

Component for Module 270

Role of NPS Curriculum-based Programs

PURPOSE

Curriculum-based programming in the NPS is important to the parks as well as the organized groups who participate in them. For many organized groups, national parks provide tangible connections to the ideas they study. At the same time, the programs serve as a venue to create future constituents for the park and to promote stewardship and preservation.

OBJECTIVES

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

- List at least three ways curriculum-based programs in national parks benefit organized educational groups;
- List at least three ways curriculum-based programs can support resource stewardship and the mission or goals of a park;
- Describe the relationship between the individual curriculum-based program and a park's overall education plan or Comprehensive Interpretive Plan.

APPROACH

Curriculum-based programs are the result of a partnership between national parks and organized groups. This relationship is symbiotic in nature, benefiting both organizations, and ultimately the students and park resources.

CONTENT OUTLINE

I) Benefits of curriculum-based programs to organized groups

A. Connects learners with the resource

- Reinforces classroom learning
- Opportunity for inquiry-based learning
- Field-experience vs. classroom experience

B. Connects learners to studies

- Brings something in the studies "to life"
- Brings context to their studies
- Provides opportunity for emotional /intellectual connections to the resource

II. Benefits of curriculum-based programs to the park

A. Exposes learners to park's interpretive themes and stories

B. Encourage interdisciplinary and interdivisional approaches

C. Address critical resource issues

- Everglades case study
- Acadia carriage roads
- Boundary issues
- Archeological site impacts
- Battlefield preservation

- Others?

D. Enhances park's relationship with the community and schools

- Great Smoky Mountains Community Program

- Golden Gate National Recreation Area

E. Encourages community involvement in park planning

- build sustainable ties with surrounding communities

F. Creates future constituencies

- Introduces learners to the park and NPS mission

G. Promotes preservation and stewardship

III. NPS benefits

A. Promotes national and global issues

B. Promotes preservation and stewardship

D. May provide research opportunities not otherwise possible (i.e. GRSM All-Taxa project)

E. Promotes NPS mission

F. Promotes parks as learning centers

G. Promotes thematic links and telling a more holistic story

H. Promotes professionalism of staff

I. Promote careers within NPS to a wide constituency

IV. Matching park mission and interpretive themes to group's curriculum

A. Integrating park themes and curriculum interests

B. Applying park-related multiple perspectives and a broadened context to learning objectives of group

C. Providing opportunities for emotional and intellectual connections to the meanings and significance of the park resource, and resource issues facing the park

D. Creating a partnership that connects park resources and compelling stories told through those resources to the group's learning objectives

RESOURCES

Programming for School Groups - An Interpreter's Guide, National Park Service, 1991.

Santa Fe Symposium, report, NPS, 1999.

Shaping the System, National Park Service, Harpers Ferry Center, 1991.

SUGGESTED DEVELOPMENTAL ACTIVITIES

1) Read and understand your site's interpretive themes, CIP, and education plan (if they exist); also the strategic plan, general management plan, and resource management plan. From these documents, describe or list the primary goals of the park and the areas of resource protection concerns. Describe how a current (or planned) curriculum-based program could help the park meet these goals and address resource concerns.

2) Brainstorm reasons why educational groups visit NPS areas or request NPS programs. Talk with other park staff that work with educational groups and confirm your brainstormed list/add additional reasons.

3) Pick three parks (large, medium and small) that have established education programs. Contact the park's chief of interpretation or education coordinator and discuss the following questions/issues:

- What curriculum-based programs are offered?
- How have these programs been developed to meet park goals? What experiences provide opportunities for the learners to make intellectual and emotional connections to the site's resources?
- Identify the similarities and differences in the established education programs.
- Discuss the ways (including thematic presentation, development of the topics and use of good techniques) in which the presentations educate groups about the parks' critical resource issues.
- Does the age-group affect how the issues and topics are addressed?

4) Identify group leaders and educators who have been involved with park programs and arrange a conversation with them to better understand their perspectives on the benefits of NPS education programs.

Last update: January, 2001

<http://www.nps.gov/idp/interp/270/edrole.htm>

Editor: [NPS Training Manager for Interpretation, Education, and Cooperating Associations](#)

Component for Module 270

Elements of Curriculum-based Programs

PURPOSE

Many organized groups visit national parks to complement their studies. The park experience becomes an integral part of their curriculum. Curriculum-based programs connect the learning objectives of organized groups through a sequence of learning opportunities with the meanings and significance(s) inherent in park resources. This component will describe what is meant by "curriculum" and outline the elements of effective curriculum-based programs.

OBJECTIVES

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

- define curriculum;
- describe the purpose and use of curricula;
- list at least three types of curricula;
- identify the elements of an effective curriculum-based program.

APPROACH

What is curriculum? Most organizations have guidelines that focus and shape their daily operations. For units in the National Park Service, it is the Mission Statement, the Strategic Plan, the General Management Plan, and the Comprehensive Interpretive Plan, among others. For schools, it is their curriculum. Curriculum comes from different sources depending on the state and community. There are national curriculum frameworks or standards for many subject or discipline areas, many states have their own curriculum guidelines or framework, and many towns, cities, or school districts also have curriculum guidelines to provide guidance for education. Teachers, at all grade levels, follow this given curriculum that basically outlines for them what to teach and when to teach it, and in some cases even how to teach it. Other educational groups such as scouts working on a badge also follow a curriculum or a "structured plan for learning." This is important because learning is a building process. Ultimately, it is the teacher who applies the curriculum.

A park curriculum-based program identifies common points of interest by matching park resources, mission and goals, and interpretive themes with the learning plan or curriculum objectives of an organized educational group. These connections can be made easily and naturally. For example, if a site tells a Civil War story, a first step might be to identify what grade levels focus on this period of American history. Likewise, if the park story emphasizes natural history, a first step might be to identify the specific subject areas, earth science, or geology for example, and match them with the same subjects or skills covered in various curricula.

Regardless of group type, identifying the intended learning outcome of their visit is a key element in a successful presentation. Specifically what do they want to learn during their site visit (or offsite presentation)? These objectives will vary in complexity and format, and can be long and detailed, or brief and general in nature. Nevertheless, they are identified and addressed if the experience is to be considered curriculum-based.

Planning this match between park goals/themes and the educational group's objectives may have already been accomplished at your site by your supervisor, education coordinator or specialist, or chief of interpretation. State or local curriculum guides, or group syllabi may already be on file in your park. The program you present will often fit within a larger context in your park. Consult the Comprehensive Interpretive Plan or Education Plan for your site if they exist, or talk with your chief of interpretation or education coordinator, to start from the foundation they may have already established. It is critical for every presenter to understand the connections between the park resource and the educational curricula that may have already been developed. Curriculum guidelines also provide valuable information about the context within which a group may be studying your park story and about the foundation of knowledge they may bring with them.

Curriculum-based programs for organized groups incorporate all the elements of good interpretive programs. They are fundamentally different, however, from general-public interpretive programs in two ways:

- 1) They address a group's specific educational goals and/or objectives.
- 2) They include planned preparation, ranger-led event (or docent-, VIP-, cooperator-led, etc.), and follow-up experiences to provide the participants with a sequence of learning opportunities.

Using this information, interpreters present programs using techniques and activities specifically designed to meet the participant's needs and curricular objectives to further the park's mission. Effective curriculum-based programs help learners make connections with park resources on cognitive, affective, and physical levels. This component identifies the elements of an effective curriculum-based program and the elements of a lesson plan.

CONTENT OUTLINE

I. What is curriculum? ("The what, when, and how a subject is taught." Or, the NPS training definition: A series of thematic courses of study in which participants learn desired knowledge, skills and/or abilities)

II. Importance of curriculum

- A. Learning - a building process
- B. Context, sequence, timing
- C. Maximizes learning
- D. Sustainability
- E. Fulfills community requirements and expectations

III. Kinds of curriculum

- A. National standards
- B. State frameworks
- C. Local, county, district, city, school, home-schooled
- D. Organizational
- E. Teacher-determined

IV. Elements of effective curriculum-based programs

- A. Relevance to park resources and interpretive themes
 1. Critical resource issues
 2. Interpretive themes
 3. Education plan or Comprehensive Interpretive Plan

4. Tangible resource/intangible meanings/universal concepts

B. Linking group's educational/learning objectives with park objectives/goals

1. Identify the educational group's learning objectives
2. Identify which park resources and interpretive themes can be used to teach the educational group's learning objectives
3. Identify link to state and local standards and assess those connections through intangible and universal concepts about the resource.

C. Contact with group leader--check with your supervisor first! Determine the purpose and goal of the contact before you contact the group leader.

1. Informal contacts between individual rangers and teachers/group leaders either prior to or at the beginning of the program to identify logistics, group dynamics, special needs, prior knowledge, learning expectations, and role of chaperones
2. Greet as one professional to another

D. Preparation (pre-visit) activities

1. Purpose
 - a. Background information
 - b. Orientation/NPS and site information/logistics
 - c. Introduce concepts/skills/meanings needed for program
 - d. Set up the resource-based experience
 - e. Motivate students
 - f. Can be repeated for groups that come later
2. Characteristics of effective pre-visit activities
 - a. Developmentally appropriate
 - b. Relevant to group's objectives
 - c. Engage learners
 - d. Offer a variety of learning opportunities

E. The ranger-led portion of the program, both on-site or off-site.

Note: see component--[Meeting the Needs of Organized Groups](#)

1. Actively immerses learners in resource
2. Addresses a variety of learning styles
3. Activities are developmentally appropriate
4. Content is appropriate for learners.
5. Relate to pre-visit element
6. Evaluation--monitor and adjust

F. Follow-up (post-visit) activities

1. Purpose
 - a. Provide a way to check level of learner understanding of goals and objectives
 - b. Reinforce concepts/skills
 - c. Apply learned concept to local resources
 - d. Encourage resource stewardship action skills
 - e. Encourage higher-level critical thinking

- f. Continue involvement with park
- 2. Characteristics of effective follow-up activities
 - a. Developmentally appropriate
 - b. Relevant to groups objectives
 - c. Engage learners
 - d. Offers a variety of learning opportunities

G. Purpose of evaluation

- 1. Monitor and adjust throughout program cycle
- 2. Validate learning objectives
- 3. Choose appropriate type(s)
 - a. Group leader feedback
 - b. Student performance
 - c. Student feedback
 - d. Self-evaluation
 - e. Supervisor/mentor feedback
 - f. Peer audits

V. Elements of a lesson plan

- A. States objectives
- B. Lists related park interpretive theme(s)
- C. Lists group's educational objectives and states where the presentation fits into the sequence of learning
- D. Identifies participants' age/developmental level
- E. Lists equipment/materials needed
- F. Determines safety issues and states logistics
- G. States length and sequence timing
- H. Plans for behavior management
- I. Identify preparation activities
- J. Outlines resource based activities
- K. Selects follow-up activities
- L. Determines evaluation methods
- M. Cites sources
 - 1. Content
 - 2. Methodology

RESOURCES

Books

Building a History Curriculum: Guidelines for Teaching History in Schools, Bradley Commission, Educational Excellence Network, 1989.

California Social Studies Frameworks Curriculum: Perspective, Paradigm, and Possibility. Schubert, William H., Macmillan Publishers, 1986. Chapter 2 of this book outlines the historical context for curriculum and organizes curriculum into different schools of thought.

Developing NPS Education Programs, National Park Service, 1995.

Earth Education: A New Beginning, Van Matre, Steve, The Institute for Earth Education, 1990, Chapter 6.

Education 2000, Community Update, US Department of Education, Washington, DC 20202-0498, 1997?.

Educational Leadership, journal of the Association of Supervision and Curriculum Development, 1250 N. Pitt Street, Alexandria, VA 22314-1453.

Environmental Education at Early Childhood Level, Wilson, Ruth, ed., North American Association for Environmental Education, 1994.

Expectations of Excellence: Curriculum Standards for Social Studies. National Council for the Social Studies, 1994. This book outlines the ten thematic strands of social studies and identifies competencies for elementary, middle, and high school students. These standards have been incorporated into several state curriculum frameworks.

Geography for Life: National Geography Standards. National Geographic Research and Exploration, 1994. This book outlines the six essential elements of geography education and identifies measurable standards for elementary, middle, and high school students. These standards have influenced and been incorporated in some state curriculum frameworks.

Historical Literacy: The Case for History in American Education, Paul Gagnon and the Bradley Commission on History in the Schools, eds., Houghton Mifflin, Boston, 1989.

National Geography Society

National Council for the Social Studies

National Science Education Standards, National Academy Press, Washington, DC, 1996 (1-800-624-6242).

Programming for School Groups: An Interpreter's Guide, National Park Service, 1991.

Science Education Guide Book, Michigan Center for Career and Technical Education, Michigan State University, East Lansing, MI 48824-1034.

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 Natural History, 1986.

Teaching with Historic Places Curriculum Framework.

Textbooks: Houghton Mifflin Social Studies Series Teacher Editions, *The World I See, I Know a Place, Some People I Know, From Sea to Shining Sea, This is My Country, A More Perfect Union, American will Be*, 1996.

Journals

CRM Bulletin, Volume 23, No. 8, 2000, "Creative Teaching with Historic Places, NPS.

Social Education and Social Studies and the Young Learner, journals of the National Council for the Social Studies, 3501 Newark Street, NW, Washington, DC 20016-3167.

Educational Leadership, Association for Supervision and Curriculum Development

Social Studies and the Young Learner

Park Documents

Statement for Interpretation; Comprehensive Interpretive Plan; Education Plan, etc.

Curriculum Guides

Local school curricula

State Education Department/Offices

Places To Visit

Other NPS sites, museums, or cultural sites with established curriculum-based programs.

Local museum collaborative (Museum Educator's Roundtable--American Association of Museums)

Websites offering insight on trends in education and learning:

GLOBE Project <http://globe.gov>

JASON Project <http://jasonproject.org>

Eisenhower Clearinghouse for Math and Science Teaching <http://enc.org>

Discovery Online <http://discoveryschool.com>

The Gateway <http://thegateway.org>

Sciencewise Alert <http://www.ScienceWise.com>

US Dept. of Education <http://www.ed.gov/index.html>

Understanding Kids <http://www.funderstanding.com/>

Articles

"The Exchange," Conference of National Park Service Cooperating Associations. Fall, 1992.

"Interpretation," National Park Service, Interpretive Design Center, Summer 1990, 1995.

Videos

Parks As Classrooms, National Park Service, 1992.

The Outdoor Classroom, Pictured Rocks National Lakeshore

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 module. 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," by Anton Lawson.

Programming for School Groups: An Interpreter's Guide, Tevyaw, Kathleen, National Park Service, 1995.

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.

SUGGESTED DEVELOPMENTAL ACTIVITIES

1. Think about the education program(s) you present. Identify the aspect of a group's curriculum that your presentation supports/addresses. Where does your presentation fit into the group's sequence of learning?
2. Read the organization/school curriculum guides in the subject area most related to your park themes. Think about the age groups most often coming to your site. In general, how much do they seem to know about your subject? Use this to develop your presentation and to structure introductory questions to help you assess what the group knows. Use this information to help you choose vocabulary, examples, activities, and references. that will relate to what your group already knows and what is relevant to them. Review a copy of a local school curriculum (social studies or science) at a given grade level. Identify areas/objectives that correlate to your park's themes.
3. Select a curriculum-based program at your site or from a neighboring park. Look for connections/links between park resources universal concepts, and the group's learning objectives. Share this information with your supervisor and/or coworkers.
4. Select a curriculum-based program at your site or from a neighboring park. Examine the connections between the presentation element, and the preparation and follow-up 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 preparation materials? How do the preparation materials support the presentation? What is the purpose of the follow-up materials? How do the follow-up materials support this presentation? Share this information with the other interpreters at your site.

Last update: January, 2001

<http://www.nps.gov/idp/interp/270/edelem.htm>

Editor: [NPS Training Manager for Interpretation, Education, and Cooperating Associations](#)

Component for Module 270

Meeting the Needs of Organized Groups

PURPOSE

To present a successful curriculum-based program an interpreter must understand and meet the needs of the specific organized group with whom s/he is working. Human development theory explains the way people learn, how they learn best, and what they learn. To be effective, the program should address a variety of learning styles through age appropriate activities and presentation techniques. This component introduces human development, learning theory, appropriate presentation techniques, and group management strategies.

OBJECTIVES

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

- Apply knowledge of developmental theory and learning styles in a presentation;
- Demonstrate ways to address a variety of learning styles during a presentation;
- Describe and apply at least three different presentation techniques;
- Select group management strategies appropriate for a given situation.

APPROACH

All people have preferred ways to learn. A background in learning theory strengthens an interpreter's ability to use effective teaching strategies and involve the participants in different types of activities for different purposes. Knowing the audience ahead of time gives the interpreter the opportunity to better prepare and plan to meet the group's needs. Organized groups tend to be more uniform in their characteristics. It is important to remember, however, that generalizations are used as guidelines and may not apply equally to all the individuals in each group. In any group with like characteristics, there are individual differences. An interpreter must avoid developing biases and stereotypes. (See [Module 201: Identifying and Removing Bias from Education and Interpretive Programs](#)).

Effectively teaching a variety of learners requires a toolbox of presentation techniques. Knowing which technique to use in a particular situation facilitates reaching instructional objectives. Developmental levels and learning styles should guide the selection of presentation techniques. For example, preschool students "look" with their hands and benefit from hands-on learning. In a natural resource, this could translate into preschoolers learning about mollusks by handling seashells. At a cultural park young children might unpack the bag of an immigrant child to learn more about life in a different time period. Techniques selected are important at all age levels and differ in the complexity of issues addressed.

Choosing appropriate techniques to engage students encourages involvement in the learning process. Participants who are interested and involved are more likely to exhibit appropriate behaviors. Setting appropriate expectations for behavior, giving clear directions, and planning for group movement sets the stage for a successful learning experience and safe use of the resource.

CONTENT OUTLINE

I. Human Development

Human Development is a maturation process all individuals go through from conception to death. Each age group has characteristics that can be outlined as physical, emotional, social, and cognitive development. Knowledge of these characteristics can assist you in presenting a program that meets the needs of the specific age group.

Characteristics

- A. Physical (Psychomotor)- Activities focus on developing physical skills
- B. Emotional (Affective) - Activities focus on clarifying values and feelings, based on emotional and social development
- C. Knowledge (Intellectual/Cognitive) - Activities focus on concepts and content

The following is a list addressing age groups, characteristics, and suggested learning activities based on human development. The division between each age grouping is not precise and overlapping occurs. The chart should be used as a reference guide to help you plan your activities to take advantage of the characteristics/developmental levels of these groups.

Age Group Characteristics Suggested Learning Activities

Ages 3-5

(Pre-School/ Kindergarten)

Physical development:

Very energetic and active
Gross motor skills developing
(running, jumping, bicycle riding)

Intellectual:

Learning through senses
Developing vocabulary
Limited understanding of time
Unexplainable fears
Action precedes thought
Short attention span

Social:

Self-centered
Varying degrees of independence
Relationship with adults-most primary care person(s)
Spontaneous Storytelling, games, puppetry, nature walks, songs, finger plays

What they can do: use crayons, write their name, like to handle larger objects - very tactile

Ages 6-9 (Elementary)

Physical development:

Coordination improving
Fine motor skills developing (writing, keyboarding)

Intellectual:

Increased awareness of surroundings

Active learning/hands-on

Able to classify objects

Understanding change

Cause and effect

History is . . . olden days

Learning to follow directions

Social:

Pair relationships - best friends

Relationships with other adults

Trusting

Outgoing, busy

Blaming and tattling common

Believe things are alive and have feelings

Demonstrations, hands-on activities, structured role playing, guided discovery, scavenger hunts, cooperative learning, simulations

What they can do: participate in organized sports, writing skills improving, complete sentences and paragraphs, imagination, simple rules for games

Ages 10-11 (Upper Elementary)

Physical development:

Wide variation in development

Gross motor skills developed

Fine motor skills steadily developing

Tires easily

Intellectual:

Concerned with things rather than ideas

Attention span 15-20 minutes per method

Ability to verbalize curiosities

Begins to contrast present with past

Able to draw conclusions

Personal values and opinions beginning to develop

Social:

Learning to cooperate; enjoy group activities

Boys/girls segregate; regard each other as silly

Competitive

Sensitive- fear of not being liked

Hands-on activities, self-guided discovery, group discussions, hands-on activities, structured role plays, problem solving, group activities, simulations

What they can do: sports related activities, can think about objects that are not in front of them,

can write clearer, reason and problem solve

Ages 12-14 (Middle School or Junior High)

Physical development:

Rapid growth and development

Fine motor coordination

Wide variation in developing maturity

Onset of puberty

Intellectual:

Interested in ideas

Beginning to think abstractly

Longer attention span

Looking for new ways to do things

Eager to contribute in small group discussions

Needs guidance and focus for learning

Social:

Tendency to question authority

Self-conscious

Easily embarrassed

Needs approval

Developing an interest in the opposite sex

Hands-on activities, self-guided discovery, group discussions, hands-on activities, structured role plays, problem solving, group activities, simulations

What they can do: work in groups, write well, can organize information, think in the abstract, can learn in social situations

Ages 15-18 (High School)

Physical development:

Rapid physical changes

Great diversity in strength and size

Advancing sexual maturity

Periods of high energy, periods of fatigue

Intellectual:

Ability to think abstractly

Full comprehension of historical time

Concern for reasons and proof

Desire to do something well

Forms own opinions

Most have not made the connection between learning and life's experiences

Social:

Vulnerable

Self-conscious and concerned about appearance

Needs peer group support, fearful of "looking stupid"

Fear of being singled out for attention

Tendency to question authority

Need to interact with adults as adults

Demonstrations, debates, open-ended discovery, open-ended role playing, open-ended discussions, problem solving

What they can do: handle short lectures, think independently, think about the parts of a whole, argue a position, analyze information, synthesize and evaluate information.

Ages 18+ (Adults)

Physical development:

Slow physical changes

Great diversity in strength and size

Advancing to Golden Age with limiting abilities

Intellectual:

Ability to think abstractly

Full comprehension of historical time

Sensitive to multiple points of view

Forms own opinions

Eagerness to learn

Social:

Secure in who they are and less inhibited

Like the opportunity to interact with people that share their interests

Speaks out on personal beliefs

Vast experience base

Demonstrations, debates, open-ended discovery, open-ended role playing, open-ended discussions, problem solving.

What they can do: handle lectures, think independently, think about the parts of a whole, argue a position, analyze information, synthesize and evaluate information, group discussions. Bring their own experience to the discussions.

II. Learning Styles

Everyone has preferred ways of learning, commonly called learning styles. Effective presentations incorporate a variety of learning styles so that each person has an opportunity to work from their personal strengths. There are several theories of how people learn. Below are examples.

A. Multi-modal Learning is a sensory-oriented theory based on how people receive information.

1. Aural: Learners prefer to learn new information (and retain it) through hearing about it.

2. Visual: Learners prefer to learn new information (and retain it) through seeing and reading

about it.

3. Tactile-kinesthetic: Learners prefer learning new information (and retain it) through hands-on activities.

B. Howard Gardner's "Multiple Intelligences" (Armstrong 1994) theory is one of the more recently developed theories and suggests there are at least seven ways that people have of perceiving and understanding the world.

1. Linguistic - being able to use language, the flexibility of language, and many ways of communicating.

2. Logical-mathematical - being able to proceed from ordering objects and assessing their quantity to high level use of logic and science.

3. Spatial - being able to think about the world spatially, perceive the visual world accurately, and recreate aspects of one's spatial relations.

4. Bodily kinesthetic - being able to use the body to solve problems or make things the way an engineer or craftsperson would.

5. Musical - being able to respond to music, organize it, and think about the world musically.

6. Interpersonal - being able to understand other people, how to work with them, and how they are motivated to work.

7. Intrapersonal - being able to understand self, strengths and weaknesses, intelligences, fears, desires, etc.

* A new addition to Multiple Intelligences incorporates:

8. Nature - being able to understand and connect with nature, identifies plant and animal species and understands natural systems (opportunity to understand environmental context of parks with historic focus also).

[Note: Traditional schooling heavily favors the verbal-linguistic and logical-mathematical intelligences. Gardner suggests a more balanced curriculum that incorporates the arts, self-awareness, communication, and physical education. Park settings offer opportunities to learn in non-classroom settings.]

III. Presentation Techniques

By addressing a variety of presentation techniques, an interpreter can actively engage an organized group into learning the significance of park resources while relating to their learning objectives.

A. Small (collaborative) group work

1. students work in small groups (3-4) to participate socially in a learning process;

2. each has a task or assignment;

3. results are shared with the large group.

B. Cooperative learning

1. each is a member of a learning team (3 - 5 participants)

2. each member has a task or assignment.

3. team is responsible for each member learning and understanding the concept;

4. leads to higher-level thinking skill development on the part of all the members of the team.

C. Active learning/hands-on learning

1. all participants have the opportunity to make or play or do something that reinforces the theme;
2. Hands-on activities help students comprehend abstract concepts. (For example, students learning about weaving make potholders on a hand-held loom.)

D. Questioning

1. Types of questions encourage levels of thinking.
 - a. Convergent questions (closed questions)--encourage lower-level thinking and test recall and acquisition of knowledge.
 - b. Divergent questions (open-ended)--encourage innovative solutions and new ideas and higher-level thinking skills.
 - c. Evaluative questions--create a set of criteria to validate an opinion.
 - d. Focus questions--provide a constant reminder of the theme and goals of the presentation.
- The way in which the park ranger responds to student answers (and questions) can either help students expand on their thoughts or close off the thought process. (see lesson plan on Questioning Techniques, in the [Resources](#) list for Module 103)

E. Discussion

1. group leader sets the parameters, communicates procedures, states the purpose, and manages and encourages the flow of conversation.
2. active listening techniques such as asking one participant to acknowledge respectfully and comment on the statement of another.
3. appropriate "wait-time" (a good rule of thumb is to wait a full 10 seconds after asking a question) to allow students to process content or concepts.

F. Guided discovery

1. leads the learner through a series of activities that lead to a conclusion by the learner without giving away all the elements of surprise.
 - a. allows students to explore the content and concepts in a way that protects the resource in an area where they cannot necessarily see, feel, and touch the resource
 - i. scavenger hunt
 - ii. "Fact, Find and Figure-out" sheet

IV. Selecting a technique

- A. Age appropriateness/developmental level
- B. Logistics - Can the presentation technique work in the space available?
- C. Time constraints and balancing the program sections
- D. Resource preservation considerations
- E. Materials - amounts, condition
- F. Connections to themes, goals, objectives
- G. Amount of preparation to set up and take down the activity
- H. Understand your own biases and characteristics of your target audience (home and community culture, norms, etc.) that affect your program potential (see [Module 201--Identifying and Removing Bias From Educational and Interpretive Programming](#))

V. Group management - Tips for working with a group

- A. Directions need to be clearly stated when the group is ready to receive the information. Participants who are not physically or emotionally engaged are not ready to be told what to do next. Directions and requests should be stated in positive terms. Use "DO" instead of "DON'T", and model the behavior you want your group to use. For example, if you want them to raise their hand, raise your hand while you are stating the rule.
- B. Movement of groups needs to be planned in advance in order to avoid injury to the student as well as the resource.
- C. Rules and expectations need to be clearly stated at the beginning of the program, reinforced throughout, and outlined or noted in your lesson plan. Work with the group leader to designate roles and responsibilities. The group leader should be responsible for discipline and rules. Rules need to be enforced-set clear boundaries and stick to them--be consistent.
- D. "Plan B" - have a back-up plan in case the first one does not work due to problems like a rainy day or bus breakdown.
- E. Engage the teachers/chaperones in managing the group. They are the people who best know the members of the group, and can make your job much easier.

SUGGESTED DEVELOPMENTAL ACTIVITIES

1. Identify the age or grade level of the group you will choose for a program. Make arrangements with a local school district to observe a class of this age group for at least one full day. Record the developmental characteristics you observe and incorporate this knowledge into your program. After the observation, discuss with the teacher why s/he chose the techniques used with the students.
2. Attend a workshop on learning styles, critical thinking skills, or human development. Incorporate that information into your program planning. Present a brief training session to your coworkers on what you learned in the workshop.
3. Observe an experienced park ranger, guide, docent, or teacher. Notice the variety of presentation and management techniques used and their effectiveness. Discuss observations with the presenter. Create a checklist of group management techniques to try in different situations. Add to this list whenever possible. Keep these in a notebook for future reference. (see attached sample review sheets for classroom/park curriculum program visits).
4. Start a personal record (journal, log, database) of new techniques, noting the relative success of each. Try to determine why each worked or didn't work.
5. Ask a teacher, peer, or supervisor to observe your presentations and suggest ways you can

improve your overall group effectiveness.

BOOKS, ARTICLES and WEB SITES

The Paideia Program, Adler, Mortimer J., MacMillian Publishers, New York, NY, 1984.

Earth Education: A New Beginning, Van Matre, Steve, The Institute for Earth Education, Greenville, WV, 1990) Chapter 5: Earth Education...The Ways.

Elementary School Science for the '90s. Louck-Horsley, S., R. Kapitan, P.J. Kuerbis, R. C. Clark, G. M. Melle, T.P. Sachse, and E. Walton, ASCD, 1990. Chapter 6.

Environmental Education at the Early Childhood Level, Wilson, R., editor, North American Association for Environmental Education, 1994. Page 35-48.

Programming for School Groups: A Guide for Interpreters, Tevyaw, Kathleen, National Park Service, 1990.

Science Education Guidebook, Blakseslee, T., and J. Kahan, Michigan Department of Education, Lansing, MI, 1996.

Classroom Management and Discipline: Methods to Facilitate Cooperation and Instruction. Burden, Paul R., Longman Publishers, 1990. Chapter 3: "Models of Discipline" divides the models of discipline into three categories: Low Teacher Control, Medium Teacher Control, and High Teacher Control.

Classroom Management Strategies: Gaining and Maintaining Students' Cooperation. Cangelosi, James S., 2nd edition, Longman Publishers, 1993. Chapter 6: "Designing and Conducting Engaging Learning Activities" gives concrete examples of the connection between well-structured, appropriate activities and good management skills.

Interpretive Skills Lesson Plans: [Questioning Techniques: How Children Learn: Understanding...](#) (et.al.), 1992.

Inspiring Active Learning: A Handbook for Teachers. Harmin, Merrill, Association for Supervision and Curriculum Development, 1994. This short book gives practical strategies for engaging students in learning and offers a wide variety of types of activities.

Teaching Strategies: A Guide to Better Instruction. 3rd edition. Orlich, Donald C., Donald P. Kauchak, Robert J. Harder, R.A. Pendergrass, Richard C. Callahan, Andrew J. Keogh, and Harry Gibson, D.C. Heath and Company, 1990, Chapter 6, "Deciding How to Ask Questions" describes the different types of questions, and provides strategies for conducting effective questioning sessions.

Cooperative Learning Basic Strategies: Lessons for U.S. History Teachers, Griswold, Robyn, and Audrey Rogers, Golden Owl Publications, 1995.

The Educational Resources Information Center (ERIC) <http://www.accesseric.org>

The U.S. Department of Education <http://www.ed.gov>

About learning <http://www.funderstanding.com>

Last update: January, 2001

<http://www.nps.gov/idp/interp/270/edorg.htm>

Editor: [NPS Training Manager for Interpretation, Education, and Cooperating Associations](#)