



KEY CHARACTERISTIC #6 USABILITY

Environmental education materials should be well designed and easy to use.

6.1) Clarity and logic. The overall structure (purpose, direction, and logic of presentation) should be clear to educators and learners.

What to look for:

- Materials are clearly and engagingly written. Main concepts are well articulated. Examples in the text are appropriate to the content and easily understood.
- Instructions for educators are clear and concise.
- The following information is included in a straightforward manner:
 - Intended audience/grade level;
 - Instructional setting and optimal number of learners;
 - Disciplines and concepts covered;
 - Intended learner outcomes;
 - Process skills addressed (i.e., observing, communicating, comparing, ordering, categorizing, relating, inferring, applying)
 - Equipment needed;
 - Safety precautions and clean up if appropriate;
 - Time needed for activity;
 - Brief overview of the activity;
 - Instructions for conducting the activity;
 - Suggestions for assessing the activity; and
 - Pre- and post-activities, such as suggestions for enrichment activities, if appropriate.
- Background information for the educator is adequate and accurate, and there is a listing of additional resources.
- Materials are organized sequentially and in an easy-to-use fashion.
- Lab and field work, and other activities, are clearly linked to related content material.

6.2) Easy to use. Materials should be inviting and easy to use.

What to look for:

- The layout of materials is interesting and appealing for educators and learners.
- Illustrations, photographs, maps, graphs, and charts are useful, clear, and easy to read.
- The material is easy for educators to keep and use (8.5x 11”, 3-hole punched, able to lie flat on desk).
- Masters for student handouts and overhead transparencies are easily duplicated.
- Copyright is spelled out or permission to copy is granted.
- Where appropriate, materials are available in electronic form such as computer file, CDROM, or over the Internet.

6.3) Long-lived. Materials should have a life span that extends beyond one use.

What to look for:

- Materials include information on where replacements, updates, equipment, and special supplies can be obtained.
- Equipment and materials are listed, reasonably accessible, inexpensive, and simple to use.
- Student materials are sufficiently supplied. Consumable instructional materials are of good quality and sufficient quantity to support the objectives.
- Nonconsumable materials can be reused by another educator.

6.4) Adaptable. Materials should be adaptable to a range of learning situations.

What to look for:

- Suggestions are provided for adapting lessons and activities for learners from particular ethnic or cultural backgrounds.

- Materials are available in more than one language, if appropriate.
- Where appropriate, the materials suggest easy adaptations for different environments, such as indoor and outdoor environments, formal and informal settings, large and small classes, mixed-level classes, or rural, suburban, and urban settings.
- There are suggestions for finding low-cost or no-cost alternatives for the equipment and materials needed.
- Materials provide suggestions for adaptations for students with special learning needs, language needs, and physical needs.
- Materials offer ideas for adapting to different grade levels.

6.5) Accompanied by instruction and support. Additional support and instruction should be provided to meet educators' needs.

What to look for:

- Professional development programs are accessible to educators in your area.
- Continuing technical support for educators is provided (for example, a toll-free telephone number or a list of local or regional points of contact for questions about the materials).
- Instructional programs provide follow-up activities or evaluations and help develop a network of practitioners.
- Materials include lists of essential resource and supporting materials, such as agency contacts, references to videos, information on computer databases, etc.

6.6) Make substantiated claims. Materials should accomplish what they claim to accomplish.

What to look for:

- Claims of learning outcomes are substantiated by systematic evaluation rather than merely by letters of endorsement and anecdotal comments from users.
- Materials were field tested under conditions similar to their intended use and evaluated in terms of stated goals and objectives prior to wide scale implementation.

**Example: 6.6
Field Testing**

This acknowledgments section indicates that new activities were field tested and evaluated.

Thank you to the following parents, teachers, naturalists, environmental educators, and youth leaders who donated large amounts of their time and consideration as they field-tested and evaluated the activities newly designed for this book: (The list of 46 names includes many people involved in formal and nonformal education).

Caduto, M.J. and Burchac, J. *Keepers of Life*. Golden, CO: Fulcrum Publishing, 1994.

- If materials are part of a larger program, the program provides for continuous feedback and modification once it is underway.
- Educators who work in the settings in which the material is intended to be used participated on the development team or reviewed drafts of materials.
- Experts in learning theory, evaluation, and other appropriate educational disciplines were involved on the development team or reviewed drafts of materials.

6.7) Fit with national, state, or local requirements. Environmental education materials should fit within national, state, or local standards or curricula. (Also see guideline #5.5 for other ideas about fitting with local curricula.)

What to look for:

- Materials have been or could be easily correlated with national, state, or local requirements or learning objectives.
- Materials can be readily integrated into established curricula.