



Case Study – Environmental Education Rodrigues, Mauritius

A marine environmental education programme has been underway on Rodrigues since 1999, developed by the Shoals Rodrigues Association, a programme providing technical support on marine conservation, including the establishment of MPAs. Funding comes from several commercial sponsors and donors (including the SEA Trust), and from sales of a board game (Coralation) and a video (The Reef Beneath) produced through the programme.

Club Mer is aimed at students aged 14-21 years and has many members. Two previous members are now the education officers and organise the activities, visiting secondary schools and encouraging membership. The main initiative is a 20-module course on coral reefs, with subjects ranging from coastal dangers to oceanography and coral reef fish. Teacher notes, power point presentations, and demonstration and activity guidelines for the modules are available. There are also courses on swimming, snorkelling and diving. The 'Lagoon Snorkeller' and the more advanced 'Reef Snorkeller' are 10-module courses, led by an instructor, that cover techniques and theory about equipment, safety procedure, ecology and conservation and, in the more advanced case, basic survey techniques. Student manuals are available for these. Students can also work towards other certificates such as 'Fish Watcher', 'Beach Patrol' and 'Oceanographer'.

Primary school children are targeted through programmes in their own classrooms. Workshops have been held to show teachers how marine education can be incorporated into the curriculum. Each primary school has been given a 'treasure chest' of resources such as posters, modelling clay, paints and games and a 120-page teacher pack (Discovering the Ocean World) containing lesson plans, curriculum objectives and activities.

Students are encouraged to come to the Shoals Rodrigues Centre at other times to read books, watch educational videos and undertake their own projects. There have been a variety of special events such as Open Days for families and other Rodriguans, picnic outings, beach clean ups and carnivals. Rodrigues is at an early stage in developing MPAs, and the strong basis of understanding that the education programme will engender in local people, passing from students into the communities, will help generate support for MPAs. Individual MPAs in other countries are unlikely to be able to develop such a comprehensive programme, but many of the ideas could be adapted.

www.shoalsrodrigues.org



Training and capacity building in rural communities of Ecuador

A study of several community-level sustainable tourism projects in Ecuador reached the following general conclusions:

A detailed analysis of what the community can supply to the tourism enterprise is needed before investments are made. More often than not, local communities may have the capability to raise funds and source out the local resources and talent needed for the building of lodges, canoes, purchasing of motors, and creation of local trail systems. The lack of empowerment observed in the Playa de Oro project may, in part, be due to the amount of infrastructure that was provided free-of-charge to the community.

Communities consistently agree that more funding is needed for training of community members in order to better deliver hospitality and guide services. While most funding agencies have offered short courses, there is universal agreement that training has not been compatible with community needs because of its short duration and lack of responsiveness to cultural and community concerns.

Communities already experienced in the delivery of ecotourism products should be given a much greater role in training programs. Supplying funding for training to experienced communities, and creating apprenticeship programs that offer hands-on experience to trainees will help to inspire greater interest and commitment to the learning process than the use of foreign consultant trainers.

Language training must be considered and incorporated into the native guide training process. Adequate funding and long-term training is necessary if communities are to have multilingual guides. While all guides need not be multilingual, there is little question that local communities will be much more successful in their sustainable tourism programs if top-quality community candidates are given access to combined guide/language training programs.

Utilize the existing, local sustainable tourism industry in the training process. Too often experienced local businesses are not asked to assist in the training of people from local communities. Qualified, local trip leaders from the private sector can provide an important link to communities, and perform the work of outside consultants with much more depth and responsiveness than foreign consultants. Their knowledge of how to work with tourists in the local context, deal with emergencies, trouble-shoot, and manage special visitor issues related to the local ecosystem can help the native guides to better understand the entire process of group management.

Hospitality training programs must be long-term. Fifteen days of hands-on training was suggested as a minimum time frame for community members to begin to fully understand the skills needed to deliver tourism services.

Funding for the establishment of community tourism infrastructure can be an inappropriate use of funding resources. Funding towards lodging and the purchase of such items as canoes and motors for tourism in communities can lead to community dependence, lack of community investment in the tourism enterprise, and poorly maintained facilities that do not attract visitors. As observed by Daniel Koupermann (1997), avoiding charity is fundamental to the success of community participation.



Soft loans and other forms of long term credit are needed by communities to help establish their own tourism programs. Remote rural communities lack access to credit worldwide. Revolving loans and microlending are proven formulas for improving rural economies. These techniques should be applied in the field of ecotourism.

The only type of infrastructure specifically unavailable at the community level in Ecuador is good radio systems. In order for community enterprises to improve management of tourism, radios and even satellite phones should be considered by funding agencies. Such communication systems can also assist with other community needs such as health care, medical emergencies, environmental emergencies, and with providing improved inter-community communication regarding issues of governance and cultural survival.

Establishing cooperative enterprises where all work is shared in local communities can be a problem. It is important that the community creates a system that provides a natural incentive to work. Clear accounting of funds received, investments made, and distribution of profits within community tourism projects is also a priority. The creation of small community business partnerships serves to reward those who work the hardest, emphasizes standard business accounting practices, but does not undermine the larger community's ability to benefit from cooperative enterprises, such as the sale of crafts and cabin management.

Funding entities must understand the organizational structure of the community, review various models for community tourism ownership before making any investments, insure that an appropriate model for ownership and accounting of funds is implemented by the community itself, and provide on-site training in accounting skills. One of the most damaging impacts a funding entity can have on a community venture is the insertion of funds before an appropriate community decision making structure is in place. Top-down decision making patterns from the funding entity inevitably begin to overshadow community efforts to manage their own funds. This problem was clearly observed at the project in Playa de Oro. There must be careful consideration by large agencies of how to provide "venture capital" to communities in a form that does not force them to comply with international funding rules and regulations.

Source: Wood, Megan Epler. 1998. *Meeting the Global Challenge of Community Participation in Ecotourism: Case Studies and Lessons from Ecuador*. America Verde Working Papers, No. 2.



Examples of Primary Interpretive Themes

1. Blue Ridge Parkway: A scenic road

The following primary interpretive themes were developed for the Blue Ridge Parkway, a scenic road that winds along a the Appalachian Mountains in the United States:

1. *The Blue Ridge region is among the biologically richest areas in North America.*
2. *Material cultures and ways of life in the Blue Ridge province illustrate how isolation and assimilation shape cultures.*
3. *The parkway is a special roadway and a managed landscape that was designed to maximize scenic values.*

2. John Day Fossil Beds: An unusual geological site

A different approach to developing primary interpretive themes was taken at John Day Fossil Beds National Monument, in which several observations lead to one main theme:

At John Day Fossil Beds National Monument,

- *there are lots of fossils*
- *there is a great diversity of fossils*
- *the fossils are very well preserved*
- *the fossils represent an unusually long time span*
- *the fossils are datable*

Thus, it is wonderful place to study evolutionary change.

3. Isle Royale: An isolated island

At Isle Royale National Park (on Isle Royale, Lake Superior) the park staff identified “park themes” instead of primary interpretive themes. These themes incorporate key resources and stories that characterize the park. Some examples of these park themes include:

- *Self-sufficiency is a way of life on Isle Royale. Self-sufficiency is as important today for park backpackers, canoeists, and boaters as it was for those who first used and settled the island — Native Americans, European miners, lighthouse keepers, and commercial fishermen.*
- *Isle Royale is a living laboratory where plant and animal life can be studied in a relatively simple and controlled ecosystem. The theory of island biogeography is illustrated by both the limited number and variety of species found here.*
- *Because of Isle Royale’s generally undisturbed setting, it is an important source of information about the world around us — how the world evolved, how the impacts of civilization have altered natural systems, and what the unmodified environment holds.*
- *The Park Service is striving to sustain the native fishery of Isle Royale National Park — perhaps the most exceptional fishery in the Great Lakes region. For centuries Isle Royale’s waters have attracted fishermen — prehistoric people, immigrant commercial fishermen, and today’s sport fishermen. A relic of the past, adaptive fishing lifestyle and technology still remains and reminds us of this significant island culture.*

**4. Komodo National Park: a marine park founded to protect komodo dragons**

- *Although at present komodo dragons live in a very limited habitat range, this wildlife species has survived for millions of years through continental shifts, extensive disappearance of dinosaurs, until the appearance of human beings - this is a proof of a perfect design.*
- *The very high marine diversity and very low savanna diversity covering the volcanic island – make the area of Komodo National Park a place with very extreme diversity. But the unique and beautiful savanna conditions make it a suitable habitat for komodo dragons and attractive to visitors.*
- *Even though komodo dragons are carnivorous, and the presence of local settlements often affected them, komodo dragons and the people of Komodo Village have established a balanced life of togetherness. The famous Legend of the Magic Knife describes how people developed a belief about the establishment of this side-by-side balanced life.*
- *The collisions of strong ocean currents create the process of upwelling , bringing nutrients from the bottom of the sea to the surface around Komodo National Park. This meeting of nutrient rich currents guarantees the diversity and provision of natural resources in the waters of Komodo National Park. In Komodo National Park, upwelling generally occur when the sea currents collide with the strong walls at the bottom of the sea, lifting water mass from the deep areas to the surface. This process churns the nutrients which make the waters of Komodo National Park fertile.*



Environmental Education Materials: Guidelines for Excellence

The *Guidelines for Excellence* developed by the North American Association for Environmental Education (NAAEE) point out six key characteristics of high quality education materials. The *Guidelines* were designed to help educators, administrators, curriculum designers, and materials developers evaluate the quality of materials.

Key Characteristic #1: Fairness and Accuracy

- 1.1 Factual accuracy
- 1.2 Balanced presentation of differing viewpoints and theories
- 1.3 Openness to inquiry
- 1.4 Reflection of diversity

Key Characteristic #2: Depth

- 2.1 Awareness
- 2.2 Focus on concepts
- 2.3 Concepts in context
- 2.4 Attention to different scales

Key Characteristic #3: Emphasis on Skills Building

- 3.2 Critical and creative thinking
- 3.3 Applying skills to issues
- 3.4 Action skills

Key Characteristic #4: Action Orientation

- 4.1 Sense of personal stake and responsibility
- 4.2 Self-efficacy

Key Characteristic #5: Instructional Soundness

- 5.2 Learner-centered instruction
- 5.3 Different ways of learning
- 5.4 Connection to learners' everyday lives
- 5.5 Expanded learning environment
- 5.6 Interdisciplinary
- 5.7 Goals and objectives
- 5.8 Appropriateness for specific learning settings
- 5.9 Assessment

Key Characteristic #6: Usability

- 6.1 Clarity and logic
- 6.2 Easy to use
- 6.3 Long-lived
- 6.4 Adaptable
- 6.5 Accompanied by instruction and support
- 6.6 Make substantiated claims
- 6.7 Fit with national, state, or local requirements

From: North American Association for Environmental Education. (2004). *Environmental Education Materials: Guidelines for Excellence*. Washington, DC: www.naaee.org/npeee.



Naturalist Guides in the Galapagos National Park

The Galapagos National Park in Ecuador is perhaps the first protected area where guides were actively utilized to advance ecotourism objectives in an organized manner. All guides are employed by private tourism companies. Since 1975, all guides must be licensed by the national park administration, and all visitors are required to be accompanied by a licensed naturalist guide. Two categories of guides were established initially:

- 1. Naturalist guides:** university educated with a natural science degree, bilingual, foreign born and worked primarily on the larger ships with larger groups of visitors;
- 2. Auxiliary guides:** usually local residents with secondary education, minimal foreign language skills and worked primarily on the smaller boats, often converted fishing boats.

To obtain a license, guides must pass an intensive four-week training course taught by staff from both the Galapagos National Park and the Charles Darwin Research Station. Training courses have been developed for both guide categories and are conducted annually. A licensed tour operator must sponsor participants in the courses.

At first, naturalist guides were mostly foreigners; over time, more Ecuadorians obtained natural science degrees, developed language skills and gradually displaced foreign guides. There is still a small percentage of foreign guides, and their international perspective enriches the pool of experience of the guide corps in general.

By creating a guide system in the Galapagos National Park, park authorities supplemented their work force with a group of motivated, knowledgeable guides who accompany every tour group that enters the national park. In order to retain their licenses (and a lucrative job), guides are required to make sure that visitors follow all park rules, make trip reports after each trip and report on illegal activities that they may observe, such as illegal fishing boats. Guides are also active participants in monitoring tourism impacts at visitor sites. A local guide association supports conservation efforts in the park and in the islands in general and actively participates in regional planning meetings.

Many other protected areas have adapted the Galapagos Islands experience to create naturalist guide systems of their own.

Excerpted from: Drumm, Andy. Alan Moore, Andrew Sales, Carol Patterson, and John E. Terborgh. Ecotourism Development: A Manual for Conservation Planners and Managers. Volume II. The Business of Ecotourism Development and Management. The Nature Conservancy, Arlington, Virginia, USA, 2004.



TEAM Ocean (Ocean Conservation Education Action Network)

Channel Islands National Marine Sanctuary

CHANNEL ISLANDS NATURALIST CORPS volunteers represent the sanctuary and park on board local whale watch vessels and educational cruises. Training includes information taught by regional experts in the field of resource management, marine mammals, oceanography, geology, island ecology, cultural history, seabirds, and more. Volunteers must attend an evening 5-week training session, commit to one year of volunteer service (approx. 120 hours per year), be at least 18 years of age, enjoy working with people and public speaking and have the ability to handle up to 8 hours at sea on power and/or sail vessels.

Facts about the Channel Islands Naturalist Corps

- 120 Channel Islands Naturalist Corps Volunteers donate more than 12,000 hours Annually on public whale watch tours and island hikes
- 17 species of marine mammals were documented by Naturalist Corps volunteers on public whale watch tours in 2005
- Sanctuary volunteers distribute educational brochures to 75 marine-related businesses and organizations through the Adopt-a-Business program
- Channel Islands National Marine Sanctuary provides education about sanctuary resources at more than 35 community outreach events and talks annually

Monterey Bay National Marine Sanctuary

TEAM OCEAN KAYAKER OUTREACH is a seasonal field program that provides face-to-face interpretation of Sanctuary natural history and programs, as well as guidelines on how to enjoy marine wildlife without disturbing it. The target audience is primarily ocean kayakers, but includes other sanctuary resource users who may be encountered on the water, such as boaters and divers. A large percentage of ocean kayakers are visitors to the area and unaware of or undereducated about the sanctuary's existence and sensitive wildlife. The Sanctuary's Team OCEAN Program puts knowledgeable naturalists out on the water in sanctuary kayaks, to greet and interact with fellow day kayakers. The naturalists serve as docents for the marine sanctuary, promote respectful wildlife viewing, and protect marine mammals from disturbance.

Florida Keys National Marine Sanctuary

TEAM OCEAN BOATER EDUCATION is an on-the-water education and information program aimed at protecting the natural marine resources of the Florida Keys, while enriching the experiences of visitors to the Florida Keys National Marine Sanctuary. It involves the stationing of trained volunteer teams at heavily visited reef sites throughout the Keys during peak recreational boating seasons in order to educate and inform other boaters about the unique nature of the coral reef habitat, share their knowledge of the best approach to certain areas, demonstrate the use of a mooring buoy, and give out various safety information.

More Information on TEAM OCEAN programs can be found at
<http://www.sanctuaries.noaa.gov/education/involved/welcome.html>



12 Steps of Planning a Project Evaluation

STAGE I: PLANNING

Step 1. Reexamine the issue, audience, and project objectives

Step 2. Establish the planning team (including stakeholders, audience, and evaluators)

Step 3. Establish the goals and objectives of the evaluation

Step 4. Clarify the time frame in which the activities and impacts (outcomes) are expected to occur

Step 5. Perform a literature search

Step 6. Select data collection methods and develop questions based on the evaluation goals and objectives

STAGE II: DATA COLLECTION

Step 7. Determine the audience sample

Step 8. Design and pilot the data collection instrument

Step 9. Gather and record data

STAGE III: DATA ANALYSIS AND REPORTING

Step 10. Perform data analysis

Step 11. Manage data

Step 12. Synthesize information and create report

Guidelines for Conducting a Successful Evaluation

1. Invest heavily in planning.
2. Integrate the evaluation into ongoing activities of the program.
3. Participate in the evaluation and show program staff that you think it is important.
4. Involve as many of the program staff as much as possible and as early as possible.
5. Be realistic about the burden on you and your staff.
6. Be aware of the ethical and cultural issues in an evaluation.

From: U.S. Department of Health and Human Services. *The Program manager's guide to evaluation*.



Does evaluation really matter?

"We all know evaluation is important...some of what we learned made me realize just *how* important." In interviews with a variety of agency educators, a common theme was that evaluation is important, but that it's often not thought about until after a program is well underway.

Most educators used feedback forms for the bulk of their evaluation information. In most cases, they found that people liked their programs and offered some minor ways in which the program could be improved. Several of the educators who used evaluation in this way commented that there was no need for more information because they know their program already. Many wanted to continue with gathering the same type of evaluation data in order to maintain a consistent level of participant/audience satisfaction with the program.

On the other hand, educators who wanted to use evaluation to improve their programs asked more people more questions in different ways and at different times in order to get a "good picture of how we're doing." The outcomes from these evaluations revealed that people liked the programs, but also gave the educators a lot of information for making changes and for reporting purposes. One educator was surprised when she realized that not all the findings had to be high scores because she was able to explain how the data were being used and able to show improvement. "That made my boss very happy – I was able to show accountability."

When evaluative data are gathered reveals a lot about program managers' beliefs about evaluation. A clear majority assume that a feedback form is "an evaluation," while others believe it is a pre-test/post-test. Some individuals used team meetings in the planning phase all the way through staff and secondary audience measures in the outcome measurement phase as "parts of how we're learning about our program."

As with needs assessment, the larger the program, the more time that it takes to conduct and run, and the more funding it has, the more evaluation is formalized throughout the process. This makes good sense from an accountability perspective – where you spend your resources, including your time, makes all the difference, and evaluation can help you improve and understand whether your resources are being wisely used.



Five Levels of Evaluation

Level 1. Reaction: *What are the participants' responses to the project or activity?*

Level 2. Learning: *What did the participants learn?*

Level 3. Behavior or Application: *Did the participants' learning affect their behavior?*

Level 4. Results: *Did participants' behavior change move the original situation towards the objective (i.e., the desired outcome)?*

Level 5. Return on Investment (ROI) or Cost-Benefit:* *Is the cost of implementing this project reflected in the level of benefits received from the results?*

*The 5th level, Return On Investment (ROI), is often included among the levels of evaluation, although the original Kirkpatrick (1994) model does not include it.

Source: Kirkpatrick, D. (1994). *Evaluating training programs: The four levels*. San Francisco, CA: Berrett-Koehler.



Types of Evaluation

As with many ventures, there are several different types of evaluation. Depending on the stage of project planning, managers may conduct a needs assessment (sometimes referred to as front-end evaluation), formative evaluation, or summative evaluation.

Needs assessment (front-end evaluation)

As might be expected, front-end evaluation or needs assessment takes place prior to undertaking the project. A needs assessment:

- Gathers information/data about the gap between the current and desired level of audience skills, knowledge, attitudes, and behaviors.
- Takes place *before* the project is designed.
- Helps confirm or negate assumptions of audience characteristics and appropriate content, define goals and objectives, and identify stakeholders and potential collaborators.

Questions that might be addressed by front-end evaluation include:

- What are the nature and scope of the problem? Where is the problem located, whom does it affect, and how does it affect them?
- What is it about the problem or its effects that justifies new, expanded, or modified projects or programs?
- What feasible actions are likely to significantly ameliorate the problem?
- What is the appropriate target audience(s)?

For more information on needs assessments, consult Part I of this document.

Formative evaluation

Formative evaluation is conducted throughout the project, during project design, development, and implementation. Most often, formative evaluation is used to test methods and materials. At its best, formative evaluation can be an essential decision-making tool that transforms the project. Formative evaluation:

- Gathers information/data about an audience's reaction to and learning from a project's pilot or prototype products/materials. Changes may be made as a result of formative evaluation.
- Gathers information/data about problems with project delivery and assesses progress towards outcomes of a project during implementation.
- Helps provide information that can be used in making decisions about modification, continuation, or expansion of the project. (Results of a formative evaluation may be used to decide how to move forward with an existing project.)



Questions that might be addressed by formative evaluation include:

- Is a particular project reaching its target audience?
- Is the project being implemented well? Are the intended activities, products, or services being provided?
- Is the project effective in attaining the desired objectives or benefits?

Summative evaluation

Again, as might be expected, summative evaluation is typically conducted at the *end* of the project. A formal report is developed that can be submitted to decision-makers and other stakeholders. Summative evaluation:

- Gathers information/data about the audience's skills, knowledge, attitudes, and behaviors at some point in time *after* project implementation begins. Results of a summative evaluation are used to inform stakeholders about the value of a project.
- Informs decision-makers about the value or worth of the project.
- Helps provide the information necessary to make decisions about the continuation, revision, or expansion of the project (Results from a summative evaluation are used to determine if the project was "successful").

Questions that might be addressed by summative evaluation include:

- Did the project reach its target audience?
- Was the project implemented well? Were the intended activities, products, or services provided?
- Was the project effective in attaining the desired objectives or benefits? How did the project impact the intended audience(s)?
- How much did the project cost?
- Is the project cost reasonable in relation to its effectiveness and benefits?

Resources: The National Marine Sanctuary Program has launched a new website focused on the evaluation of environmental and marine education programs. The website includes information on how to create program evaluation plans. It also contains an environmental education literature review, tools and techniques for evaluation, examples of objectives and goals, an evaluation glossary, and an online resource guide to evaluation. <http://sanctuaries.noaa.gov/education/evaluation>

Materials for this handout compiled from "Designing Education Projects: A Comprehensive Approach to Needs Assessment Project Planning and Implementation and Evaluation" NOAA June, 2005



“Each One Teach One” Teaching Activity

Introduction: Field instruction presents many challenges to the teacher: so many distractions, keeping track of your students, physical hazards etc etc. On the other hand, from ancient times on, teachers and students have gathered in tree groves and experienced the bliss of real learning. The outdoors brings us to the world in its completeness and awakens the discoverer in all of us.

Each One Teach One is a simple technique for imparting small pieces of understanding to a group—one student at a time. Each student confronts new information, learns it and then is empowered to teach it to each other student. It allows the teacher rare one-on-one instructional time and lets you select “lessons” appropriate to particular student learning styles, energy levels and personalities.

As a teaching method it can be used with almost any subject or content area that can be divided into small bits such as species of plants or animals and ecological concepts, or physical objects. Each One Teach One consists of five steps:

1. Introduction: This is a group session, with all members listening as a broader subject is introduced.
2. Teach One: The teacher works with each student individually to instruct a small amount of information.
3. Observe Student Teaching: The teacher watches as each student teaches his or her first lesson.
4. Students Teach Each Other: Each new “teacher” teaches a 2-minute lesson to each other student.
5. Wrap Up: Once reconvened, the group discusses the subject and the experience of being a teacher.

Procedure:

Prepare Prompts: Select a topic for which you can divide material into as many “mini-subjects” as you have students. Prepare cards, props or other prompts for each subject. The cards should have brief facts, statements, diagrams, pictures, in bite-sized chunks. A mix of different forms of information can be useful if students have a wide variety of learning styles. The cards provide cues and structure to students’ lessons.

Set Up Activity: Select a location that allows you to keep track of all your students—trails and beaches work well. Open areas like meadows or lawns work too if you can set up in a linear pattern that circles back to the starting point.

Second teacher: A second adult or leader is needed. Ideally, this person can continue discussion with students at the starting point until all students are engaged in the activity. This person is also the last “student” to pass through the process and can be a good person to “test” at the end. This person will also manage time to keep the activity moving.

Lecture: Introduce your subject with an overview. What larger concepts connect all of the individual parts being taught? Explain the steps. Explain the importance of teaching as a way of learning. Encourage all students to add what they may already know to the information they will be taught.



First Student: Teacher 1 leads Student 1 to just beyond earshot of group, selects a prompt card and gives a 2-minute lecture on the subject. Point to pictures, act out behaviors. Tailor your lesson to that student.

Second Student: After 2 minutes, Student 2 joins Teacher 1 and Student 1. Student 1 leads the lesson for Student 2 with the teacher listening, encouraging and making small suggestions.

Third Student: After 2 minutes, Teacher 1 and Student 2 move a short distance for their private lesson. Student 3 goes to Student 1 for their lesson.

Fourth Student: After 2 minutes, Student 3 joins Teacher 1 and Student 2 for the observed lesson and Student 4 goes to Student 1.

And so on...

Teacher 2 stays with the group as it diminishes, becoming the last student. When no new students come, each student moves up the chain until all have arrived at a final point, where Teacher 1 has collected a group of students who have completed the activity.

Conclusion:

Ask the group about the experience. Did everyone like being a teacher? Did they become better teachers as they learned more? What were the interesting parts of the lesson? Finally, reinforce the larger concepts by illustrating the relationships of the mini-lessons to the bigger picture. For a fun quiz, have every student ask Teacher 2 a test question.

Discussion:

Each One Teach One combines listening, speaking, individual and group instruction and creates an exciting and active context for outdoor learning. It can be tailored to many learning styles and personalities. It works in many physical settings.

Time management is critical. Stay on the 2-minute clock. Allow enough time for everyone to participate (Do the math – and plan some extra time plus intro and conclusion).

Request that students move in an orderly procession from one station to the next. Students that hurry to the next station interrupt the one-on-one sessions.

Each One Teach One lesson cards. Make two sides. Place the pages back to back and laminate using a pocket or sheet laminator. Use one card for each station. Over the course of your Each One Teach One activity, students will become familiar with what you want to teach.