.
- + These programs save time and money. They can track and monitor many aspects of a document's contents and quickly calculate the education level needed to understand the document.

Continued...

Disadvantages

- There is no direct contact with the target audience.
- Organizational acceptance could be a problem unless the program is introduced properly. Some users may resent their work being checked by a computer, particularly their grammar. Avoid this problem by focusing on the goals and objectives of your communications' project. If users understand how the program could be useful in monitoring the readability and style of communications, they may be more likely to accept the assistance.
- The program only applies mechanical rules and does not consider contents or the meaning of the words. Therefore, it is important to realize that it cannot take the place of an editor.
- The programs do not analyze the organization of the writing.

How to Find More Information

Most proofreading programs are available at stores where software is sold. Righwriter, Correct Grammar and Grammatik are three popular programs. Be sure that the software is compatible with your computer's hardware and word processing program.

Chapter 4 Continues . . .

SMOG Readability Test

S U M M A R Y

Evaluation Categories	**Formative**
Evaluation Objectives	Comprehension
Overview	A simple test called the SMOG (Simple Measure of Gobbledygook) Readability Grading Formula involves counting words and sentences. The result of the test is an estimation of the education level needed to understand the text.

		Low	Medium	High
Amount of Organizational Resources Required	Preparation Time	X		
	Staff Time	X		
	Staff Skill	X		
	Costs	X		

Types of Resources Required	Calculator, pencil, paper.
Interaction with Target Audience	None

Introduction

Testing a document's readability can be completed by using a computer program (see previous section) or calculated manually. The major difference between the SMOG tests and a computer program is that with the SMOG tests, readability can be calculated without anything more complicated than a calculator. The underlying theme of this approach is that longer sentences and words, containing three or more syllables, require a higher level of education to comprehend. To understand the education level needed to read a text, the score is then compared on a simple chart. The chart was developed through statistical studies.

For general audiences, most writing should be on a sixth-to-ninth grade reading level. However, at times it may be impossible to use simple words and short sentences. For example, it may be simpler to use the word "oligotrophic" instead of writing "a lake with little nutrients and scant vegetation." Also, there are many one syllable words that are not necessarily familiar, so the resulting score must be evaluated carefully.

Procedure

Appendix C includes a detailed worksheet of how to use this approach.

Advantages

+ This approach is quick and easy to use and requires no special training.
+ Inexpensive to use, the approach requires no special equipment—only a pencil, paper and calculator.
+ Staff can quickly learn that it is important to use simple words and short sentences when communicating with most audiences.

Disadvantages

- There is no direct contact with the target audience.
- The program only applies two mechanical rules and does not consider text content, organization, tone, sentence structure, sentence flow or the meaning of the words. Therefore, it is important to realize this is just one of several variables to consider when deciding on text organization and content.

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Expert Reviews

S U M M A R Y

Evaluation Categories	**Formative**	**Process**
Evaluation Objectives	Concept Development Confirming Audiences Attention Recall Comprehension Personal Relevance Sensitivity/Controversial Strong/Weak Points Attractiveness	Audience Interactions Program Activities Organizational Activities

Overview	This approach involves outside experts. Their views can provide valuable insight, throughout a program, on how to improve your communications efforts.

		Low	**Medium**	**High**
Amount of Organizational Resources Required	Preparation Time		X	
	Staff Time		X	
	Staff Skill		X	
	Costs	X		

Types of Resources Required	Questionnaire, meeting place, facilitator.
Interaction with Target Audience	None

Introduction

Involving community experts from the fields of education, communications, advertising, marketing and public relations is important. Often they are not on staff and an organization may lack the resources needed to hire these experts. To avoid such limitations, it is useful to form an advisory board that involves experts. They can review many aspects of a program from early stage development until a review of the final evaluation. If they meet every two or three months they can monitor progress throughout the program.

Consider including people that may have contact with the target audience, their involvement may provide some useful insight. Use their input in conjunction with the experts.

Also, members of your advisory board may control the communication channels needed to distribute your message. Without their cooperation, it may be difficult to distribute the information.

Procedures

There is not a specific system for working with a panel of experts. They could meet once a month on a formal basis and discuss the project with the staff. Or the panel could be available to answer questions as they arise.

Although the way the group operates is flexible, there are some issues that should be addressed in spite of the organizational style in the group.

1 Select people for the committee who have experience working in a group setting and can work with their peers.

2 Ensure that the members have a clear under–standing of the project's goals and objectives. Then, through interaction with the members, be prepared to develop the goals and objectives of the committee. Clearly define their role and decision–making authority within the project.

3 Ensure that the staff has "bought into" the idea of having an external party review its work. Also, review the organization's structure and incentives to ensure that the committee can fit into the picture.

4 Provide regular feedback to the committee members on the progress of the project and their suggestions.

5 Say thank-you in many ways and often.

Advantages

+ Using expert panels is an inexpensive way to gain professional help, at minimal costs.
+ After spending time creating materials, it is often difficult for staff to step back and objectively evaluate their own work. The panel can provide good feedback from a third-party perspective.
+ The committee members may have many contacts with people in the area. Their relationships with others may provide access to resources that would not be available otherwise.

Disadvantages

- There is no direct contact with the target audience.
- It may be difficult to organize a committee that can work together and is truly committed to attending meetings and participating in the review of materials.
- Staff may resent a critique of their work.
- At least one staff member must be familiar with facilitating meetings and must serve as a contact person to manage interactions with the committee members. Depending upon how often the committee meets, much staff time could be required.
- The organization must be prepared to share its control over the program with outsiders or the committee's presence will be worth much less.

Where to Find More Information

Creighton, J. 1981. "Establishing an Advisory Group." *The Public Involvement Manual*. Cambridge, MA: Abt Books.

Signal Stopping

S U M M A R Y

Evaluation Categories	**Formative**
Evaluation Objectives	Comprehension Personal Relevance Sensitivity/Controversial Strong/Weak Points
Overview	Written materials are presented to members of the target audience. They are asked to read and evaluate the text by marking it with symbols.

		Low	**Medium**	**High**
Amount of Organizational Resources Required	Preparation Time		X	
	Staff Time		X	
	Staff Skill	X		
	Costs	X		

Types of Resources Required	Written text, meeting place, list of target audience members, trained staff who can explain the process.
Interaction with Target Audience	Yes

Introduction

When people stop reading, it is usually because they are confused, interested, agreeing, or disagreeing with the information. Using this assumption, the Signal Stopping Technique was developed. Target audiences are asked to respond to a written message. They can record their reactions to the material by marking the text, with predefined symbols, every time they stop reading.

Procedures

1 The staff must select a number of people from the target audience to participate. Also, it is important to collect data on the readers to ensure that they typify the target audience.

2 Select a location to administer the test and train the staff.

3 Readers from the target audience are asked to write down information about the written material whenever they stop reading.

Symbols such as those presented below are used to identify why they stopped reading:

T – Think more about the idea

U – Understood the idea, but want to think more

C – Confused by the text

R – Re-read the idea because it was difficult to follow

? – The reader had a question about what was written

A – Agreed with the writer

D – Disagreed with the writer

Other symbols can be created by the user for specific purposes.

4 Incorporate the information collected into improving the program materials.

Advantages

+ The approach is simple to use and can be administered with little preparation.
+ The target audience is involved.
+ It encourages staff to evaluate their writing and make modifications if the text is not clear or has other problems.

Disadvantages

- Staff must be prepared to understand and interpret beyond the actual response.
- Time and money must be spent finding people who are part of the target audience.
- The conditions under which the document is tested may be very different from the actual reading conditions.

Where to Find More Information

Grunig, J., and Hunt, T. 1984. *Managing Public Relations.* New York: Holt, Rinehart, and Winston.

Grunig, J., S. Ramsey, and L. Schneider. 1985. "An Axiomatic Theory of Cognition and Writing." *Journal of Technical Writing and Communication.* 15(2): 95-130.

Kline, M., C. Chess and P. Sandman. 1989. *Evaluating Risk Communication Programs: A Catalogue of Quick and Easy Feedback Methods.* New Brunswick, NJ: Rutgers University.

Monitoring Audience Interactions

SUMMARY

Evaluation Catagories	**Process**
Evaluation Objectives	Understand audience and interactions
Overview	When the program begins, it is important to collect information about who participates and why they participated. Using a computer database or pencil and paper, information about the target audience can be monitored from the first until the last interaction.

Amount of Organizational Resources Required		**Low**	**Medium**	**High**
	Preparation Time	Manual System	Computer Database	
	Staff Time	Computer Database		Manual System
	Staff Skill	Manual System	Computer Database	
	Costs	Manual System	Computer Database	

Types of Resources Required	A database software program and personal computer or a pencil and paper record–keeping system, forms used to record information.
Interaction with Target Audience	Yes

Introduction

If you have read Chapter 1 of this handbook you are aware of how important the target audience is to the success of a communication program. Interactions with this audience should be monitored because it is important to determine who is actually receiving your message and participating in programs. Information that is collected can help you evaluate whether you have accurately defined the target audience. Also, you may find that the audience changes in composition as program phases are completed. A variety of information could be collected about the target audience. There are no specific lists of information that are essential, but often demographic information can be helpful (i.e., age, education). The method of collection limits the amount and type of data that is gathered. Most people will not stop and complete lengthy questionnaires, so it is better to decide what information is essential to your program.

Procedures

1 Decide what information is important in relation to program goals and objectives.

Attributes that could be tracked include:

- Date and time of interaction
- Reason for target audience interests
- Subject of inquiry
- Age
- Level of education
- Occupation
- Sex
- Source of information where participant found out about the program.
- Address
- Phone number (if possible)
- Owner or renter
- Married/single
- Children at home

The type of information collected is limited only by your imagination and the participants' willingness to provide the information.

2 Decide when information will be recorded (e.g., at meetings, when your organization receives phone calls, workshops etc.)

3 Design a method for collecting the information that will be convenient for the target audience.

4 Select a method of recording and analyzing data. Using a computer system will be better in the long run because the data can be manipulated easily and aggregated quickly. Manual systems may work only if you are tracking two or three variables or the target audience is very small.

5 Use the data to provide feedback to your staff and improve program performance. Based upon interactions, consider modifying program goals, objectives, strategies or tasks.

Advantages

+ You can confirm whether your messages are reaching the intended audiences. If you targeted homeowners in a high income bracket, but the participants are renters with low incomes, this information should help guide an evaluation of the messages and channels used to distribute the messages.

+ The program staff can relate the timing of messages to program response. By monitoring audience interactions you can understand why people do not respond until the fifth or sixth time they hear a message?

  Also, they can decide whether certain communication channels are more effective. Perhaps no one responds to your newsletter, but you receive many responses from radio public service announcements. It is important to know what communication channels are working and why. The feedback can be used to modify the program in the early stages.

+ Program participation can be tracked over time. Some participants may leave the program after the first interaction and others may continue. If you track who is involved, you may learn that the program design is more attractive to people who have certain characteristics.

+ If you track information about the target audience you will have a list of participants available. Addresses and phone numbers could be collected, so that staff can complete follow-up evaluations to measure the outcomes of the program.

+ The information collected may be a resource for finding volunteers and supporters. These people could be added to your mailing lists and sent newsletters or other communication about your organization.

Continued...

Disadvantage

- Avoid data overload. If you collect too much data, it may be difficult to use the information. If you use a manual system this could occur very easily. Only collect data that is truly important to the program. Don't feel that you are limited by the examples listed in this section. You can track any information about interactions with the target audience that will help in program evaluation and management.

Where to Find More Information

Dignan, M. B. 1991. "Use of Process Evaluation to Guide Health Education in Forsyth County's Project to Prevent Cervical Cancer." *Public Health Reports*. 106: 73-77.

McGraw, S., S. McKinlay, L. McClements, T. Lasater, A. Assaf and R. Carleton. 1989. "Methods in Program Evaluation: The Process Evaluation System of the Pawtucket Heart Health Program." *Evaluation Review*. October: 459-483.

National Cancer Institute. 1988. *Making Health Communication Programs Work: A Planning Guide*. Washington, DC: National Institutes of Health.

Rossi, P., and H. Freeman. 1990. *Evaluation A Systematic Approach*. Newbury Park, CA: Sage.

Chapter 4 Continues . . .

Community/ Regional/ State Interactions

S U M M A R Y

Evaluation Catagories	**Process**
Evaluation Objectives	Understand outside influences that affect the program.
Overview	Programs do not operate in vacuums. Usually there are interactions with a variety of entities that are not directly involved in the programs, but could affect the results. Therefore, it is important to monitor these interactions.

		Low	**Medium**	**High**
Amount of Organizational Resources Required	Preparation Time	Manual System	Computer Database	
	Staff Time	Computer Database		Manual System
	Staff Skill	Manual System	Computer Database	
	Costs	Manual System	Computer Database	

Types of Resources Required	A database software program and personal computer or a pencil and paper record-keeping system, forms used to record information, contact sheets to record information, filing system to collect information.
Interaction with Target Audience	No

Introduction

Many interactions will occur outside of the program that may have a significant impact on the program results. Sometimes, the staff may be involved with governmental committees or in other community leadership roles. If topics are discussed that relate to the goals and objectives of the program, it would be important to monitor these activities. Often organizations unrelated to your program may make decisions that directly or indirectly affect your program. It is important to monitor these situations. With good information-gathering techniques you can inform the staff and change strategies and tasks to respond to the surroundings.

Procedure

1 Decide what information is important in relation to program goals and objectives.

Attributes that could be tracked include:

- Newspaper or magazine articles, radio or television stories
- Reports published by federal, state, county and local officials.
- Organizational contacts
- Elected official contacts
- Interactions with news media
- Meetings attended by program staff

2 Decide when information will be recorded.

3 Design a method for collecting the information. A contact sheet should be completed by program staff when they receive information. Files must be set up to collect newspaper articles and related information.

4 Select a method of tracking contact sheets and information files. Using a computer system will be better in the long run, especially if you are recording other process data. Manual systems may work if you are tracking two or three variables.

5 Use the data to provide feedback to your staff and improve program performance. This may include modifying program goals, objectives, strategies or tasks.

Advantages

+ By recording information and communicating with staff members, everyone can make better decisions and contribute to the management of the project.

+ Information is the key to good decisions. Keeping a library of information about issues related to your program would be useful in the future. It can help you plan new programs and anticipate future problems with present programs.

+ It allows the organization to constantly monitor its social, economic and political surroundings. Answers to the questions that were asked in the first chapter of this handbook can be updated on a regular basis.

+ Monitoring this information keeps everyone informed. Therefore, communication between staff members is enhanced.

Disadvantage

– Avoid data overload. If you collect too much data it may be difficult to use the information. If you use a manual system this could occur very easily. Only collect data that is truly important to the program. Don't feel that you are limited by the examples listed in this section. You can track any information about interactions with the target audience that will help in program evaluation and management.

Where to Find More Information

Dignan, M. B. 1991. "Use of Process Evaluation to Guide Health Education in Forsyth County's Project to Prevent Cervical Cancer." *Public Health Reports*. 106: 73-77.

McGraw, S., S. McKinlay, L. McClements, T. Lasater, A. Assaf and R. Carleton. 1989. "Methods in Program Evaluation: The Process Evaluation System of the Pawtucket Heart Health Program." *Evaluation Review*. October: 459-483.

National Cancer Institute. 1988. *Making Health Communication Programs Work: A Planning Guide*. Washington, DC: National Institutes of Health.

Rossi, P., and H. Freeman. 1990. *Evaluation A Systematic Approach*. Newbury Park, CA: Sage.

Organizational Activities

SUMMARY

Evaluation Catagories	**Process**
Evaluation Objectives	Monitor organizational activities.
Overview	Organizational activities are the heartbeat of the program. Unless you monitor these activities it is easy to overlook potential problems. A monitoring system will make it much easier to catch problems early in program development.

		Low	Medium	High
Amount of Organizational Resources Required	Preparation Time	Manual System	Computer Database	
	Staff Time	Computer Database		Manual System
	Staff Skill	Manual System	Computer Database	
	Costs	Manual System	Computer Database	

Types of Resources Required	A database software program and personal computer or a pencil and paper record–keeping system, input sheets used to record information.
Interaction with Target Audience	No

Introduction

The daily operations of the program are very important to monitor. When tracking how money and time are spent, a trail of program documentation is left that can be used to manage the program. By comparing these inputs to the program's goals, objectives and budgeted amounts you can ensure that the program is managed properly. In many situations this information is tracked in other record–keeping systems, but it is important to monitor the information within the context of the program's goals and objectives.

Procedures

1 Decide what information is important in relation to program goals and objectives. These may include:

Tasks

Keep a constant time line, record who is doing work and record expenses based upon tasks, goals and objectives.

Budgeted Amounts, Goals and Objectives

On a regular basis, compare budgeted amounts for each program area to actual results and track activities concerning goals and objectives. Activities could include staff and volunteer hours, money spent, number of presentations made, literature distributed, meetings and conferences attended by staff, or planned interactions with the community.

Time

All information should be tracked relative to time. This provides a common point for aggregating results, spotting relationships and tracking performance.

Decisions

A brief summary of major decisions and reasons for those decisions could be documented and included in the program records. Also, changes in policy or program focus should be explained in writing because others can then benefit from the knowledge.

2 Decide when information will be recorded (i.e., daily, weekly or monthly).

3 Design forms and systems to record the information.

4 Select a method of tracking and analyzing information. Using a computer system will be better in the long run, especially if you are recording other program data. Manual systems may work only if you are tracking a few variables.

5 Use the data to provide feedback to your staff and improve program performance. This may include modifying program goals, objectives, strategies or tasks.

Advantages

+ By keeping time lines and tracking activities systematically, the staff will be able to tell whether they are moving away from the planned agenda. Often there are good reasons to move away from the original plan, but evaluation forces everyone to discuss these issues. Therefore, it can enhance communication and ensure that everyone understands the change in plans.

+ Documenting program information can be useful for future efforts. Knowing what it cost to carry out certain components of a program will help you plan future efforts.

+ The information collected can be used to compare the cost-effectiveness and efficiency of various activities.

+ The staff can monitor time and money spent in relation to goals and objectives of the project. This information will allow you to regularly review the program from a "big picture" perspective.

+ Program sponsors are accountable for the money they spend to fund your project. Information collection efforts will help them meet their goals and strengthen your relationship.

Disadvantage

– Avoid data overload. If you collect too much data it may be difficult to use the information. If you use a manual system this could occur very easily. Only collect data that is truly important to the program. Don't feel that you are limited by the examples listed in this section. You can track any information about the organization that will help in program evaluation and management.

Where to Find More Information

Dignan, M. B. 1991. "Use of Process Evaluation to Guide Health Education in Forsyth County's Project to Prevent Cervical Cancer." *Public Health Reports*. 106: 73-77.

McGraw, S., S. McKinlay, L. McClements, T. Lasater, A. Assaf and R. Carleton. 1989. "Methods in Program Evaluation: The Process Evaluation System of the Pawtucket Heart Health Program." *Evaluation Review*. October: 459-483.

National Cancer Institute. 1988. *Making Health Communication Programs Work: A Planning Guide*. Washington, DC: National Institutes of Health.

Rossi, P., and H. Freeman. 1990. *Evaluation A Systematic Approach*. Newbury Park, CA: Sage.

Program Activities

S U M M A R Y

Evaluation Catagories	**Process**
Evaluation Objectives	Monitoring program activities.
Overview	Program activities are made up of many components. Many of the variables can be tracked over time and used in conjunction with other information to monitor the success of the program.

		Low	Medium	High
Amount of Organizational Resources Required	Preparation Time	Manual System	Computer Database	
	Staff Time	Computer Database		Manual System
	Staff Skill	Manual System	Computer Database	
	Costs	Manual System	Computer Database	

Types of Resources Required	A database software program and personal computer or a pencil and paper record–keeping system, input sheets used to record information.
Interaction with Target Audience	Yes

Introduction

Many of the items included in this section involve quantifying the components of the program activities. It is important to keep records on the dates of activities and the location and nature of the activity (i.e., school presentation, town council meeting, volunteer training session.) In addition, you could quantify many of the program outcomes including the number of participants and copies of literature distributed. Although none of these factors will provide you with absolute answers about program success, they do provide valuable information when combined with other information sources.

Procedures

1 Decide what information is important in relation to program goals and objectives.

Activities to track include:

- ➤ Channels of interaction
- ➤ Estimated number or people reached through channels
- ➤ Type of presentations made
- ➤ Presentation attendance
- ➤ Number of participants
- ➤ Number of request for literature
- ➤ Conferences attended
- ➤ Meeting attended
- ➤ Volume of telephone and mail inquires
- ➤ Response time to inquiries
- ➤ Inventory of materials
- ➤ Articles produced
- ➤ Timing and number of television and radio announcements
- ➤ Other activities that involve interactions with the target audience

All of this information can be combined in a database to provide feedback on who was involved in the activities and why. For example, you could-cross-reference the volume of telephone and mail inquiries with the timing of radio and TV announcements (consider using graphs to show comparisons).

2 Decide when information will be recorded.

3 Design an input sheet to record the information.

4 Select a method of tracking and analyzing data. Using a computer system will be better in the long run because the data can be manipulated easily and aggregated quickly. Manual systems may work only if you are tracking two or three variables or the target audience is very small.

5 Use the data to provide feedback to your staff and improve program performance. Based upon interactions, consider modifying program goals, objectives, strategies or tasks.

Advantages

+ The cost effectiveness of various programs can be tracked. If one type of program cost less, but attracts more people, it may be more cost-effective.
+ It allows the program staff to receive feedback on aspects of the program activities. They can monitor information and change ineffective approaches and affirm effective approaches.
+ Information about activities, such as the number of people participating in an activity, can be an indicator of program success. Without this type of information you would have one less evaluation tool available.
+ Everyone associated with the program needs to be aware of how the program is proceeding. Information about program activities helps contribute to good decision-making at all levels of the organization.

Continued...

Disadvantages

- Avoid data overload. If you collect too much data it may be difficult to use the information. If you use a manual system this could occur very easily. Only collect data that is truly important to the program. Don't feel that you are limited by the examples listed in this section. You can track any information about the organization that will help in program evaluation and management.
- Do not misinterpret data. Just because a lot of people are participating in program activities it does not mean that the program is a success.

Where to Find More Information

Dignan, M. B. 1991. "Use of Process Evaluation to Guide Health Education in Forsyth County's Project to Prevent Cervical Cancer." *Public Health Reports*. 106: 73-77.

McGraw, S., S. McKinlay, L. McClements, T. Lasater, A. Assaf and R. Carleton. 1989. "Methods in Program Evaluation: The Process Evaluation System of the Pawtucket Heart Health Program." *Evaluation Review*. October: 459-483.

National Cancer Institute. 1988. *Making Health Communication Programs Work: A Planning Guide*. Washington, DC: National Institutes of Health.

Rossi, P., and H. Freeman. 1990. *Evaluation A Systematic Approach*. Newbury Park, CA: Sage.

U.S. Environmental Protection Agency. 1990. *Communicating Environmental Risks: A Guide to Practical Evaluations*. Report 230-01-91-001.

Chapter 4 Continues . . .

Polling

SUMMARY

Evaluation Categories	**Formative**	**Process**	**Outcome**
Evaluation Objectives	Concept Development Confirming Audiences Attention Recall Comprehension Personal Relevance Sensitivity/Controversial Strong/Weak Points Attractiveness	Audience Interactions Program Activities	Change in behavior, attitudes, skills, knowledge, aspirations. Increase in Awareness

Overview

Polls can be used by large and small organizations. If completed with statistically valid methods, they allow the user to project the results to a larger population. Polls can uncover who is in a target audience, as well as the best approaches to develop a program, and what your audience learned from the program. Also they can find relationships among various polling questions and uncover the respondents' attitudes, behavior or beliefs.

Polls can be conducted three different ways – by telephone, mail or personal interview – all of which use varying amounts of time and resources. This is summarized in the following table.

Amount of Organizational Resources Required

	Low	**Medium**	**High**
Preparation Time		Telephone	Personal Interview Mail
Staff Time	Mail	Telephone	Personal Inverview
Staff Skill		Mail	Personal Inverview Phone
Costs		Mail Telephone	Personal Inverview

Types of Resources Required

Staff or volunteers to conduct polls, personal computer and spreadsheet or survey program, copies of questionnaires.

Interaction with Target Audience

Depends upon objectives of the poll. Polls could be used to identify a target audience. Also, they are used before, during or after a communication campaign that was directed at a target audience.

Introduction

Often organizations overlook polling for evaluating materials and obtaining an understanding of public attitudes, behavior, beliefs, or attributes. Usually this occurs because polling is seen as a complicated, costly method of collecting data that involves statistics. However, it is a very powerful method of finding what the majority of the target population thinks, while only talking with a small percentage of that group.

Polling is often misunderstood because people lump all polls into one category. In reality, there are at least four types of polling and three different ways of doing polls. Each method has advantages and disadvantages. First there are the typical short-answer polls that last from 10-15 minutes. In-depth surveys can last up to 60 minutes. A tracking poll asks a few questions and is conducted in a short period of time. Finally, a panel poll can be used to compare the response of the same people over a period of time.

Polling can be used at any stage of the program from developing concepts to the final evaluation after the program ends. Since its applications are flexible, it can fit into many areas of program development. Polling can be used to identify the target audience or to verify trends that were noticed using other evaluation techniques. Probably the most complicated aspect of polling is analyzing the results, but the Montana Alliance for Progressive Policy has developed a computer program called *Pollstart*, that will help analyze data. Other programs are also available; check with your local computer software store.

Procedures

1 Decide how polls fit into the programs goals and objectives.

2 Decide whether the poll will be conducted by mail, telephone or personal interviews. Next, determine the type of poll: will the poll be a few short questions or an in-depth survey? A poll could be done on a regular basis to track opinion. Also, a panel review looks at the before-and-after impact of the program.

3 Obtain a list of those people that will be polled or find a location to conduct a personal interview poll.

4 Organize staff to design the questionnaire, draw samples and recruit interviewers.

5 Test the questionnaire by asking the questions and discuss the sample design with experts (usually university professors are a good choice). Be prepared to revise the questions or design.

6 Prepare copies of the final questionnaire and materials needed by those conducting interviews. Train interviewers and begin the interview process.

7 Code responses and input data into a personal computer. A personal computer program like *Pollstart*, which is designed for surveys, will make this process easier to manage.

8 Analyze the data and tabulate results. Then program staff may use the results for the purposes outlined in the initial goals and objectives of the project.

Continued...

Advantages

+ Once the staff of the organization is trained, you will find that their knowledge will extend beyond a specific program. Information from polls can be used in the media and can influence public officials or contributors. Also, staff members can use their skills to analyze critically the results of other polls.
+ The resources presented at the end of this section will be valuable for other reasons, because the staff will learn how to develop questionnaires and how to do interviews, which are valuable skills that can be used for gathering information.
+ If you choose to use statistics, the results of a poll can be projected to a larger population than was polled.
+ The target audience is involved.
+ The information collected can help you design better programs.
+ Respondents can remain anonymous.
+ The results from polls, if statistically valid, can positively reinforce your cause.

Disadvantages

– Staff members or program managers may be afraid of using this method because most people perceive it to be too difficult.

– The initial start-up costs and learning curve related to polls may be higher than with other methods discussed in this handbook. However, once the staff is trained and is aware of the basic components of developing polls, they will become much more at ease with each application.

– In some cases, the resources presented in this section may not provide enough details about polls. If this occurs, it would be important to seek the advice of an expert. Often colleges or universities are a good source of inexpensive help.

– To make the results of a poll more reliable, there must be more people surveyed. However, this leads to a more expensive poll, so there is always a trade-off between organizational resources and the quality of the results.

Where to Find More Information

Hessler, R. 1992. *Social Research Methods*. St. Paul, MN: West Publishing Company.

Hsia, H. 1988. *Mass Communications Research Methods: A Step-by-Step Approach*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Lake, C. 1987. *Public Opinion Polling: A Handbook for Public Interest and Citizen Advocacy Groups*. Washington, DC: Island Press.

Miller, T. 1991. *Citizen Surveys: How to Do Them, How to Use Them, What They Mean*. Washington, DC: International City Management Association.

Survey Research Center. 1983. *Interviewers' Manual*. Ann Arbor, MI: University of Michigan Institute for Social Research.

Chapter 4 Continues . . .

Focus Groups

SUMMARY

Evaluation Catagories	**Formative**	**Process**	**Outcome**
Evaluation Objectives	Concept Development Confirming Audiences Attention and Recall Comprehension Personal Relevance Sensitivity/Controversial Strong/Weak Points Attractiveness	Audience Interactions Program Activities	Change in behavior, attitudes, skills, knowledge, aspirations.

Overview	Focus groups are an interactive discussion with a small group of people from a target audience. It goes beyond other forms of research and tries to answer questions about the "why", instead of "what" or "where" or "how often."

		Low	**Medium**	**High**
Amount of Organizational Resources Required	Preparation Time			X
	Staff Time		X	
	Staff Skill			X
	Costs			X

Types of Resources Required	Moderator, meeting room, video and/or audio equipment.
Interaction with Target Audience	Yes

Introduction

A focus group is an underutilized tool in developing communication and outreach programs. Focus groups are often overlooked because a high level of skill is required to moderate the discussions, but the results are uniquely different from any other evaluation technique.

As opposed to questionnaires, surveys or other research techniques, the focus group answers are not predefined by "choice A, B or C." Instead, six to ten people sit in a room with a moderator and have an in-depth discussion about a few topics. Normal survey questions may ask whether an idea is appealing. In contrast, focus groups explore why the person thinks an idea is appealing and what the factors are that helped form the decision. The researcher is able to experience what the audience is thinking in a personal way, unlike other evaluation techniques.

Focus groups are useful at several stages of a program, beginning with target audience definition. When program materials are developed, they can be used to obtain reactions to those materials. After surveys have been completed, they can be used to verify the results and to understand the thoughts behind those results. Finally, focus groups can be used during the program to understand reactions or afterwards to understand the impact of the program.

Procedure

1 Define your target audience clearly. For example, knowing that your audience consists of males between the ages of 18-45 is not detailed enough. However, focus groups can assist in defining some characteristics of the target audience.

2 Decide how focus groups fit into the program's goals and objectives.

3 Recruit members for the focus group. This is usually accomplished by calling people and then screening them for participation, by asking several questions. The questions will help determine whether they exhibit the characteristics of the target audience. People that pass the screening are then invited to attend a one-to-two hour focus group discussion. Participants are usually paid a small fee. Usually meals are provided if the discussion occurs in the evening.

4 Select facilities that offer a comfortable setting for participants. Also, it is important to tape the discussion.

5 Develop a guide, to be used by the facilitator, that will provide the outline for the discussion. Many questions will be open-ended.

A few examples of facilitator questions:

What do you think about ________?

Do you have questions about ______?

What would you do if ______?

These types of questions can provide the facilitator with the opportunity to probe for responses and look for responses and reasons behind the answers.

6 Conduct the focus group meeting. During the discussion, which usually lasts from one to two hours, the facilitator will guide the group. Facilitators are required to carry out the following activities: move the discussion along, keep the discussion from moving off the subject, successfully probe beyond short answers for more important information and involve quiet group members.

7 Analyze the results of the focus group. The product of a focus group is more than a description of who said what. Instead, it is a detailed analysis and synthesis of comments that occurred through-out the focus group session. The words are only one component of the analysis; other components include context, body language, intensity of comments, and reaction to others' comments. Conclusions and recommendations are developed from the analysis.

Usually it will take four to six focus groups to gain a consistent insight. If you have just two groups, you may find differences. To overcome those differences, it is important to obtain enough information to observe trends in the results.

Advantages

+ Interviewing six to ten people at once is more cost- and time-efficient than conducting in-depth interviews with each person.

+ Focus groups are the only research method that is appropriate for certain situations. The approach can provide information about beliefs, behavior and attitudes in a format that cannot be matched by other methods.

+ Unique relationships may be uncovered by the facilitator that may be missed by using other methods of research.

+ The staff of the organization may find many uses for the focus group methods once they become familiar with the format. Focus groups could be used to discover perceptions of employees, volunteers and organization supporters.

Continued...

+ A group setting often allows participants to recall events and emotions that would be missed in individual interviews or through pencil and paper responses.
+ When there is little information known about a problem or target audience's attitudes, beliefs or behaviors, using focus groups is a good method to gain information.
+ The technique is directed at the target audience.

Disadvantages

- The information collected is qualitative, not quantitative and cannot be projected to the larger population using a statistically-valid approaches.
- Focus groups do not necessarily answer all the questions about a program (nor does any other method.) It does not provide absolute yes and no answers, but can help narrow down choices and provide a direction for future research.
- Focus groups can be expensive. The cost for a group can range from a few hundred dollars to $3000. Often this is dependent upon the location, recording costs, incentives paid to participants, who moderates the group and how much involvement the moderator has in developing the program. Sometimes, non-profit organizations can obtain reduced rates from moderators of focus groups. Staff members could manage the group, but only if they have spent time researching the issue and investigating how to handle group dynamics. If you have never used focus groups, it would be a good idea to receive guidance or training from an expert.
- The participants may not provide honest answers because of the possibility of "group think." Sometimes group members may not express the same answers as in a private interview or when completing an anonymous questionnaire.

Where to Find More Information

To find consultants who can help develop a focus group format, provide training or moderate the sessions, call:

American Marketing Association (312) 648-0536

Marketing Research Association (312) 644-6610

Other Sources

American Marketing Association. 1989. *Focus Group Interviews: A Reader*. Chicago, IL: American Marketing Association.

Basch, C. 1987. "Focus Group Interview: An Underutilized Research Technique for Improving Theory and Practice in Health Education." *Health Education Quarterly*. Winter: 411-448.

Byers, Y., and J. Wilcox. 1991. "Focus Groups: A Qualitative Opportunity for Researchers." *Journal of Business Communication*. Winter: 63-78.

Goldman, A. and S. McDonald. 1985. *The Group Depth Interview, Principles and Practice*. Englewood Cliffs, NJ: Prentice-Hall.

Merton, R. 1990. *The Focused Interview: A Manual of Problems and Procedures*. New York: Free Press.

National Cancer Institute. 1992. *Making Health Communication Programs Work: A Planning Guide*. Washington, DC: National Institutes of Health.

Qualitative Research Council. 1985. *Focus Groups: Issues and Approaches*. New York: Advertising Research Foundation.

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Chapter 4 Continues . . .

Observations

S U M M A R Y

Evaluation Catagories	**Formative**	**Process**	**Outcome**
Evaluation Objectives	Concept Development Confirming Audiences	Audience Interactions Program Activities Surrounding Interactions	Change in behavior, skills.

Overview

Observations can provide a unique perspective on program activities. Observers can experience things that may be missed in a questionnaire or similar technique . However, don't rely only on observations for evaluation because everyone records information through a maze of personal judgments and biases.

Amount of Organizational Resources Required

	Low	Medium	High
Preparation Time	X		
Staff Time		X	
Staff Skill		X	
Costs	X		

Types of Resources Required

Pen and paper to record observations, an audio or video recorder to assist in recording observations.

Interaction with Target Audience

The observer can be involved with the audience and other times they may only observe from a distance.

Introduction

Observation usually involves monitoring the participants' response to various aspects of a program. In some projects, the staff are asked to keep a logbook.

This approach can be useful if the observations are not obtrusive and have little impact on the program's personnel and participants. The observations can occur while being totally removed from the program environment or the staff member could fully participate as a member of the target audience. Many observations are a combination of these practices. Observations can provide insight that questionnaires and other quantitative techniques do not offer. They can explain what happened and why it affected the program. For example, responses to a questionnaire completed after a program may indicate a negative reaction. However, it may be difficult to determine what factors contributed to that outcome.

Whenever observations are used, they must be made systematically and observers should be trained. Objective information such as the number of people present, race, sex, time, weather conditions can be recorded. Also, subjective observations can provide descriptions and explanation. Regardless of how observations are used, it is important to have a clear set of criteria on which to base observations. Observations are more useful in the early stages of a program, especially when materials are being tested. They have less value when determining the outcomes of programs, because there are so many factors that influence results. Also, it is difficult to summarize and analyze the results of observations.

Procedure

1 Decide how this evaluation method fits into the goals and objectives of the program.

2 Clearly define what information you want to collect and the advantages and disadvantages of collecting the data.

3 Decide on the setting where you want to collect information and gain access to the site.

4 Decide how information will be recorded. There are three common methods for recording data and each method may be appropriate for certain situations.

Narrative Method

There is little direction in this approach. The observer records events and provides as much detail as possible.

Data Guide

An observer is asked to answer specific questions about what occurred during the observation.

Rating Method

This approach provides the observer with a numeric rating on the program contents or asks for the percentage of time spent on program components.

4 Train the observers about how to record information and make sure they clearly understand the criteria used in the evaluation technique.

5 Decide how often data will be collected.

6 Develop a filing system to manage the information that is collected.

7 Analyze the results of the evaluation and use the information to improve the program.

Advantages

+ The technique involves the target audience.
+ When the technique is used in the formative stages of the program, the results can be very helpful. Background information about the audience and problem can be obtained, which can lead to the development of better theories to test with other evaluation techniques and improved program design.
+ Some target audiences, especially those opposed to your program, may not be willing to complete questionnaires. However, through an observer, they may be able to gain their cooperation.
+ This technique is inexpensive and can be applied in all phases of the evaluation program.
+ Observations often occur in the actual environment where the program will take place. Since the natural setting is observed, it allows for genuine reactions from program participants.
+ The technique offers insights into why the results of the activity were good or bad.

Disadvantages

– The information collected in a field observation is not easily summarized as other more quantifiable evaluation techniques. It is much harder to make absolute decisions based upon narrative comments.
– Staff members that perform observations may be biased by their personal interests in the program outcomes, judgments and perceptions. It is much harder to develop conditions in which this bias can be controlled. To reduce this problem, it is better to have more than one person observing the same environment. If different conclusions are reached, more analysis should occur.

Continued...

- The external validity of observations is less certain. If your program is accountable to external sources you may find it hard to defend observations, especially if you are trying to evaluate the outcomes of the program.
- Since it would be difficult to include statistical sampling and analysis, it would be inaccurate to utilize the observations beyond the environment that was analyzed. To mitigate this problem, sometimes observation periods are chosen on a random basis or participants are selected at random to observe.
- Unless the observation is constructed carefully, the participants' interactions and behavior may be influenced by the observer.

Where to Find More Information

Bogdan, R., and S. Taylor, 1975. *Introduction to Qualitative Research Methods*. New York: Wiley.

Hessler, R. 1992. *Social Research Methods*. St. Paul, MN: West Publishing Company.

Jorgensen, D. 1989. *Participant Observation: A Methodology For Human Studies*. Newbury Park, CA: Sage Publications.

Rossi, P., and H. Freeman. 1990. *Evaluation A Systematic Approach*. Newbury Park CA: Sage.

Wimmer, R., and J. Dominick. 1983. *Mass Media Research: An Introduction*. Belmont, CA: Wadsworth Publishing Co.

Chapter 4 Continues . . .

Self–administered Questionnaires

S U M M A R Y

Evaluation Catagories	**Formative**	**Process**	**Outcome**
Evaluation Objectives	Concept Development Confirming Audiences Attention and Recall Comprehension Personal Relevance Sensitivity/Controversial Strong/Weak Points Attractiveness	Audience Interactions	Change in behavior, attitudes, skills, knowledge, aspirations. Increase in Awareness

Overview	Self–administered questionnaires are a great way of collecting data about your program. Once questions are developed, the respondents complete the questionnaires. It can be a cost–effective way of collecting information and improving your program.

		Low	**Medium**	**High**
Amount of Organizational Resources Required	Preparation Time		X	
	Staff Time	X		
	Staff Skill		X	
	Costs	X		

Types of Resources Required	Questionnaire copies, system to record and summarize results.
Interaction with Target Audience	Yes

Introduction

Self-administered questionnaires can be a great way of carrying out evaluations. After questions are developed, the forms can be handed out whenever there is contact with the target audience. The contact could be with a staff member or with materials that are produced by the program. They can be used to pretest materials or to monitor responses to many aspects of a communication campaign. For example, to pretest a handbook the contents could be mailed to members of the target audience along with a questionnaire. The input could be used to improve many components of the handbook.

Question design can include closed- and/or open-ended questions. Results from closed-ended questions can be easily summarized. Open-ended results often provide insightful information, but are much harder to summarize. After spending some time testing the questions with a small number of respondents you will be ready to begin using this powerful evaluation tool.

Procedure

1 Decide how this evaluation method fits into the goals and objectives of the program.

2 Clearly define what information you want to collect and the advantages and disadvantages of collecting the data.

3 Decide on the setting where you want to collect information (e.g., meeting, back of a handbook, mail with materials to pretest).

4 Design a questionnaire, deciding which questions will be open-ended and which will be closed-ended. Both types can provide valuable information. Develop instructions that are clear and concise. Test the questionnaire with a small sample from the target audience to find questions that could be confusing or misinterpreted.

5 Decide how often data will be collected.

6 Develop a filing system to manage the information that is collected.

7 Analyze the results of the evaluation and use the information to improve the program.

Advantages

+ The technique involves the target audience.
+ Detailed information can be collected from people that are very busy and may not have time to participate in other interview formats.
+ Respondents can remain anonymous.
+ There is a great amount of flexibility in the use of the self-administered questionnaire. It can be mailed along with materials to be used in formative or outcome evaluation. Also, it can be handed out at meetings or at any point in the program where there is an interaction with the target audience.
+ With the exception of mailing expenses, it is a cost-effective way of completing evaluations. It takes little staff time to collect the information, since it is completed by the respondent.
+ If you require more information, a questionnaire can be combined with the statistical power of polling. The results can be projected to a much larger population and have greater validity.
+ Questionnaires provide you with a way of collecting demographic data and other important attributes that can be used in the analysis, along with answers to questions.

Disadvantages

- You may need to follow up with respondents to increase the response rate.
- The data collection effort will require more time than other methods because of delays in responses.
- There is a bias against those respondents who have reading and writing limitations.
- Those that return a questionnaire may have different responses than those that do not complete the form. A bias is introduced unless you follow up with those that did not respond.
- Usually respondents do not have a chance to ask questions about the wording of questions. Therefore, people may interpret the questions in different ways than you expected. You must pretest the questions with the target audience to avoid this problem.

Where to Find More Information

Hessler, R. 1992. *Social Research Methods*. St. Paul, MN: West Publishing Company.

Lake, C. 1987. *Public Opinion Polling: A Handbook for Public Interest and Citizen Advocacy Groups*. Washington, DC: Island Press.

National Cancer Institute. 1992. *Making Health Communication Programs Work: A Planning Guide*. Washington, DC: National Institutes of Health.

Rice, R., and C. Atkin (Eds.) 1989. *Public Communication Campaigns*. Newbury Park, CA: Sage Publications, Inc.

Wimmer, R., and J. Dominick. 1983. *Mass Media Research: An Introduction*. Belmont, CA: Wadsworth Publishing Co.

Appendix A
Chesapeake Bay Information and Education Materials

The Chesapeake Bay Program is conducted primarily by the EPA, in conjunction with other federal and state agencies and nonprofit organizations. The EPA gives grants for public information and education to the Alliance for the Chesapeake Bay, a federation of citizen organizations, businesses, scientists, user groups and citizens. The Alliance for the Chesapeake Bay has traditionally served as the "public outreach arm" of EPA's Chesapeake Bay Program.

For more information, contact the following:

Elliot Finkelstein
U.S. Environmental Protection Agency
Chesapeake Bay Program
410 Severn Avenue
Annapolis, MD 21403
1-800-523-2281

Francis Flanigan, Executive Director
Alliance for the Chesapeake Bay
6600 York Road, Suite 100
Baltimore, MD 21212
410-377-6270

The Alliance for the Chesapeake Bay also operates the Chesapeake Regional Information Service (CRIS) at 1-800-662-CRIS. CRIS provides the public with information about meetings and publications regarding Bay activities.

Following is a sample of the materials produced by the Alliance for the Chesapeake Bay, some of which were completed under grants from the EPA.

Bay Journal
A monthly newspaper describing the Chesapeake Bay cleanup and Bay-related activities and publications.

Baybook: A Guide to Reducing Water Pollution at Home
A colorful 32-page guide with cartoon-like drawings, full of useful tips on pesticides, household chemicals, erosion, water conservation and more.

Chesapeake Bay Fact Sheet
A 2-page overview of the Bay, its history, heritage, problems, and ongoing restoration effects.

Continued...

River Fact Sheets

A series of 2-page summaries about the major rivers feeding the Chesapeake Bay, providing an overview of the history, unique characteristics, and problems facing some Bay tributaries.

- ➤ York River (VA)
- ➤ Rappahannock River (VA)
- ➤ Elizabeth River (VA)
- ➤ James River (VA)
- ➤ Piankatank River (VA)
- ➤ Potomac River (VA, MD, DC, WV)
- ➤ Anacostia River (MD, DC)
- ➤ Gunpowder River (MD)
- ➤ Patuxent River (MD)
- ➤ Chester River (MD)
- ➤ Choptank River (MD)
- ➤ Severn River (MD)
- ➤ Susquehanna River (PA, MD, NY)
- ➤ Spring Creek (PA)
- ➤ Codorus Creek (PA)
- ➤ Conestoga River (PA)
- ➤ Conodoguinet Creek (PA)

Chesapeake Citizen Directory: A Guide to Agencies and Organizations

A comprehensive directory listing hundreds of citizen groups, research institutions, government agencies and others involved with the Bay.

White Papers

A series of in-depth technical reports focusing on issues affecting the Bay.

- ➤ "Managing Growth in the Chesapeake Region: A Policy Perspective"
- ➤ "Toxic Pollution and the Chesapeake Bay"
- ➤ "Fisheries Management and the Chesapeake Bay"

Bay Business

A quarterly newsletter for businesses and corporations in the Bay region, focusing on issues such as pollution prevention.

The Volunteer Monitor
A quarterly newsletter for those involved in volunteer citizen monitoring, intended to provide a timely look at what's new in the world of citizen monitoring and to stimulate an exchange of ideas among those involved in various citizen monitoring programs.

Water Pollution Fact Sheets
A series of fact sheets showing how individuals and families affect the Bay by the products used in the home and on the lawn, as well as by water use.

In addition to the public information and education materials produced by the Alliance for the Chesapeake Bay, other agencies and organizations have produced materials, many of which the Alliance distributes through the CRIS hotline. Listed below are a sample of materials produced by the U.S. Fish and Wildlife Service (USFWS), the Chesapeake Bay Foundation (CBF) and the National Aquarium in Baltimore.

Fact Sheets (USFWS)
A series of fact sheets describing the ecology of the Bay, including: submerged aquatic vegetation, the alewife and blueback herring, the canvasback duck, the great blue heron, the blue crab, the peregrine falcon, the bald eagle, the osprey, the black duck, shad, and striped bass.

A Chesapeake Bay Primer (USFWS)
A guide describing the components of the Bay that make it an estuarine ecosystem, as well as the fish and wildlife that live there. The primer also explains the problems that the Bay faces, including declining habitat and pollution by nutrients and toxic chemicals.

Chesapeake Wetlands (USFWS)
A fact sheet describing the different types of wetlands and their environmental, economic, and recreational benefits. The fact sheet also gives tips on what private citizens can do to protect wetlands.

Chesapeake Bay: Its Beauty and Bounty (USFWS)
A full-color brochure containing photographs, illustrations and text highlighting fish and wildlife of the Chesapeake Bay and the need to protect their habitats. The brochure folds out to a poster of fish and wildlife of the Bay.

Chesapeake Bay Wetlands (USFWS)
A large poster map illustrating the general extent and distribution of major wetlands and deepwater habitats in the Chesapeake Bay region.

Bay News 2020 (USFWS and CBF)
A futuristic newspaper presenting two possible, but contrasting views of the Bay in the year 2020. Under one scenario, the Bay has recovered due to the interest and dedication of the public and the strong leadership of government. The other headline outlines a doomsday scenario—the Bay is practically dead as a result of public apathy and government inaction.

Wetlands Newspaper (USFWS)
A mini-newspaper for elementary-school students focusing on wetlands, with stories, games, and puzzles. The newspaper describes both freshwater and saltwater wetlands and explains their many values to humans, fish and wildlife.

The Changing Chesapeake (USFWS and the National Aquarium in Baltimore)
A reader and activity book discussing the natural and cultural history of the Bay. The book emphasizes changes in the Bay, its animals and plants, and the surrounding land in the last 15,000 years. The book is designed to provide readily usable lessons for teachers of grades 4-6.

Bay BC's (USFWS and the National Aquarium in Baltimore)
A multidisciplinary approach to teaching about the Chesapeake Bay. The curriculum includes background material and lesson plans for teachers of grades K-3, with songs, games, and stories for students.

The Bay Activity Kit (USFWS)
A kit containing activity cards intended to introduce middle school through adult audiences to the major issues affecting the Bay and to lead them to additional sources of information. Each card in the activity kit highlights an important Bay issue or problem, and describes an activity that an individual or group can undertake to better understand or help solve the problem.

Chessie: A Chesapeake Bay Story and Chessie Returns (USFWS)
A reader and coloring book and its sequel, written in Dr. Seuss-style rhyme. The books educate children about Bay animals and the problems in their habitats, as well as how human development creates problems for the Bay. Intended for students in grades K–5.

In addition to the resources listed above, the Virginia Council on the Environment has produced a document called **Chesapeake Bay Resources Directory: A Guide to Informational and Educational Resources for Virginia's Chesapeake Bay and Its Watershed** (March, 1990). You may obtain a copy of this guide by calling CRIS at 1–800–662–CRIS or by contacting:

Council on the Environment
Commonwealth of Virginia
202 N. Ninth Street, Suite 900
Richmond, VA 23219
1–804–786–4500

Appendix B
Puget Sound Public Information and Education (PIE) Fund Programs

Unlike EPA's Chesapeake Bay Program, which awards grants for public information and education primarily to one organization, Puget Sound's program spreads grant monies out to numerous organizations throughout the region. As part of the 1987 Puget Sound Water Quality Management Plan, the Public Involvement and Education Model Projects Fund (or PIE-Fund) was created to fund "projects that could serve as models for public involvement and education, community cleanup, or citizen monitoring of water quality of biological resources." Under the PIE-Fund, public, private, and nonprofit organizations may submit proposals for projects. You may request a copy of **Public Involvement and Education Model Projects Fund: 47 Success Stories from Puget Sound,** which describes projects and lessons learned in the first three rounds of grants.For more information, contact:

Puget Sound Water Quality Authority
Mail Stop PV-15
Olympia, Washington 98504
206-493-9300 or 1-800-54-SOUND

Following is a description of just a sample of the projects that have been completed.

Water Quality and Construction Practices
(Sponsor: Associated General Contractors of Washington)
Information for construction contractors about how their work on construction sites affects water quality. A manual presenting appropriate construction practices and state regulations pertaining to work at construction sites, and a poster highlighting proper waste disposal and erosion control methods were produced.

Household Hazardous Waste Collection Project
(Sponsor: Metrocenter YMCA)
A program designed to educate householders on the hazards of household hazardous waste, and to provide for collection of this waste. Flyers about each collection, a model contract for governments and processing companies responsible for collection sites, and a booklet on how to develop a hazard-free community were produced.

Education Project for Southeast Asian Refugees and Immigrants
(Sponsor: Nisqually Reach Nature Center)
A program designed to educate Southeast Asian refugees on shellfish and seaweed harvesting regulations and on the dangers of eating contaminated shellfish. Workshops were held with both fisheries enforcement officials and refugees, and a handbook and slide show were produced.

Soundwatch: A Travelling Exhibit on Marine Mammals
(Sponsor: The Whale Museum)
A travelling exhibit, a poster, and a window decal were developed to involve more people in safeguarding the health of marine mammals.

Water Quality Monitoring Project
(Sponsor: Green River Community College)
A student monitoring program was created, using college students to teach elementary and secondary students how to do water quality monitoring. Videotapes demonstrating testing techniques were produced.

Lake Stevens Watershed Awareness
(Sponsor: City of Lake Stevens)
A video, signs along a creek, and mailings to residents were produced in order to develop a water quality ethic and a sense of personal responsibility for maintaining or improving water quality in the city.

A Native American Perspective on a Clean Puget Sound
(Sponsor: Squaxin Island Indian Tribe)
A mobile display board depicting past and present Squaxin fisheries and a slide/tape presentation depicting historical and contemporary uses of the Sound by the tribe were produced. The purpose was to provide the surrounding community with a Native American perspective on a clean Puget Sound.

Puget Sound Citizens Network: Timber/Fish/Wildlife Implementation
(Sponsor: Washington Environmental Council)
Environmental representatives were recruited and trained to work in the field alongside other professionals in forest management. Forest practices were modified and a process for citizen involvement in resources issues was established, all in an effort to protect water resources from harmful forest practices.

Children of the Sound
(Sponsor: The Resource Institute)
A slide show for learning-disabled children and children-of-color, a series of information sheets for parents, and a curriculum for children with special needs was prepared to encourage these children to become advocates for clean water.

Sound Experience
(Sponsor: The Marine Science Society of the Pacific Northwest)
A floating environmental education program was established, using a shipboard classroom to teach an appreciation of Puget Sound. A pre-trip packet was prepared for teachers, and a program using learning stations aboard the ship were designed. This project resulted in the creation of a new nonprofit environmental education organization.

Business Partners for Clean Water
(Sponsor: Bellevue Storm and Surface Water Utility)
Workshops were used to educate business on reducing sources of water pollution.

Environmental Radio
(Sponsor: Environmental Perspectives)
A series of half-hour radio programs on water quality issues was created.

Canal Cleaners
(Sponsor: Mason County Department of Health Services)
A house-to-house travelling water quality education workshop for shoreline and upland homeowners was created.

Boundary Bay
(Sponsor: Point Roberts heron Preservation Committee)
Environmental education activities related to the Boundary Bay ecosystem were created for schools.

How to Test for Readability

The SMOG Readability Formula

To calculate the SMOG reading grade level, begin with the entire written work that is being assessed, and follow these four steps:

1. Count off 10 consecutive sentences near the beginning, in the middle, and near the end of the text.
2. From this sample of 30 sentences, circle all of the words containing three or more syllables (polysyllabic), including repetitions of the same word, and total the number of words circled.
3. Estimate the square root of the total number of polysyllabic words counted. This is done by finding the nearest perfect square, and taking its square root.
4. Finally, add a constant of three to the square root. This number gives the SMOG grade, or the reading grade level that a person must have reached if he or she is to fully understand the text being assessed.

A few additional guidelines will help to clarify these directions:

- A sentence is defined as a string of words punctuated with a period (.), an exclamation point (!) or a question mark (?).
- Hyphenated words are considered as one word.
- Numbers which are written out should also be considered, and if in numeric form in the text, they should be pronounced to determine if they are polysyllabic.
- Proper nouns, if polysyllabic, should be counted, too.
- Abbreviations should be read as unabbreviated to determine if they are polysyllabic.

Not all pamphlets, fact sheets, or other printed materials contain 30 sentences. To test a text that has fewer than 30 sentences:

1. Count all of the polysyllabic words in the text.
2. Count the number of sentences.
3. Find the average number of polysyllabic words per sentence as follows:

$$\text{average} = \frac{\text{Total \# of polysyllabic words}}{\text{Total \# of sentences}}$$

4. Multiply that average by the number of sentences *short of 30.*
5. Add that figure on to the total number of polysyllabic words.
6. Find the square root and add the constant of 3.

Perhaps the quickest way to administer the SMOG grading test is by using the SMOG conversion table. Simply count the number of polysyllabic words in your chain of 30 sentences and look up the approximate grade level on the chart.

An example of how to use the SMOG Readability Formula and the SMOG Conversion Table is provided on the following page.

We have calculated the reading grade level for this example. Compare your results to ours, then check both with the SMOG conversion table:

Readability Test Calculations

Total Number of Polysyllabic Words	=38
Nearest Perfect Square	=36
Square Root	= 6
Constant	= 3
SMOG Reading Grade Level	= 9

SMOG Conversion Table*

Total Polysyllabic Word Counts	Approximate Grade Level (±1.5 Grades)
0-2	4
3-6	5
7-12	6
13-20	7
21-30	8
31-42	9
43-56	10
57-72	11
73-90	12
91-110	13
111-132	14
133-156	15
157-182	16
183-210	17
211-240	18

*Developed by: Harold C. McGraw, Office of Educational Research, Baltimore County Schools, Towson, Maryland.