

Guidelines for Developing and Evaluating Communication Tools/Efforts



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The Environmental Education Training and Partnership (EETAP) is a consortium of leading education and environmental education organizations working to advance education and environmental literacy. Environmental education is a learning process that increases people's knowledge and awareness about the environment and associated challenges; develops the necessary skills and expertise to address the challenges; and fosters attitudes, motivations, and commitments to make informed decisions and take responsible action (UNESCO, Tbilisi Declaration, 1978.)

Preface

These guidelines were derived from communications research and practice. Generally speaking, guidelines are intended as a job aid for program planning, monitoring operations, and assessing outcomes. Guidelines are useful for emphasizing important criteria that should be applied by the user regardless of whether the task at hand is design, monitoring, or evaluation. The purpose of these guidelines is to present criteria that should be considered when evaluating EETAP environmental education communication and Internet access efforts.

Specifically, these guidelines consist of criteria that should be considered when developing communications efforts that seek to improve recognition of environmental education, convey the importance and value of environmental education, and improve access to environmental education resources. By examining communications efforts against the specific criteria in each category, an evaluator can examine the effectiveness of the communication and generate recommendations for improving the communication effort(s).

Introduction

These guidelines focus on the communication and Internet access programmatic area of EETAP. The guidelines were derived from research on communications theory and practice.

The <u>Guidelines for Developing and Evaluating the Effectiveness of EETAP Communication</u> <u>Tools/Efforts</u> is a set of recommendations about how to design, monitor, and/or evaluate communications products and services that are effective for (1) improving recognition of environmental education; (2) conveying the importance and value of environmental education; or (3) increasing access to environmental education.

These guidelines are intended for use by

- ✓ EETAP administrators to evaluate past and current EETAP communications/access efforts
- ✓ EETAP administrators to inform future communications/access efforts
- ✓ EETAP partners for use in the design, development, and evaluation of communications/access efforts

The main purpose for these guidelines is to provide a tool that, when used, improves the effectiveness of the communications products and access efforts that are being designed, developed, and deployed. The guidelines are not a set of fixed rules, but rather a description of criteria of merit for consideration when gauging the quality of communications/access efforts.

General Guidelines for Improving the Effectiveness of Communication

Communication is a complex process. It is considered to be context-specific because it is influenced by several sources, including attributes of (1) the message source; (2) the message; (3) the channel; and (4) the receiver. Due to the complex and context-specific nature of communications, experts recommend the following steps to improve communications efforts: (1) planning; (2) setting clear, realistic objectives; (3) pretesting; and (4) evaluating outcomes.

Within the broad study of communication, persuasion is the specific facet of communication that focuses on processes of social influence, i.e., people communicating to affect one another and themselves. Persuasion research finds that receiver exposure; attention, perception, and retention are selectively based on types of messages, level of desired outcome, preexisting knowledge of receivers, preexisting values of receivers, and extraneous circumstances. Success of persuasive messages depends on the extent to which receivers are self-interested and whether holding opinions or taking actions can help to achieve rewards or avoid undesirable outcomes. In multiple factor decisions, many variables interact to produce acceptance or resistance to a message, and tactical and stylistic aspects of the message itself become less predictable of the target audience's response. When this is the case, it is necessary to consider communication principles beyond graphic design to include sociocultural, informational, cognitive, and psychological factors.

The guidelines are organized using the recommended steps for improving the effectiveness of communication efforts: (1) planning; (2) setting clear, realistic objectives; (3) pretesting; and (4) evaluating outcomes. Each section includes several points for consideration when conducting that step. The guidelines should be used when designing, monitoring, deploying, and evaluating communications and Internet access.

Step 1: Planning Your Communication Efforts

1. Adopting a Consumer Approach

In order to communicate effectively with any target audience, it is important to adopt a consumer approach as opposed to a producer approach. A producer approach to communication places high value on what you, the provider of the product/service, think is important. In the case of environmental education, a producer approach would place high importance on what environmental educators value about environmental education - for example, environmental literacy. Conversely, a consumer approach to communication finds out what is important to the audience and then shows how the product or service fits the needs of the audience. As an example, middle school math teachers probably value mathematical literacy more than environmental literacy. A consumer approach to communicating with mathematics teachers would convey how environmental education can contribute to mathematical literacy.

2. Audience Analysis

Upon adopting a consumer approach, you are now positioned to undertake analysis that will help you understand your target audience. Is the target audience any man or woman in the street? Or are you talking to specific people? What do these people like? Is what you provide an essential item in their lives or is it something they like, but do not need?

One way to help you to understand your target audience is to create a profile of the group. You might consider questions such as, What are common characteristics and attributes of individuals in the audience who will be receiving this communication? What are their likes, dislikes, and preferences? What do they value and believe?

Analysis of the target audience might include the following steps:

- 1.2.1 Determine cognitive and developmental characteristics of the target audience (information processing styles, previous knowledge, etc.).
 - 1.2.1.1 Determine the target audience's prior knowledge about environmental AND educational issues, goals, and concerns.

- 1.2.1.2 Determine the cognitive processing style(s) of the target audience. Cognitive styles indicate how information is processed. Insight into cognitive styles can provide insight into whether a particular informationprocessing task is likely to be completed. Information about cognitive styles requires information not only about the cognitive processing capabilities of the receiver, but also the cognitive complexity (or load) of the information itself.
- 1.2.2 Determine affective characteristics (interests, attitudes, beliefs, and motivations) of the target audience.
 - 1.2.2.1 Determine the target audience's existing beliefs and social norms toward environmental AND educational issues.
 - 1.2.2.2 Determine the target audience's existing attitudes toward environmental AND educational issues.
 - 1.2.2.3 Determine the target audience's existing actions/behavior toward environmental AND educational issues.
- 1.2.3 Determine social characteristics (social and cultural development) of the target audience.
 - 1.2.3.1 Determine the target audience's relationships to others including subordinates, peers, and authority.
 - 1.2.3.2 Determine the target audience's tendencies toward cooperation, competition, or disengagement.
 - 1.2.3.3 Determine the target audience's locus of control.

3. Analyzing the Communication Message

When adopting a consumer approach to communication, the step of analyzing the communication message is as important as analyzing the audience. Analyzing the communication message includes multiple steps and requires considering several questions. Questions to consider include, what is the nature of the content? Is the content simple or complicated? Are you trying to increase awareness of an issue, increase understanding of an issue, alter attitudes or beliefs about an issue, or are you trying to effect action? Is the content basic factual information or is it more complicated, such as the nature and origin of an environmental problem? Is the message grounded in the reality of what already exists, or is it based on speculation? Is the message close to the beliefs, attitudes, and prior knowledge level of the receiver?

Analysis of the communication message might include the following actions:

- 1.3.1 Determine if the message is cognitive or affective. Cognition is the act of intellectually processing information, while affective outcomes are concerned with feelings, emotions, beliefs, attitudes, and motivations. The relationship between cognition and affect is highly intertwined. Beliefs and attitudes influence cognition and cognition influences beliefs and attitudes.
- 1.3.2 Communicate messages that are in congruence with knowledge/beliefs that the receiver is known to hold. Define the message in ways that are similar to cognitions and beliefs already held by your audience.
- 1.3.3 Use two-sided arguments to show the pros and the cons with skeptical audiences.They are more effective.
- 1.3.4 Demonstrate the instrumental utility of the message by indicating how the information can help the target audience.
- 1.3.5 Use humor and entertainment value to entice your audience. Receiver attention is primarily determined by the extent to which they perceive gratifications (entertaining and informative.)
- 1.3.6 Show the audience how the message is relevant to their needs.
- 1.3.7 State conclusions explicitly rather than allowing receivers to draw their own conclusions.
- 1.3.8 Determine the level of complexity of the message's content. Generally, messages that include simple and/or well-known facts require less cognitive load to process. Furthermore, content that is related to similar, previously known facts/concepts (known to the target audience) requires less cognitive load to process. Messages that require less cognitive load are more readily tended to and received. Messages with technical facts are more difficult to tend to and process. The degree of technical complexity is directly related to the prior knowledge level of the audience. Therefore, it is important to understand the prior knowledge level of your audience in order to generate message content that is within a proximal zone of their understanding.
- 1.3.9 Use repetition for cognitively complex messages. Repetition aids in understanding when it is limited to one or two times and slight variation is used.
- 1.3.10 Determine the temporal and probable nature of the cognitive content. Cognitive content that is grounded in the past and is factual is easier to receive and tend to than cognitive content that is speculative and based on potential future occurrences.

- 1.3.11 Align affective messages close to the attitudes and interests of the receiver. When the content message appeals to emotions, attitudes, feelings, or motivations, it is more likely to be considered when the attitude conveyed closely mirrors an emotion, belief, feelings, or motivation emotions already held. For example, while social studies teachers might not value water quality as much as environmental educators, they do believe that it is important to impart citizenry and stewardship to their students. Therefore, a content message targeted at the attitudes and beliefs of social studies teachers would be more effective if it conveyed a primary message about citizenship.
- 1.3.12 Demonstrate proximity by using like/known message sources. People attend to messages from people who are similar to them more than those that come from people who are not similar to them.
- 1.3.13 Use expert sources when the message is technical and cognitively complex.
- 1.3.14 Use trustworthy sources when the message is affective.
- 1.3.15 Demonstrate the model behavior as opposed to talking about it. Modeling (whether by an expert or trustworthy source) is more effective when the model actually demonstrates the specific behavior as opposed to talking about it.
- 1.3.16 Show rewards for the model exhibiting the desired behavior. Modeling is more effective when the audience observes the model being rewarded for the behavior.
- 1.3.17 Diminish the perceived risks of holding the emotion, attitude, feeling, or motivation. It is difficult to change attitudes and feelings that are perceived as high risk. Risky attitudes and beliefs are those that run counter to social norms and values. Motivations that are perceived as risky are those motivations that cannot be acted upon. To act on a motivation requires the belief that one has the knowledge and abilities to succeed in the action, as well as the external support (required resources, facilities, etc.) necessary to succeed.
- 1.3.18 Demonstrate social acceptability of the desired attitude and the reward for socially acceptable behavior consistent with the attitude. This is sometimes done by demonstrating strength in numbers and/or resources.
- 1.3.19 Mitigate risk/concern by sending strong, yet realistic efficacy messages.
- 1.3.20 Demonstrate the rewards associated with holding the emotion, attitude, feeling, or motivation. The rewards demonstrated must be consistent with the intrinsic and/or extrinsic values of the target audience.

4. Analyzing the Communication Channel

Analysis of the communication channel includes the consideration of various factors such as choice of media/mediums, frequency and variation of the communicated message, as well as elements of effective mediated communication such as structure and style of the mediated message.

Several communication channel factors should be considered:

- 1.4.1 Decide which media are most appropriate for reaching your audience, the specificity of the message that can be sent successfully with the media, and the rate of influence.
 - 1.4.1.1 Use of print media is recommended to establish credibility. Generally, print media is seen as more credible than television and radio.
 - 1.4.1.2 Use of interpersonal networks is recommended over mass media for cultivation of emotions, attitudes, and opinions because they are more persuasive.
- 1.4.2 Increase volume and repetition for complex messages. When the message is complex, reception and understanding are as important as yielding.
- 1.4.3 Use repetition with variation to communicate a cognitively complex message.Repetition with variation is better than repetition without variation for increasing understanding.
- 1.4.4 Use short concentrated messages for complex content as opposed to longer, less concentrated messages.

5. Structural and Stylistic Elements

In addition to the nature of the message, there are structural and stylistic elements of mediated communication that should be considered:

- 1.5.1 Organize ideas for accessibility, readability, completeness, and clarity.
- 1.5.2 State main ideas at the beginning ("front-loading"), indicate how the document is organized, and include signposts and reader cues to tell readers where they're going and to signal important points.
- 1.5.3 Put the most important points first, the second most important points next, and so on.The determination of what is important should be based on the needs and perceptions of the audience.
- 1.5.4 Chunk the information into manageable pieces highlighted by subheadings.

- 1.5.5 Construct paragraphs with unifying ideas by connecting each sentence logically to the one preceding it.
- 1.5.6 Organize sections and subsections the same way/using front-loading, signposts, reader cues, and chunking.
- 1.5.7 Establish visual hierarchies of information on document pages using organizers. For example, use largest fonts sizes for more important information, second largest font sizes for second more important information, etc. Use color, bold, and/or italics to draw attention to most important points, etc.
- 1.5.8 Use common type sizes and styles.
- 1.5.9 Use left justification.
- 1.5.10 Use numbered lists, bulleted lists, and icons.
- 1.5.11 Provide adequate information on how to use the document, what other documents are needed, and what prerequisite knowledge is needed.
- 1.5.12 Include overviews for each section and within sections where appropriate.
- 1.5.13 Reiterate long, complex procedures or sets of tasks by including them in the overview as well as in detailed instructions.
- 1.5.14 Summarize key points with quick reference lists.
- 1.5.15 Use mostly present tense.
- 1.5.16 Use the active voice.
- 1.5.17 Eliminate long strings of qualifying phrases and clauses.
- 1.5.18 Use large words sparingly.
- 1.5.19 Eliminate unnecessary phrases.
- 1.5.20 Eliminate words that are vague or meaningless.
- 1.5.21 Write smooth transitions between sentences explicitly, using words like "however," "therefore," and "also."
- 1.5.22 Write smooth transitions implicitly by making a connection in meaning between one sentence and another or by beginning sentences with information the readers already know and ending with new information.
- 1.5.23 Control the rhythm of sentences by varying the length of sentences and the beginnings of sentences.
- 1.5.24 Include all of the information necessary to meet stated purpose. Eliminate gaps in information, especially in knowledge the reader needs to perform tasks.
- 1.5.25 Include only information that is relevant to the defined purpose. No unnecessary information is included.

- 1.5.26 Use terms consistently so that the same terms are used to mean the same things throughout.
- 1.5.27 Use similar formats (including lists, tables, and diagrams) for similar information.
- 1.5.28 Use headings and subheadings consistently for similar pieces of information.

6. Special Guidelines for Web Publishing

Research has shown that Web users generally prefer writing that is concise, easy to scan, and objective (rather than promotional) in style. A common thread between conciseness, scannability, and objectivity is that each reduces the user's cognitive load, which results in faster, more efficient processing of information. Concise text contains less information to process; scannable text calls attention to key information; subjectivity (or questioning the credibility of promotional statements) seems to distract users from processing the meaning.

Analysis of publishing for the Web include the following:

- Establishing conciseness on the Web site. Reading from computer screens is about 25 percent slower than reading from paper. As a result, people don't want to read a lot of text from computer screens.
- Designing for scannability. People rarely read Web pages word by word; instead, they scan the page, picking out individual words and sentences. As a result, Web pages have to employ scannable text.
- Conveying objectivity. Objectivity is important for Web users, because it is less clear who provided the information on the Web and whether a page can be trusted.

The following indicators illustrate conciseness, readability/scannability, objectivity and credibility in Web publishing.

- 1.6.1 Use half the word count (or less) than conventional writing.
- 1.6.2 Reduce the need to scroll. Web users don't like to scroll.
- 1.6.3 Eliminate the use of frames. Frames increase the need to remember where you have been because the user's view of information on the screen is determined by a *sequence* of navigation actions rather than a *single* navigation action.
- 1.6.4 Use the inverted pyramid style, starting with the conclusion.
- 1.6.5 Highlight keywords (hypertext links serve as one form of highlighting; typeface variations and color are others.)

- 1.6.6 Minimize the use of graphics that will take time to download and therefore delay the ability to navigate your site.
- 1.6.7 Use meaningful subheadings (not "clever" ones) that tell the user what the page or section is about.
- 1.6.8 Use bulleted lists.
- 1.6.9 Convey one idea per paragraph (users will skip over any additional ideas if they are not caught by the first few words in the paragraph.)
- 1.6.10 Increase objectivity by using neutral rather than subjective, boastful, or exaggerated language. Promotional language imposes a cognitive burden on users who have to spend resources on filtering out the hyperbole to get to the facts.
- 1.6.11 Eliminate adjectives (e.g., "great" and "overwhelming"), buzzwords (e.g., "paradigm"), and claims that were not supported with evidence.
- 1.6.12 Keep all information on your Web site up to date and accurate.
- 1.6.13 Include links to other sites, which shows that the authors have done their homework and are not afraid to let readers visit other sites. Be sure that the links are current.
- 1.6.14 Use a secure server to collect any kind of personal information (name, address, work place, social security number, etc.) from users.
- 1.6.15 Minimize the use of banners, animations, etc. These marketing tools connote a sales pitch, increase speculation on the part of the users, and thereby detract from the credibility of the information.

Step 2: Setting Goals and Selecting Clear, Realistic Objectives

Strategic communication begins with the establishment of goals. Goals are broad statements that specify the purpose of the communication. Examples of communications goals might be to: (1) introduce a product to market; (2) raise awareness; (3) improve recognition; (4) create/maintain brand image; or (5) convey importance and value. However, these general goals are too broad to (1) provide direction for accomplishing them; (2) be used to determine the extent of success or failure of a communication plan; and (3) convey intent to others.

In order to communicate how goals will be accomplished and how they will be measured, it is necessary to operationalize goals by setting clear, realistic objectives. For an objective to provide direction for accomplishment, as well be useful as an assessment guideline, it must be specific and measurable. The most common deficiencies in communications objectives are (1) failure to

state them; (2) failure to state the objectives in quantifiable terms; (3) failure to identify the audience; (4) use of superlatives that are unmeasurable; and (5) failure to define and isolate outcomes.

1. State Outcomes

Let's turn to a review of defining and isolating outcomes. If you can define and isolate outcomes, then the other deficiencies are usually addressed in the process.

2.1.1 Define outcomes as the actions that you expect to come from the communication effort. See example 1.

Example 1

Let's assume that the goal of a communication program might be to raise awareness about the availability of environmental education resources. Specific objectives are listed below:

- 1. To raise awareness about the availability of environmental education resources by **formal** educators, we will
 - a. advertise the availability of environmental education resources on a Web site
 - b. send direct mail to state departments of education in all 50 states
 - c. disseminate information flyers at conference booths
- 2. To raise awareness about the availability of environmental education resources by **nonformal** educators, we will
 - a. advertise the availability of environmental education resources on a Web site
 - b. send information to state environmental associations
 - c. announce information through association newsletters.

- 2.1.2 Make sure that outcomes are stated in terms of what the consumer is going to do, not what you (the producer) are going to do.
- 2.1.3 Base outcomes on the target audience, message, and channel.

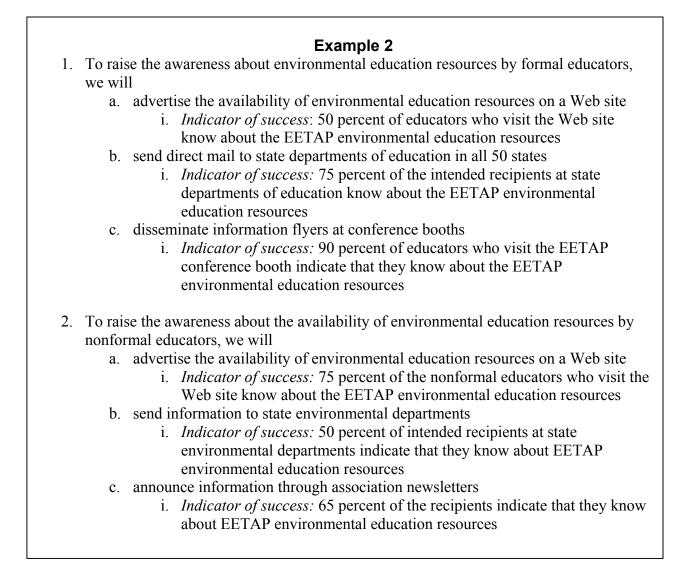
Note: As previously mentioned, specific and measurable communications objectives should: (1) indicate the basic message; (2) the intended audience; (3) the intended effect stated in terms of outcomes; and (4) specific criteria to measure the success of the information campaign. Objectives that have these attributes are easily converted into measures that can be used to answer such evaluation questions as, What are we doing to meet our goals? How well are we meeting our goals? What should we change to better meet our goals, and how should we change it?

2. Isolate Outcomes by Stating Them in Quantifiable Terms

The objectives in example 1 satisfy two of the four criteria. The objectives in this example indicate what is being done to meet the goal of raising awareness about environmental education resources and the target audience. However, in their current form, these objectives will not provide information about the extent to which awareness is raised. In other words, in their current form, there is no way to know which communication efforts are working and which are not. Without this additional information, there is no way to know which intervention to continue, modify, or stop. Example 2 includes modified objectives, this time with specific indicators of success. Note: the benchmarks in example two are hypothetical for purposes of this example.

- 2.2.1 Establish criteria of success.
 - 2.2.1.1 Establish improvement-oriented criteria of success when the goal is an increase. An example of an improvement–oriented success criterion is "increase awareness by 50 percent". Improvement-oriented success criteria include a baseline, i.e., in order to know if awareness was increased 50 percent, you have to know what it was beforehand.
 - 2.2.1.2 Establish absolute criteria of success when the goal is attained. An example of an absolute criterion of success is "50 percent of the educators who attend this workshop will report an increase in the importance and value of environmental education." An absolute criterion does not measure increase or change; therefore, no baseline is needed. However, with

absolute criteria it is common to benchmark other efforts to establish an ambitious, yet achievable target.



Example 2 would require contacting members of the target audience to determine the extent to which the objective was attained. Follow-up should also investigate why the objective was successful or unsuccessful by including specific questions about the message, the intended audience, and the channel.

3. Redefine the Outcomes

2.3.1 Establish the logic of the effort. Remember the theme of this section is setting goals and selecting clear, realistic objectives. In the example previously given, the intended outcome was to raise awareness. However, is awareness the intended outcome in and

of itself? The logic may extend in stages that show if awareness is raised, then more EETAP resources will be used. The logic of the communication program might be as follows:

Disseminate information \Rightarrow raise awareness \Rightarrow more EETAP resources requested \Rightarrow more EETAP resources disseminated \Rightarrow more EETAP resources used.

This logic model suggests that information dissemination is conducted to raise awareness. Once awareness is raised, more EETAP resources will be requested. Upon receipt of the request, more EETAP resources will be disseminated; and upon dissemination, more EETAP resources will be used. So, it is possible that raising awareness is an intermediate step and that the intended long-term outcome is to increase use of the EETAP resources among formal educators. The short-term outcomes for the communications program, then, are to disseminate resources that raise awareness and subsequently to disseminate information that enables use of resources. Redefining outcomes requires specifying the logic of the activities relative to short-term and long-term outcomes.

2.3.2 Formulate objectives that reflect the underlying logic. By establishing the logic of your efforts, you will be better able to specify criteria you can use to measure success.

It is possible that a Web site could raise awareness without enabling use for a variety of reasons. For example, while visiting the Web site, the educator could decide that environmental education is NOT appropriate for their students/program/school, in which case there is no dissemination. Or the educator could visit the Web site, think that the materials are appropriate, order them, receive them, and then upon receipt and closer examination decide that they are not appropriate or decide that they are no more appropriate than something they already have in place.

2.3.3 Select criteria of success that are most critical. The issue, then, is whether the focus should be on initial dissemination and/or raising awareness, or on the second incidence of dissemination and/or ultimate use?

If the goal of the Web site is to help educators opt in and also opt out by raising their awareness, then this would be a criterion by which success should be measured. If, however, the goal is to disseminate resources, then the criterion of success is how

many resources were disseminated as a result of the activity, as opposed to whether the activity raised awareness. If the goal is use, then the criterion is actual use, as opposed to dissemination or awareness. Hence, it is worthwhile to clarify the intended outcomes. The process of determining criteria of success can often force clarification of the intended effects when setting clear, realistic objectives. Following is example 3 of the objectives, this time stated with dissemination as the intended outcome and with representative indicators of success.

Example 3

- 1. To disseminate environmental education resources to formal educators, we will
 - a. Advertise the availability of environmental education resources on a Web site
 - i. *Indicator of success*: # of brochures, guidelines, and lessons requested through the Web site
 - b. send direct mail to state departments of education in all 50 states
 - i. *Indicator of success:* # of brochures, guidelines, and lessons requested through postcards sent to state departments of education
 - c. disseminate informational flyers at conference booths
 - i. *Indicator of success:* # of brochures, guidelines, and lessons sent for on self-mailers handed out at various conference booths
 - ii. To measure various conference against one another, self-mailers could be coded. For example, blue could be the postcard color for the National Science Teachers Association conference, red for the Association for Supervision and Curriculum Development conference, green for the National Association of State Boards of Education, and so on.

In summary, the process of setting communications goals and objectives should result in a communication program framework. The framework identifies your system of communication in all forms as directed to all organizational stakeholder groups.

4. Indicators of Communication Goals and Clear Communication Objectives

- 2.4.1 The goals indicate the basic message.
- 2.4.2 The goals indicate the target audience.
- 2.4.3 Clear, realistic objectives are selected for the goals.
- 2.4.4 Objectives are congruent with and logical derivatives of goals.
- 2.4.5 The objectives indicate the intended outcome. Ask yourself, if the communication is successful, what will we observe in terms of user response?
- 2.4.6 The objectives indicate the criteria of success. Ask yourself, How will we measure user response?
- 2.4.7 Criteria of success are measures of the intended outcome. How will we know if awareness is raised? If awareness is not perceivable, what would serve as a reasonable indicator of it? (If it is being done to change attitudes, how will we know if attitudes are changed? If it is being done to spurn action, how will we know that action has occurred?)
- 2.4.8 Organize communication goals by stakeholder group or message type.

3: Pretesting Communication Messages

Pretesting messages is critical to the success of effective communication. Pretesting can provide a wealth of information on how to improve the communication prior to scaling up and the investment of additional resources. The point of pretesting messages with the target audience is to find out if the message is having the intended effect, as well as to determine if it is having unintended effects, positively or negatively. A message that is not having the intended effects and/or is having unintended negative effects needs to be revised prior to scaling up. If the unintended negative effects are pervasive enough, it might be desirable to abort the effort and start over again.

So far, there has been considerable conversation about targeting the message content, the audience, the channel, message structure, and style; setting goals; and selecting clear, realistic objectives. Those principles are at the heart of communication and naturally need to be carried forward. Instead of revisiting that material, this section includes discussion of methods and issues associated with pretesting messages. At the end of this section are guidelines that should be followed to pretest messages. Again, the guidelines are accompanied by indicators that suggest ways for assessing the pretesting of communications messages.

1. Select Methods for Pretesting

Commonly used methods for pretesting messages include one-on-one evaluation and small group evaluation. Regardless of whether you decide to pretest using one-on-one or small group evaluation, you will need to be concerned with your methodology, sampling, response, and measurement.

- 3.1.1 Use one-on-one evaluation to collect information from experts and/or target users.
 - 3.1.1.1 Select an expert who is well-versed and respected in the subject.
 - 3.1.1.2 Select a user who is representative of the target audience.
- 3.1.2 Use small group pretesting after one-on-one evaluation. The purpose of small group pretesting is to test the efficacy of the revisions based on the one-on-one data.

- 3.1.2.1 Include a wider range of users in the small group session than were used in the one-on-one protocols.
- 3.1.3 Request that the participants (expert, user, and small group) review the material using a set of guidelines.
 - 3.1.3.1 Develop a set of guidelines that the participants will use to pretest the message. The guidelines should include the criteria of merit and instructions for applying them systematically and completely. Criteria of merit are those things that you want them to evaluate about the communication message. The use of guidelines will reduce the chance for error in the measurement. Measurement error can be introduced through participants applying their own criteria or one participant applying multiple sets of criteria to different forms of communication and different communication messages. After all, participants are human and using them increases the chances for variability.

2. Conduct the Pretest

Once you have determined pretest methods, it is necessary to actually conduct it. Several steps should be considered when conducting pretests.

- 3.2.1 Try out the communication with the participants. The purpose is to identify and rectify obvious problems.
- 3.2.2 Observe and query the user about problems s/he is having, and document the kinds of problems during one-on-one evaluation using a read-think aloud protocol.
 - 3.2.2.1 Ask the user to read and think aloud while interacting with the communication during the read-think aloud protocol. The user is asked to express aloud any thoughts, opinions, attitudes, and beliefs s/he has during reading/listening. The user is not asked to explain these thoughts, only to express them.
 - 3.2.2.2 Record all thoughts expressed during the read-think aloud protocol (either on tape or in notes.) The documentation of the read-think aloud protocol is a record of the extent to which the user can process the message as well as the opinions, attitudes, and beliefs of the user as the message is being processed. Because read-think aloud protocols are not natural, it is a good idea to demonstrate the procedure to the subject using other material one time before actually beginning the pretest.

- 3.2.3 Observe but do not query participants during small group evaluation.
 - 3.2.3.1 Attend to verbal and nonverbal cues during observation. The designer should attend to how participants are receiving the message by observing facial expression, body language, eye contact, etc.
 - 3.2.3.2 Document the responses thoroughly.
- 3.2.4 Survey small group participants with an end of pretest questionnaire.
- 3.2.5 Remain as neutral and objective as possible in the process for both one-on-one and small group evaluation.

3. Analyze Results

After you collect the responses, you will need to tabulate and analyze them.

- 3.3.1 Start by reading through your notes.
- 3.3.2 Comb the data and look for consistent themes or patterns of information. Consistent themes can come from one person consistently stating a point about the communication in different ways. Consistent themes or patterns of information can also come from similar responses garnered from different individuals.
- 3.3.3 Look/listen for meaning beneath the words and for context around the responses. The intonation of the voice can be as important as the words themselves.
- 3.3.4 Go back to your notes and tapes to see if you misinterpreted or left anything out after you have completed the initial analysis.
- 3.3.5 Document your data analysis methodology.

4. Make Recommendations

- 3.4.1 Recommend changes based on data gathered.
- 3.4.2 Develop an action plan for making changes, including persons responsible for making the changes and a time line.
- 3.4.3 Document recommendations.
- 3.4.4 Develop a control plan to ensure that changes are made as planned.

Step 4: Evaluating Outcomes

Before starting any promotional program, you should decide how you will evaluate the results. If proper planning was done and clear, realistic objectives were set, then you should have a thorough understanding of the target audience, the message, the channel, structure, and style, as well as the purpose of your communication, i.e., what you are trying to accomplish. The focus of this section is to provide guidance on how to evaluate outcomes.

The purpose behind evaluating outcomes is to enable strategic management of your communication efforts. In order to manage these efforts, you will need to measure them. Hypothetically, half of your promotional dollars might be wasted; if you have no method of measurement in place, you will not know which half.

There are several steps to follow to evaluate outcomes.

1. Determine Evaluation Goals and Questions

- 4.1.1 Determine what questions the evaluation will answer.
- 4.1.2 Establish the type(s) of outcomes you are expecting.
 - 4.1.2.1 Attitude outcomes are rarely the long-term outcome. Rather, attitudes and /or valuing are related to the long-term outcome of the target audience taking some sort of action.
 - 4.1.2.2 Increased recognition that results in action might be one type of long-term outcome. Recognition outcomes might include actions such as the following: listens attentively, reads actively, shows awareness of importance, shows sensitivity to issues, shows interest in subject, volunteers, accepts, agrees, allows, reacts.
 - 4.1.2.3 Increased importance and valuing that results in taking an action is another type of outcome. Importance and value outcomes might include actions such as demonstrates belief, shows concern, demonstrates problem solving, demonstrates commitment, accepts responsibility, formulates plans, practices beliefs, enacts.

- 4.1.3 Identify the decisions that must be made as a result of the evaluation.
 - 4.1.3.1 Verify that the evaluation goals, outcomes, and decisions to made are consistent. When the decisions that must be made pertain to resource allocation, then cost-benefit or cost-effectiveness evaluation is usually conducted. Costs typically include the costs to design, develop, and deploy the communication effort. These costs can include personnel, facilities, equipment, materials, etc. Benefits typically include outcomes of the effort versus (1) outcomes if money had been spent differently (on another programmatic area or another communication effort) or (2) monetary estimate of benefit of effort. Cost-effectiveness is the ratio of cost divided by the measure of effectiveness.
- 4.1.4 Select questions that will actually be included in the evaluation. Identify the questions that are essential and answerable.
 - 4.1.4.1 How practical is it to gather the information to answer a particular question?If information cannot be gathered, then the question as stated may not be directly answerable.
 - 4.1.4.2 Who wants the answer? Information for key stakeholders might be imperative to gather.
 - 4.1.4.3 How critical is the information gained from the question to the continued use/growth/decline of the program? Prioritize your evaluation. Often you cannot answer all the questions, so it is critical to answer the most important questions.
 - 4.1.4.4 How much uncertainty is associated with the answers to the question? If you cannot be reasonably sure of the accuracy of the responses, it might be necessary to modify or eliminate the question(s).

2. Select Indicators of Success

- 4.2.1 Determine what you will observe in terms of users' understanding, abilities, processes, skills, and/or attitudes if the communication effort (program, piece, campaign) is successful.
- 4.2.2 Find out if the data are available or if they will have to be collected.
- 4.2.3 Determine how and when you will collect the data (for currently unavailable data) or how you will access the data (for already available data.)

4.2.4 Verify that indicators of success represent what you indicated you would observe in terms of outcomes in section 4.1.2.

3. Select Design of Evaluation and Instruments

- 4.3.1 Establish the level of evidence that must exist to indicate that the observed change is due to the communication intervention.
- 4.3.2 Select an evaluation design that will provide the needed level of evidence.
 - 4.3.2.1 The higher the level of evidence, the more rigorous the evaluation design should be. Post measures are sufficient when the level of evidence required is relatively low. Pre-post measures are necessary when a moderate level of evidence needed is needed. Pre-post measures with a control group are needed when a high level of evidence is needed.
- 4.4.3 Using indicators of success, identify all data that should be collected.
- 4.4.4 Verify which data sources will inform which indicators of success. For example, if the outcome is to increase the importance and value of environmental education among high school English teachers, an indicator of success might include changed attitudes, motivations, and beliefs about teaching environmental education in their classrooms. The data to be collected might include (a) retraining attitudes, motivations, and beliefs; (b) post training attitudes, motivations, and beliefs.
- 4.4.5 Identify how the data will be collected.
 - 4.4.1.1 Will a survey measure be used? Will you observe the attitude by asking the recipient to complete a questionnaire? By observing the attitudes of the target audience?
 - 4.4.1.2 Will you observe the action by asking the recipient to take action?
 - 4.4.1.3 Will you use existing records? Data may already be routinely collected and made available as extant data. The task may simply be to identify these data as relevant and obtain access to them.
- 4.4.2 Determine when the data will be collected.
- 4.4.3 Establish under what conditions the data should be collected to answer the evaluation questions.

5. Analyze Data

- 4.5.1 Determine data analysis techniques appropriate for type of data and evaluation questions.
- 4.5.2 Tabulate frequency counts for surveys and other quantitative data to determine patterns, etc.
- 4.5.3 Examine trends and patterns in nonquantitative data.
- 4.5.4 Check for errors, inconsistencies, and omissions.

6. Report Results

- 4.6.1 Determine who needs information, when, and why.
- 4.6.2 Use charts and graphs for quantitative data to make results evident at a glance.
- 4.6.3 Tie the implications of the evaluation to suggestions for practice/recommendations.
- 4.6.4 Document recommendations.

Summary

Due to the complex nature of communications, experts recommend the following steps to improve communications efforts: (1) planning; (2) setting goals and clear, realistic objectives; (3) pretesting; and (4) evaluating outcomes. Each step is addressed in greater detail in these guidelines. By understanding in greater detail what should be considered in each of the above steps, EETAP communications efforts can be improved.

Appendix B

EETAP Communications Checklists

(Based on the Guidelines for Developing & Evaluating EETAP Communications Efforts/Tools)

Melissa J. Dark

These checklists are for performing formative evaluations of EETAP communications. They are organized according to four steps that experts recommend to improve communications efforts: (1) planning; (2) setting goals and clear, realistic objectives; (3) pretesting communications; and (4) evaluating outcomes.

Each checklist includes several subcategories, each with 4 items. It is suggested that each item within each subcategory be scored first. Then judgments about the effectiveness of the communication can be made as follows: all four items checked – Excellent, three items checked – Good, and so on. In addition, specific areas of deficiency can be noted about the communication tool in the comments section to provide direction for modifications and improvements.

The checklists can be used in full to evaluate a communications effort or in part when deemed appropriate for the situation by the EETAP managing partners.

EETAP Communications Evaluation Coversheet		
Name of Evaluator:		
Communication Effort Being Evaluated:		
Checklists Completed:	Evidence of Well-Planned Communications	
	□ Setting Goals and Selecting Clear, Realistic Objectives	
	Pretesting Communications Messages	
	Evaluating Outcomes	
Rationale for Checklist(s) Chosen:	

EVIDENCE OF WELL-PLANNED COMMUNICATIONS				
Audience Ider	Audience Identification			
	nce is identified through words or pictures	Comments		
	nce identification is apparent to the target audience			
□ Person	s portrayed in the communication are reflective of the			
demog	raphics of target audience (age, gender, profession, etc.)			
	s portrayed in the communication are reflective of the			
cogniti	ve and affective characteristics of the target audience			
(previo	bus knowledge, attitudes, interests, motivations, etc.)			
□ 4 E	xcellent \Box 3Very Good \Box 2Fair \Box 1Po	or		
Message Ident	ification			
🗆 Messa	ge is clearly identified through words and/or pictures	Comments		
	strumental utility and/or entertainment value of message			
to the t	arget audience is clearly identified			
🗆 Messa	ge is defined in ways that are similar to cognitions and			
beliefs	held by the target audience			
	d conclusions and/or intended actions are stated explicitly			
	han requiring receivers to draw their own conclusions			
□ 4 Ex	$ cellent \Box \ 3 Very \ Good \Box \ 2 Fair \Box \ 1 Poo$	or		
Message Proc	essability			
🗆 Messa	ge uses simple, well-known facts. When facts are more	Comments		
comple	ex, message uses repetition with slight variability.			
	ge is related to concepts and facts previously known to			
the tar	get audience			
	ge diminishes perceived risks of holding the attitude,			
	, or interest			
🗆 Messa	ge relates to existing attitudes, beliefs, and interests of the			
target	nudience			
□ 4 E	xcellent \Box 3Very Good \Box 2Fair \Box 1Po	or		

Effective Use of Sources in the Message			
	An expert source is used for content that will be highly technical for the receiver; a trustworthy source is used for content that might be risky for the receiver to adopt an attitude/interest/belief; like/known message sources are used (people similar to the target audience) A like person (model) is used in the message to demonstrate the intended outcome (e.g., if the intended outcome is to raise awareness of how EE can be used to teach geometry, a math teacher is featured talking about how EE can be used to teach	Comments	
	geometry) Message includes rewards for the model exhibiting the desired behavior (e.g., a geometry student talking about how the unit on EE in geometry motivated him to do his best in geometry class or social acceptability of the desired behavior by showing strength in numbers)		
	Rewards demonstrated (e.g., a student being more motivated, a student scoring higher on an achievement test) are consistent with intrinsic and/or extrinsic values of target audience		
1 0000	□ 4 Excellent □ 3 Very Good □ 2 Fair □ 1 Poo	or	
	sibility of Ideas	Commonta	
	Most important points are stated first, second most important points next, and so on Importance of ideas is based on needs and perceptions of the	Comments	
	target audience		
	Information is chunked into manageable pieces		
	Reiteration is used to accentuate important points and/or to clarify complex information		
	\Box 4 Excellent \Box 3 Very Good \Box 2 Fair \Box 1 Pool	or	
Conter	nt Readability		
	Present tense is used	Comments	
	Active voice is used		
	Rhythm of sentences is controlled by varying the length and the		
	beginnings of sentences		
	Transitions are provided using words like "however", "therefore", and "also" and by beginning sentences where the		
	former sentence ended		
	$\Box 4 \text{Excellent} \Box 3 \text{Very Good} \Box 2 \text{Fair} \Box 1 \text{Pool}$	or	

Graphical/Textual Readability			
\Box Cues (font style, size, etc.) are given to signal important points	Comments		
□ Common font sizes and styles are used			
□ Left justification is used			
□ Numbered/bulleted lists, icons, and other organizational tools			
are used to organize information for readability			
\Box 4 Excellent \Box 3 Very Good \Box 2 Fair \Box 1 Po	or		
Consistency			
Terms mean the same thing throughout	Comments		
□ Tables, lists, diagrams, bullets, etc., are consistent in style and			
use throughout			
□ Headings and subheadings are consistent in style and use			
throughout			
Voice is consistent throughout			
□ 4 Excellent □ 3 Very Good □ 2 Fair □ 1 Po	or		
Clarity			
□ Large words are used sparingly, if at all	Comments		
Qualifying phrases and clauses are eliminated			
□ No unnecessary information is included (only information that			
is relevant to the defined purpose is included)			
□ Key points are summarized			
\Box 4 Excellent \Box 3 Very Good \Box 2 Fair \Box 1 Po	or		
Scoring for Evidence of Well-Planned Communications			
Add the following:			
Number of Excellent ratings $(0-9)$ x 4 =			
Number of Very Good ratings (0-9) $x_3 = $			
Number of Fair ratings $(0-9)$ x 2 =			
Number of Poor ratings (0-9) $x = $	100		
Total Score: $=$ divided by 36 =	= X 100 =		
Score > 85 Excellent			
Score 70-85 Very Good			
Score 50-70 Fair			
Score < 50 Poor			

GUIDELINES FOR EFFECTIVE WEB PUBLISHING		
Conciseness		
 A significant reduction in word count is used (experts recommend halving the word count from print communication) Only neutral language is used as opposed to subjective, boastful, or exaggerated language Qualifying adjectives and phrases are eliminated (e.g., great, overwhelming, etc.) All claims are supported with evidence 4 Excellent 3 Very Good 2 Fair 1 Point 	Comments	
Graphical/Textual Readability and Scannability		
 Meaningful subheadings are used consistently to tell the user what the page or section is about Numbered/bulleted lists, icons, and other organizational tools are used to organize information for readability An inverted pyramid style that begins with the conclusion is used One idea per paragraph is used and conveyed in the first few words of the paragraph 	Comments	
\Box 4 Excellent \Box 3 Very Good \Box 2 Fair \Box 1 Po	or	
Navigability		
 The need to scroll is minimal to nonexistent Keywords and hyperlinks are highlighted via color, color change, typeface variation, etc. Few and only essential graphics are used No frames are used 	Comments	
\Box 4 Excellent \Box 3 Very Good \Box 2 Fair \Box 1 Po	or	
Objectivity/Credibility		
 Current links to other sites are provided Information provided is up-to-date and accurate All personal information from users is processed on a secure server Banners, animations, etc., are used minimally 	Comments	
\Box 4 Excellent \Box 3 Very Good \Box 2 Fair \Box 1 Po	or	

Scoring for Evidence of Effective Web Publishing				
Add the following:				
Number of Excellent ratings (0-3)	x 4 =			
Number of Very Good ratings (0-3)	$x_3 = $			
Number of Fair ratings (0-3)	x 2 =			
Number of Poor ratings (0-3)	x 1 =			
Total Score:	= _	divided by $16 = \ x \ 100 = \$		
	Score > 85	Excellent		
	Score 70-85	Very Good		
	Score 50-70	Fair		
	Score < 50	Poor		

	EVIDENCE OF GOALS AND CLEAR, REALISTIC OB	JECTIVES
Clarity	of Communications Goals and Objectives	
	Programmatic communications goals are established and	Comments
	documented (e.g., raise awareness, disseminate	
	information/resources, influence attitudes, etc.)	
	Communications objectives are specific and measurable	
	Communications objectives are organized by stakeholder group	
	or message type	
	Communications goals are stated in terms of expected outcomes	
	(the expected result of the effort)	
	□ 4 Excellent □ 3 Very Good □ 2 Fair □ 1 Poo	or
Intenti	on of the Communication Effort Being Evaluated	
	The purpose of the communication can be identified by the	Comments
	message	
	The purpose of the communication can be identified based on	
	the target audience	
	The purpose of the communication can be identified based on	
	the communication channel	
	The purpose of the communication is outcomes-based, e.g., to	
	raise awareness of the target audience, to persuade the target	
	audience to take action, to maintain brand image in the target	
	audience's mind, etc.	
	\Box 4 Excellent \Box 3 Very Good \Box 2 Fair \Box 1 Pool	or
Indicat	ors of the Communication Effort's Success	
	Criteria of success for the communication effort are known	Comments
	Criteria of success for the communication piece are measurable	
	and can be quantified	
	Criteria of success for the communication effort will inform	
	goal attainment	
	Criteria of success for the communication effort can be isolated	
	\Box 4 Excellent \Box 3 Very Good \Box 2 Fair \Box 1 Pool	or
		-
	g for Evidence of Well-Planned Communications	
	e following:	
	er of Excellent ratings (0-3) $x 4 = $	
	er of Very Good ratings (0-3) $x_3 = $	
	er of Fair ratings (0-3) $x 2 = $	
Numb	er of Poor ratings $(0-3)$ x 1 =	100
	Total Score: $=$ divided by 12 =	x 100 =
	Score > 85 Excellent	
	Score 70-85 Very Good	
	Score 50-70 Fair	
	Score < 50 Poor	

PRETESTING COMMUNICATIONS MESSAGES			
Methods			
□ Methodology used for pretes	Methodology used for pretesting messages is documented		
\Box One-on-one pretesting was c	One-on-one pretesting was conducted first		
□ Small group pretesting was c	conducted next		
□ Guidelines were developed a	nd used during pretest		
□ 4 Excellent □ 3 Ver	y Good □ 2 Fair □ 1 Pe	oor	
Sampling			
□ Sampling procedures are doc	rumented	Comments	
□ Expert(s) selected is/are well	-versed and respected in subject		
□ User(s) selected is/are repres	entative of target audience		
□ Small group is representative	e of target audience and represents a		
wider range of users			
\Box 4 Excellent \Box 3 Ver	y Good \Box 2 Fair \Box 1 Pe	oor	
Data Collection			
\Box Records from the one-on-one		Comments	
evaluations are well-docume	nted		
	ne evaluation(s) include thoughts,		
opinions, attitudes, beliefs, e			
	p evaluation include participants'		
behaviors such as facial expr	essions, body language, eye		
contact, etc.			
	p evaluation include survey results		
\Box 4 Excellent \Box 3 Ver	y Good \Box 2 Fair \Box 1 Pe	oor	
Data Analysis			
□ Methodology for analyzing d		Comments	
\Box Evidence of themes and patter			
\Box Evidence of context around r			
	iew tapes and notes to reduce		
misinterpretation or omission			
\Box 4 Excellent \Box 3 Very Good \Box 2 Fair \Box 1 Poor			
Recommendations			
□ Recommendations are well-c		Comments	
	nanges is in place including persons		
responsible for making chang			
Recommendations are clearly			
\Box A control plan is in place for	ensuring that recommended		
changes are made			
\Box 4 Excellent \Box 3 Ver	y Good $\Box 2$ Fair $\Box 1$ Po	oor	

Scoring for Evidence of Pretesting Messages				
Add the following:				
Number of Excellent ratings (0-3)	x 4 =			
Number of Very Good ratings (0-3)	x 3 =			
Number of Fair ratings (0-3)	x 2 =			
Number of Poor ratings (0-3)	x 1 =			
Total Score:	= _	divided by $20 = \ x \ 100 = \$		
	Score > 85	Excellent		
	Score 70-85	Very Good		
	Score 50-70	Fair		
	Score < 50	Poor		

EVALUATING OUTCOMES			
Goal Orientation			
	Questions that the evaluation will answer are well- documented	Comments	
	Outcomes are classified by type (attitude, recognition,		
	importance and value, access, etc.)		
	Decisions that will be made as a result of the evaluation are		
	well-documented		
	The focus of the evaluation is consistent, i.e., evaluation		
	questions, outcomes, and decisions are aligned		
	\Box 4 Excellent \Box 3 Very Good \Box 2 Fair \Box 1 Pool	or	
Questi	on Selection		
	The question selection process is well-documented	Comments	
	Selected questions are answerable		
	Selected questions are important to key stakeholders		
	Selected questions will provide critical information		
	\Box 4 Excellent \Box 3 Very Good \Box 2 Fair \Box 1 Po	or	
Indica	tors of Success		
	Indicators of success are well-documented	Comments	
	Data sources are identified in documenteation		
	Plans for how and when to collect/access data are well-		
	documented		
	Indicators of success are representative of intended outcomes		
	\Box 4 Excellent \Box 3 Very Good \Box 2 Fair \Box 1 Po	or	
Evalua	tion Design		
	Level of evidence needed to answer evaluation question(s) is	Comments	
	well-documented		
	Evaluation design selected will produce needed level of		
	evidence		
	Data to be collected will indicate success		
	Information about which data will inform which indicators of		
	success is well-documented		
	$\Box 4 \text{Excellent} \Box 3 \text{Very Good} \Box 2 \text{Fair} \Box 1 \text{Power of } \Box 1 Po$	or	
Instru	nents/Measures		
	Instruments/, measures used to collect all data are well-	Comments	
	documented		
	Instruments/measures will/do/did collect data required to		
	indicate success/failure		
	Timing of when data will be collected and conditions under		
	which data will be collected are well-documented		
	Timing and conditions will/do/did provide data required to		
	indicate success/failure		
	\Box 4 Excellent \Box 3 Very Good \Box 2 Fair \Box 1 Pool	or	

Data Analysis			
□ Methodology for analyzing data is well-documented	Comments		
□ Evidence of themes and patterns are present			
□ Data analysis techniques are appropriate for type of data and to			
answer evaluation questions			
□ Steps taken to check for errors, inconsistencies, and omissions			
are well-documented			
\Box 4 Excellent \Box 3 Very Good \Box 2 Fair \Box 1 Po	or		
Reporting Results			
□ Identification of who needs information, when, and why is well-			
documented			
□ Charts and graphs are used to make results evident at a glance			
Implications for practice/recommendations are evident			
Results and recommendations are well-documented			
$\Box 4 \text{Excellent} \Box 3 \text{Very Good} \Box 2 \text{Fair} \Box 1 \text{Po}$	or		
Scoring for Evidence of Evaluating Outcomes			
Add the following:			
Number of Excellent ratings $(0-3)$ x 4 =			
Number of Very Good ratings (0-3) $x_3 =$			
Number of Fair ratings (0-3) $x 2 =$			
Number of Poor ratings (0-3) $x 1 =$			
Total Score: $=$ divided by $28 =$ x $100 =$			
Score > 85 Excellent			
Score 70-85 Very Good			
Score 50-70 Fair			
Score < 50 Poor			