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SUBJECT: Science and Dialogue: Blending Technical Information and Process Assistance
(Lesson Plan to supplement pages 30-33)

CONCEPT: “Informing the public’s discretion” (Jefferson’s words) or introducing relevant, credible scientific and technical information into public discussions of issues is a valuable contribution of public issues education. An equally important role of the educator is to assist those who are involved in a public issue in their search for agreement.

LEARNER OBJECTIVES: At the completion of this lesson, learners will be able to:

1. Identify what information is “known” already about the issue (this involves facts, myths and values) and what other information is needed.
2. Develop sources of scientific and technical information about your issue.
3. Realize the importance of guiding the education process toward a shared, credible information base combining relevant scientific and technical knowledge, existing local knowledge.
4. Recognize the dynamics of facilitating groups with diverse values and interests to reach an agreement; collective (as apposed to an individual) decision about how to address a public issue.

BEFORE PRESENTING THIS MATERIAL:

1. Review pages 30-33 in *Increasing Competence In Resolving Public Issues*.
2. Prepare a transparency “Facts, Values, Myths”.
3. Review and duplicate handout “Evaluation of Scientific Information.”
4. Identify a specific issue or make arrangements for an expert to speak and respond to group questions.

MEETING AGENDA FOR MATERIAL PRESENTATION:

1. Use transparency “Facts, Values, Myths” to review terminology. Have participants share examples of each.
2. Read excerpts from a technical paper, “Chesapeake Bay’s Oyster Population” to the audience. Pause after each concept to allow participants to identify it as a fact, myth, or value. Discuss responses.

3. Focus on a specific issue or case study, and discuss the following:

- What is “known” about the issue?
- What additional information is needed?
- What are possible sources for the needed information? (Consider local knowledge as well as scientific or technical information.)
- How do you expect different stakeholders to receive/react to information from the various sources?
- Considering the different stakeholders, what strategies would you recommend for obtaining and presenting information?

(ALTERNATIVE EXERCISE 1)

Provide excerpts from testimony given at hearings and using transparency “Facts, Values, Myths”, have participants work in small groups to identify (and agree upon within their group) 2 - 3 factual statements, 2 - 3 myths, and 2 - 3 value statements. Have small groups report on their success and failures in carrying out the exercise. *(Expect them to find it difficult to categorize the statements and to disagree about what were facts; one group's facts may be another group's myths. Values, which are seldom stated explicitly, may be disguised as facts or myths.)* Ask “What implications or lessons can be drawn from this exercise for public issues education?”

(ALTERNATIVE EXERCISE 2)

Have a research scientist (expert) discuss research that contributes to the knowledge base for his/her area of expertise. Allow listeners to ask questions about how this scientific information has been interpreted/used/misinterpreted/misused.

Use handout “Evaluation of Scientific Information” to form the basis for additional discussion.

Facts are verifiable statements of what is based on scientific information we have today.

Values are what should be and cannot be proven right or wrong.

Myths are inaccurate beliefs about what exists and are treated the same as a fact.

EVALUATION OF SCIENTIFIC INFORMATION

SOURCE	COMMENTS
Information databases	<ul style="list-style-type: none"> • may or may not be objective, comprehensive • few now exist, but number expected to grow
Professional societies	<ul style="list-style-type: none"> • promote professional standards, credibility • often can access diversity of perspectives
University research or Extension program	<ul style="list-style-type: none"> • public education and research mission • relatively independent and objective • may lack experience in policy implementation
Government agencies	<ul style="list-style-type: none"> • public service mission • specific mission or organizational culture could affect perspective, objectivity • may lack perspective of non-agency groups or individuals
Affected or regulated group	<ul style="list-style-type: none"> • organization or personal goals can affect perspective, objectivity • may have practical experience related to policy implementation
Associations (trade or issue-based)	<ul style="list-style-type: none"> • depending on charter, goals can affect perspective • expertise may vary

EVALUATING EXPERTISE: QUESTIONS TO ASK SCIENTISTS AND TECHNICAL ADVISORS

- What educational background and training do you have in this field?
- What types of work have you done in this field and for how long?
- Do you have direct experience in resource management or policy applications of technical information?
- What specific data or studies are the basis for your statement or position?
- Have these been evaluated by other scientists (e.g., peer review)?
- Do other scientists share your views? Who doesn't? Why?
- Are you or is your employer concerned about the implications of this policy (the precedent) beyond the particular project or decision? What are the concerns?

Source: Adams, P. W. & Hairston, A. B. (1994). Using Scientific Input in Policy and Decision Making. Corvallis, OR: Oregon State University Extension Service.

Excerpts from a Technical Paper

“CHESAPEAKE BAY’S OYSTER POPULATION”

Oyster stocks have declined in the Chesapeake Bay over the past 50 years (Fact), due solely to overharvesting (Myth). Greater populations of oysters will improve water quality because the larger population will filter greater proportions of the Bay water, restoring the cleansing function provided historically (Unknown, only a hypothesis). This paper identifies areas in the Chesapeake Bay with the greatest reductions in oyster populations from historical levels (Fact). These areas should have moratoriums on oyster harvesting (Value).

Source: Adams, P. W. & Hairston, A. B. (1994). Using Scientific Input in Policy and Decision Making. Corvallis, OR: Oregon State University Extension Service.