

COMPONENT for Module 370

Developing a Curriculum-based Program or Service

PURPOSE

The purpose of this component is to guide the interpreter through a process for developing a curriculum-based program or service. A step-by-step approach is suggested that will help the interpreter consider why a program or service should be developed, how the program/service will meet the needs of the park and the educational group, what type of program or service should be developed, and how the program or service will be implemented and evaluated. Although this approach is not the only process to follow, it identifies the key elements to ensure that the essential components of an effective curriculum-based program or service are included.

OBJECTIVES

Upon completion of this component the learner will be able to:

- identify the need for an effective curriculum-based program/service;
- describe a process for developing a curriculum-based education program for an organized group;
- create a complete curriculum-based program/service that includes the all the elements of an education program/service.

APPROACH

Curriculum-based education programs for organized groups incorporate all the elements of good interpretive programs. However, these programs are fundamentally different from programs for the general public in several ways:

- 1) Audiences are identified prior to the program;
- 2) Groups have specific educational goals and objectives they are trying to accomplish by participating in this program;
- 3) Pre- and post-program activities are planned;
- 4) Methodology and content reflect audience developmental age;
- 5) Contact with the audience continues after the program concludes.

Using this information, interpreters can develop programs using techniques and activities specifically geared for the audience's needs that meets their curricular objectives and furthers the park mission. Effective education programs help learners make connections with park resources on cognitive, affective, and physical levels.

CONTENT OUTLINE

(This is an *example* of a step-by step process for developing a curriculum-based program or service. The key elements in the development process are identified. However, this is not the *only* process to follow. Every park is unique and the best development process should be determined based on individual park situation and circumstances.)

I. Review and know the primary reason(s) why the park was established and the significant resources and stories.

- A. Refer to park documents and resources
 - 1. Park enabling legislation and legislative history
 - 2. General Management Plan
 - 3. Comprehensive Interpretive Plan or Education plan
 - 4. Purpose and significance statements
 - 5. Interpretive themes
 - 6. Natural and cultural resource inventories

II. Identify a group or audience type with specific curriculum-based needs and defined educational objectives.

- A. Organized groups that attend interpretive programs
- B. Requests for special programs
- C. Requests (phone or written) for park information from groups or schools
- D. Groups that visit the park and use their own study materials
- E. Entrance station and interpretive program records and statistics
- F. Fee waiver requests
- G. Staff observation and knowledge of groups
- H. If multiple audiences with multiple purposes are identified, determine which audience type uses the park the most AND which educational purpose best matches with the park mission and resources.
 - 1. Example: If third grade groups predominate special program requests AND most of these groups are studying an historic time period that is directly related to the park's purpose, significance, and interpretive themes, this would be a good candidate for curriculum-based program development.
 - 2. If a group routinely visits the park to do leaf identification but the park's *primary* purpose and significance is to preserve an historical event, this is probably *not* the best topic for curriculum-based program development. Leaf identification may meet the group's objectives but it may *not* meet the park's goals and objectives.

III. Analyze staff, time, and budget availability and limitations

- A. Staff availability for program development
 - 1. Is there other park staff available to help in the development process?
 - 2. Are outside partners available and willing to help in the development process?
- B. Determine funding availability for the development process.
 - 1. Have park funds been authorized for the project?
 - 2. Are outside partners willing to help with funding?
 - 3. Is there grant funding available (Parks As Classrooms, etc.)?

- C. Determine the time commitment necessary for project development
 1. Can the work be accomplished along with performing regular duties?
 2. Will project development time be set aside?

- D. Program or Service Implementation
 1. Once the program or service is developed, can it be implemented with existing staff and budget?
 2. Will the program or service be self-sustaining or will it require annual funding?

IV. Identify partners who could assist in the development process. (See “*Working with Teachers and Group Leaders*” component in this module)

- A. Contact potential partners
 1. Teachers or group leaders already using or requesting to use park resources
 2. Curriculum specialists
 3. School principals
 4. Education specialists
 5. Science or history coordinators
 6. Other school district administrators
 7. State departments of education.
 8. Informal contacts between individual rangers and teachers/educational group leaders
 9. Formal advisory groups such as PSTA's, etc.

- B. Determine interest and availability to work with the park in the development process.
 1. Offer professional development credit for teachers
 2. Offer stipends if funding is available.

- C. Establish a project team to work on program/service development.

V. Through the project team, determine the park goals, objectives, and resources that best match with school or group curriculum needs (See *Module 270: Role of NPS Curriculum-based Programs.*)

- A. Compare the park’s goals and resources with the educational needs and curriculum requirements of the identified group.
 1. Refer to park documents and resources
 - a. Comprehensive Interpretive Plan or Education plan
 - b. Strategic Management Plan
 - c. General Management Plan
 - d. purpose and significance statements
 - e. interpretive themes
 - f. tangible resource/intangible meanings/universal concepts
 - g. critical resource issues

 2. Refer to the school or group’s educational requirements and objectives
 - a. national, state, and local curriculum standards.
 - b. curriculum planning documents

- c. Classroom lesson plan learning objectives

VI. Determine the type of curriculum-based program or service to develop (See “*Characteristics of an Effective Curriculum-based Program or Service*” in this module).

A. Considerations

1. availability of development assistance
 - a. teachers
 - b. curriculum specialist
 - c. resource managers
 - d. technical experts
2. time allotted for development process
3. participation of partners
4. funding
5. implementation strategy and sustainability

B. Select the format that will best meet the goals and objectives with the resources available

1. Ranger-led program in the park
2. Program conducted in the schools
3. Teachers led program with park staff providing the necessary training
4. Traveling trunk
5. Curriculum guide
6. CD-ROM
7. video
8. Other non-personal program or service

C. Develop specific learning objectives that meet the needs of both the park and the group.

1. *Example:* Third grade groups were identified as the primary audiences desiring an education program or service. The park has an identified goal of protecting the significant diversity of habitats found within the park. A 3rd grade curriculum requirement states “The students will understand that living things are part of a system; habitats change over time.” Based on this comparison of park goals and curriculum requirements, a program learning objective is developed those states “Students will be able to describe how natural and human changes to a habitat may affect the plants and animals that live in the habitat.”

D. Determine who will do the work, assign duties, and establish a project timeline.

VII. Design program components/lesson plans (See *Module 270: Elements of Curriculum-based Programs*)

A. Include the elements of an effective curriculum-based program including.

1. Pre-visit activities
 - a. Purpose
 1. Background information
 2. Orientation/NPS and site information
 3. Introduce concepts/skills needed for program
 4. Create a framework

5. Motivate students
- b. Characteristics of effective pre-visit activities
 1. Developmentally appropriate
 2. Relevant to group's objectives
 3. Engages learners without impacting program
 4. Offers a variety of activities
2. The curriculum-based program or service (on-site or off-site) (See *Module 270: Meeting the Needs of Organized Groups* and *The Continuum of Learning* component in this module)
 - a. Actively immerses learners in resource: hands-on activities
 1. on-site activities should involve park resources when possible, i.e. activities that cannot be done at the school or off site.
 2. make emotional connections with the resource
 3. lead students to assess personal values
 - b. Addresses a variety of learning styles: include cooperative learning techniques and critical thinking skill development.
 - c. Activities are developmentally appropriate
 - d. Content is appropriate for learners.
 - e. Develops concepts/skills needed for program
 - f. Assessment--monitor and adjust
3. Post-visit activities
 - a. Purpose
 1. Check level of learner understanding of goals and objectives
 2. Reinforce concepts/skills
 3. Apply learned concept to local resources
 4. Encourage resource stewardship action skills
 5. Encourage higher-level critical thinking
 6. Continue involvement with park
 - b. Characteristics of effective post-visit activities
 1. Developmentally appropriate
 2. Relevant to groups objectives
 3. Engages learners without impacting program
 4. Offers a variety of activities
4. Develop an evaluation strategy to measure program effectiveness in meeting learning objectives (See *Evaluating a Curriculum-based Program or Service* component in this Module).
 - a. Monitor and adjust throughout program cycle
 - b. Choose appropriate type(s)
 1. Group leader feedback
 2. Student performance
 3. Student feedback
 4. Self evaluation

5. Supervisor/mentor feedback
6. Peer audits

B. Elements of a lesson plan

1. States program objectives
2. Lists related park interpretive theme(s)
3. Lists group's educational objectives
4. Identifies audience age/developmental level
5. Lists equipment/materials needed
6. Determines safety issues and states logistics
7. States length of program and sequence timing
8. Plans for behavior management
9. Selects pre-visit activities
10. Outlines program activities
11. Selects post-visit activities
12. Determines program assessment
13. Cites sources
 - a. Content
 - b. Methodology

VIII. Pilot the program design with a group and get feedback.

- A. Pilot the program design with an organized group.
- B. Get feedback from teachers/group leaders.
- C. Revise as necessary.

IX. Produce "final" program design.

- A. Monitor evaluations and plan for periodic review to ensure continued relevance and appropriateness
- B. Considerations:
 1. Changes to curriculum requirements and standards
 2. Changes in educational practices
 3. New technology or new research
 4. New critical resource issues

RESOURCES

Course Design: A Guide to Curriculum Development for Teachers. 3rd edition. Posner, George J., and Alan N. Rudnitsky, Longman, 1986. This curriculum model offers step-by-step instruction to developing a curriculum from idea to evaluation. These steps can be used to develop a single lesson plan.

I.T.I.P. Instructional Model (Instructional Theory Into Practice), Hunter, Madeline. This model is attached to the resource packet contained in this 270 Competency. Further information may be found at your local county education office or through I.T.I.P. workshops.

IAA Instructional Model (Information, Assimilation, Application). May be found in the book *Sunship Earth* by Steve Van Meter and workshops available through The Institute For Earth Education, Greenville, WV, (304) 832-6404.

“Flow Learning” Instructional Model. May be found in the book *Sharing the Joy of Nature* by Joseph Cornell and workshops available through the Education for Life Foundation, 14618 Tyler Foote Road, Nevada City, CA 95959, (916) 292-3775.

Spiral Curriculum Model. May be found in *Science Teaching and the Development of Thinking*, Anton Lawson, Wadsworth Publishing, 1995.

National Science Education Standards, National Research Council, National Academy Press, 1996.

Pathways To the Science Standards, National Science Teachers Association, 1996
Programming for School Groups: An Interpreter’s Guide, Tevyaw, Kathleen, National Park Service, 1995.

Benchmarks for Science Literacy, American Association for the Advancement of Science, Oxford University Press, 1993.

In Search of Understanding: The Case for Constructivist Classrooms, Jacqueline Grennon Brooks and Martin G. Brooks, association for Supervision and Curriculum Development, 1993.

Teach the Mind, Touch the Spirit: A Guide to Focused Field Trips, Voris, Helen H., Maija Sedzielarz, and Carolyn P. Blackmon, Chicago Field Museum of History, 1986.

Assessing Parks as Classrooms- A Model for Program Evaluation, Hoerman, Slez, and Heald, National Park Service, Washington Office, 1995.

Module 270: Presenting Curriculum-based Programs Available at www.nps.gov/idp/interp.

The Geography of Childhood, Gary Paul Nabhan and Stephen Trimble, Beacon Press, 1994.

Earth Child: Games Stories, Activities, Experiments & Ideas About Living Lightly On Planet Earth, Kathryn Sheehan and Mary Waidner, Ph.D., Council Books, 1994.

Earth Education: A New Beginning, Steven Van Matre, Institute For Earth Education, 1990.

Sharing Nature with Children, Joseph Cornell, Dawn Publications, 1979.

Talking with Young Visitors in the Parks, Donald H Ecroyd, Ph.D., Eastern National Park & Monument Assoc., Inc., 1989.

Play Lightly on the Earth, Jacqueline Horsfall, Dawn Publications, 1997.

Hands-On Nature, Jenepher Lingelbach, Vermont Institute of Natural Science, 1986.

The Curious Naturalist, John Mitchell, Massachusetts Audubon Society, 1996.

Hug a Tree and Other Things To Do Outdoors With Young Children, Robert E Rockwell, Robert A. Williams, and Elizabeth Sherwood, Gryphon House, Inc., 1990.

Nature With Children of All Ages, Edith A. Sisson, Prentice Hall, 1982.

Teaching Kids To Love the Earth, Marina Lachecki Herman, Joseph Passineau, Ann Schimpf, Paul Treuer, Pfeifer-Hamilton Publishers, 1991.

More Teaching Kids To Love the Earth, Marina Lachecki and James Kasperson, Pfeifer-Hamilton Publishers, 1995.

Project Learning Tree, American Forest Council, 1990.

Project Wild, Western Regional Environmental Education Council, 1983.

Project Wet, Western Regional Environmental Education Council, 1995.

Environmental Education Materials: Guidelines for Excellence, The North American Association for Environmental Education, 937-676-2514.

Values and Teaching, Louis Raths, Charles E. Merrill Company, Columbus, Ohio, 1966.

Values Clarification, Simon, Howe and Kirschenbaum, Hart Publishing, New York, 1972.

The Piaget Primer, E. Labinowicz, Addison Wesley Publishers, 1980. *Taxonomy of Education Objectives*, Benjamin Bloom, David McKay Company, 1984.

Multiple Intellegences in the Classroom, A review of Howard Gardner's Theories by Thomas Armstrong, Association for Supervision and Curriculum Development, 1994.

The Outdoor Classroom - A Guide for Schools and Resource Managers, Nine minute videotape, Pictured Rocks National Lakeshore, P.O. Box 40, Munising, MI 49862.

SUGGESTED DEVELOPMENTAL ACTIVITIES

1. Match park resources/themes to a group's educational objectives. Select a group that is coming to the park in the near future. For this program, research park planning documents, including the education plan, tangible/intangible links, universal concepts, interpretive plans, natural/cultural resource management plans. Then research the educational group's curriculum planning documents. Look for connections/links between park resources universal concepts, and the group's learning objectives.

2. Review a curriculum-based program design from your site or a neighboring park. Examine the connections between the program and the pre- and post-program materials. Compare these three items by answering: What are the elements of effective programming as evidenced in this program? What is the purpose of the pre-program materials? How do the pre-program materials support the program? What is the purpose of the post-program materials? How do the post-program materials support this program?
3. Observe a curriculum-based program presentation at your site or from a neighboring park. Identify the elements of an effective program from both your observation and talking with the presenter of the program. Based on your observation and discussion, construct a lesson plan that reflects the program observed. Share this lesson plan with the presenter of the program to gain feedback on your lesson plan.
4. Read the state or local school curriculum guides in the subject area most related to your park themes and for the age or grade that you have identified as your target audience. Make arrangements with the local school district to observe a class of this age group. Record the developmental characteristics you observe and note how much the students may already know about your subject. Use this information to help you choose vocabulary, examples, references, etc., which will relate to what your group already knows and what is relevant to them. Incorporate this knowledge and observations into your program design.
5. Contact other sites (museums, parks, education centers) or search the Internet and collect samples of pre- and post-program materials, evaluation forms, and lesson plans. Analyze these materials based on their purpose. How do these materials introduce and follow-up a program?
6. Attend a workshop or training course on learning styles, critical thinking skills, or human development. Incorporate that information into your program design. Present a brief training session to your coworkers on what you learned in the workshop.
7. Develop a lesson plan for a program or service you are developing. If possible, have a teacher or curriculum specialist review your lesson plan and provide feedback. Present the program or service. Review your lesson plan and consider what worked and what did not work. What would you change in this lesson the next time?