Environmental Education as Content Material for English as a Second Language Programs

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Abstract: Environmental Education (EE) is increasingly part of the tourism education curriculum because it relates to sustainable tourism development, ecotourism, educational tourism, and conservation of parks, heritage sites, and other areas of natural beauty. Another part of the tourism and hospitality curriculum in which Environmental Education can play a role is language education. Bilingual education programs in the United States have been adapting EE contents and teaching methods over the past ten years or so and some of these hold great promise for developing international and intercultural programs at nature schools in Japan. This paper is an attempt to review the origin of bilingual EE in the US, and to discuss ways that it can be adapted for use in Japan. This research is the result of preparations for and analysis of an Environmental Education in English (3E's) workshop conducted in November 2002 and 2001 for the Kiyosato Meeting of the Japan Environmental Education Forum.

INTRODUCTION
An early use of the term Environmental Education was made in 1948 by Thomas Pritchard, Deputy Director of the Nature Conservancy in Wales, who “identified the need for an educational approach to the synthesis of the natural and social sciences, suggesting that it might be called environmental education.” (Daoudi & Heimlich) The term was standardized with adoption of UNESCO’s 1978 Tbilisi Declaration, which established EE’s five goals: awareness, knowledge, attitudes, skills, and participation. All along, the concept of EE in the United States had been forming with the development of educational areas including nature study, outdoor education, and conservation education. Concurrently, movements such as resource-use education, progressive education, population education, citizenship education, and global education all played a role in shaping what has come to be known as environmental education. (Daoudi & Heimlich) Although EE ideas worked their way into second language programs as content material from early on, specific attention to adapting EE to bilingual education and second language acquisition has been fairly recent, with most articles and textbooks being published from about 1990 onward.

Most of the research done for this paper was
in preparation for a workshop first conducted at the Japan Environmental Education Forum Kiyosato Meeting in November of 2001 and repeated with a slightly different emphasis in 2002. For this workshop we developed the expression “3E’s” meaning Environmental Education in English or EE as content-based education in the language classroom, but also meaning English Education in the Environment or EE done with a language learning emphasis at an outdoor nature school. The first would be done primarily by a language teacher and the second by an outdoor educator or nature instructor. The idea was to find teaching techniques from both fields that could be combined to achieve both EE and ESL (English as a Second Language) objectives.

Combining language instruction and EE seemed a timely goal with the introduction of integrated learning taking place in 2002 by the Japanese education ministry. Motoko Mezaki, one of the planners of the first workshop, put it this way: “EE and international understanding are two of the four main components of integrated learning which will start this year (2002). This implies that schools have to teach students comprehensively. Therefore, there is a demand for 3E’s. In order to introduce the two studies into existing crowded curriculum in Japan, we have to find an efficient and sufficient way to combine these studies and enhance student learning about them.”

PROCEDURE

In planning the workshop, we tried to think of what kind of people in Japan might be interested in 3E’s. They include: language teachers, who may want to include environmental content in their lessons, or take their class outdoors, but lack knowledge of the best way to do so; instructors at nature schools, who know that 3E programs might attract students to their schools but lack confidence to add a language component; language students with an interest in the environment; environmental NGO participants who want to become more active internationally; education and community leaders who want to achieve EE and international education goals; and finally parents, whose interest in their children’s education will in the long run be responsible for the success of nature schools and for government policy on education. As it happened, representatives of all these groups attended the workshops.

The next step to developing a 3E program is to decide which of the possible goals are suitable. One that we discussed was adapting language-teaching methods to EE programs. This is where concepts of language teaching, such as providing comprehensive input for learners (Krashen), are adapted to EE. Another goal of 3E programs is to take the active, experiential, and motivating techniques of a nature interpreter and use them to improve language acquisition. A wide repertoire of techniques is available from nature interpretation. These techniques were originally developed by the US National Park Service as described by Freeman Tilden in Interpreting Our Heritage (Tilden), and are still being developed today (for our adaptation of Tilden’s principles to 3E’s, see Table 1, below).
### Table 1: Tilden’s Principles of Interpretation Compared with Our Suggested Principles for 3E’s

<table>
<thead>
<tr>
<th>Tilden’s Principles of Interpretation (Tilden, 1957)</th>
<th>Similar Principles for 3E’s</th>
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<tbody>
<tr>
<td>1) Interpretation must connect to the previous knowledge or experience of the learner</td>
<td>1) Both the language part and the environment part of a 3E’s lesson should connect to the previous knowledge, experience and abilities of a learner.</td>
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<tr>
<td>2) Information is not Interpretation. Interpretation is revelation based on information. But they are entirely different things. However, all interpretation includes information</td>
<td>2) Grammar and vocabulary alone do not make up language. Environmental Education in English must stress the communicative nature of language. Grammar and vocabulary will be learned, but active communicative practice is at the heart of the 3E curriculum.</td>
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<tr>
<td>3) Interpretation is an art, and any art is teachable.</td>
<td>3) You do not need to be a native speaker to teach language. If you adapt an EE lesson well, and plan it carefully, you can teach 3E’s well. You can study to improve your skills and you can teach others how to teach 3E’s.</td>
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<tr>
<td>4) The chief aim of Interpretation is not Instruction, but provocation.</td>
<td>4) The chief aim of the 3E’s is not to teach students new language or environment knowledge but to wake up and stimulate the knowledge and ability the student already has.</td>
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<tr>
<td>5) Interpretation should aim to present a whole rather than a part, and must be about the whole person rather than a part.</td>
<td>5) The chief aim of Environmental Education in English is not mastery of either field but synthesis in both. We hope students will learn not so much environmental elements as environmental systems. They should learn not only new grammar and vocabulary but also ability to use language skills in communication on environmental and global issues.</td>
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<tr>
<td>6) Interpretation for children up to the age of 12 should not be a simple version of the adult program but should be fundamentally different</td>
<td>6) Environmental Education in English must be flexible in several ways. Lessons will have to be adapted to learner age, environmental knowledge, and language ability.</td>
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A third goal is to help students develop skills for environmental communication, an area that encompasses global learning, intercultural communication, and international exchange. Finally, a worthwhile goal of 3E development is to translate English EE resources into Japanese and vice-versa.

Several of the 3E goals have potential benefit to non-profit and NGO groups in Japan. Nature schools face the challenge of attracting students who are already overburdened by their homework and exam preparations. Parents are often reluctant to patronize environmental education schools because of their perceived association with environmentalism. Adding English to the curriculum gives a sense of value and legitimacy to a nature school that parents might not otherwise think exists. Likewise, 3E can be used to increase the perceived benefit of international tours organized by environmental NGO’s. These tours are an
important moneymaker for such groups.

What are the resources available for conceptualizing a 3E program? Surprisingly little research has been done on ways to develop EE for ESL. What does exist comes from three general areas: bilingual education research, much of it from California; environmental education research done by groups like the North American Association of Environmental Educators (NAAEE), Environmental Education Training and Partnerships (EETAP), Project Learning Tree (PLT), Project WET, and Project WILD; and finally research published by the Japan Association of Language Teachers (JALT) through their Global Issues in Language Education Newsletter. Each of these groups is listed in the annotated resources below.

Due to its very large minority Spanish-speaking population, California leads the nation in research and development for bilingual education. Kay Antunez, a bilingual education researcher working with PLT, described the situation as follows in her proposal for a presentation at the 1998 NAAEE conference in Atlanta: “In 1998, with funding from EPA’s Environmental Education and Training Partnership (EETAP) grant program, Project Learning Tree, Project WILD and Project WET programs in California sponsored an extensive series of workshops to augment the potential outreach to teachers of “English Language Learners” (ELL). At the same time, California voters banned bilingual education programs used in classrooms that allowed instruction in the native language. The turmoil of how to provide an equitable education faced with the complexities of the changing student demographics provides an enormous

challenge for environmental educators.”

Working together with Jean Frederickson and others on the workshop series described above, Antunez produced *English Language Development Theory and Practices: Background Information for EE Providers* (Antunez & Frederickson, 1999B). This document summarized language acquisition research relevant to bilingual EE efforts and suggested ways that the extensive lessons available from WET, WILD, and PLT can be adapted. This document was summarized in two short documents that were part of EETAP’s excellent series of short articles on EE. (see EETAP in the Annotated Resources List below).

One of these documents, *Number 50: Ensuring Comprehensible Input for English Language Learners: Strategy for EE Providers*, seemed ideal for our purposes in planning the Kiyosato workshop. We therefore adapted it to the situation in Japan, and simplified the language for our Japanese-speaking participants. (See Table 2, below). With this document as a guide, we were able to work through several examples of ways to adapt EE lessons for 3E’s.

Examples of available lessons that we evaluated in the workshop include Susan Stempleski’s State Department Online Language Teaching Forum and Yamaha Motor’s bilingual endangered species paper craft lesson, also available online (see Resources, below). Both of these lessons are innovative, interesting for students, and freely available.

**Conclusion**

After completing the second workshop and evaluating the comments of the participants,
Table 2: Making EE Lessons into 3E lessons

Adapted with permission from Antunez, Key., Fredericksen, Jean., et. al. 1999. Ensuring Comprehensible Input for English Language Learners: Strategy for EE Providers. EETAP (Environmental Education Training and Partnership) Resource Library #50
<http://www.ag.ohio-state.edu/eetap/infosheets2.htm>

A. Make a connection to the learner’s existing knowledge and experience

B. Provide input that is at the student’s level and then slightly above (I+1).

To do this, make changes to:
(1) the type of language used to carry out the lesson,
(2) the instructional techniques of the lesson, and
(3) the lesson structure.

1) Changes to make in the language used to carry out the lesson

A. Show without using words: use things that students can see and touch (and smell and hear); act out words; make drawings; use graphs and charts; write down key words as they are said.

B. Change what you say: Put the accent on key vocabulary words; EMPHASIZE, and pause...where needed; pause between key ideas...; restate (or paraphrase) in different ways; use Japanese English words where they are helpful (but be careful); slowly bring in more complicated words such as “accelerate” instead of “faster.”

C. Check often to see if students understand you: use open ended questions to promote active listening; ask for long answers; ask questions to see if you need to re-teach any concepts or vocabulary

2) Changes to make in instructional techniques

A. Begin with the more concrete, active, and experiential part of the lesson then move to abstract concepts. Emphasize action, movement, feelings and sensations in the beginning. Encourage active communication and don’t worry about language accuracy. Start with speaking and hearing then move to reading and writing.

B. Encourage active language production: use group or pair activities to get students talking. Have them work together to explore something then report out to each other and finally the whole group.

C. Connect to their real life and their experiences: let them choose some of the themes, or tell how the topic affects their family, job, or home community. Make sure the language is somehow connected to their life and background. Allow time for discussion in their native language, and even participation of family if possible.

3) Changes to make in lesson structure

Many EE lesson plans include ways to connect student’s prior knowledge, ways to assess the success of the lesson, and ways to extend or enrich the lesson. For 3E lessons, two other support areas are needed.

A. Provide primary language support: It is OK to use some Japanese for 3E lessons. There should be a connection with the home family, school, and community. Students should bring their ideas and experiences from home to the 3E lesson and should take new ones back when they are done. By discussing among themselves they will increase understanding of the goal of the lesson, improving their chance of success.

B. Connect prior knowledge to new knowledge: Connecting to prior academic knowledge in the subject being taught will help students to understand new concepts being taught in English. Use of visual aids to stimulate observation and discussion will help, as will using things to touch and move. Encourage students to tell their cultural and community knowledge of the topic.
we came to several conclusions. Many interpreters and teachers involved with EE in Japan today have had educational experience at schools and other institutions outside of Japan. Therefore the level of English ability among these EE practitioners is high. Many of these persons would like to develop some kind of language program, knowing that it would be a good way to show the parents of students another benefit of studying about nature and the environment. However, very few such programs have been created so far in Japan, and several obstacles to their development exist. Some organizations, such as World School Network have developed very good bilingual communication and education programs in English and Japanese. Also, Outward Bound Japan has had a few outdoor education in English programs. A few other schools have also had some kind of English and Nature programs. Still, the extent of these programs is limited. One factor is conventional wisdom, which holds that English programs require a native speaker to be good. For many schools it is hard to find a qualified native speaker to teach 3E classes, and they command higher salaries than their Japanese counterparts. Convincing the public that native Japanese environmental instructors are actually best for 3E’s will be a challenge. Another problem is that EE is not one of the specific subjects in the Japanese public school curriculum. For schools, students, and parents struggling to meet the basic requirements this is a formidable obstacle.

Finding answers to these two problems is a challenge for future research. We hope in the near future to locate, encourage, and evaluate 3E programs at a variety of nature schools and at a variety of academic levels, eventually helping develop this as dynamic and productive educational area.

The techniques of environmental education-experiential, active, hands-on techniques-can be easily applied to other types of teaching, with benefit. Many of the skills of a good interpreter are also skills of a good teacher. And so, as English teaching can benefit from EE techniques, EE can also benefit from English education by drawing a wider variety of students to nature schools and EE programs; by increasing the perceived benefit of an EE program to students, their parents, and school administrators; and most importantly by taking EE education out of the strictly local context and making it into a kind of international education, where students can learn to communicate about a whole world of natural environments and interdependent ecosystems.

**Annotated Resources List**

EETAP (Environmental Education Training and Partnerships) has a resource library of PDF files designed to help educators incorporate EE into their curriculums. <http://www.ag.ohio-state.edu/~eetap/>

**Project Learning Tree**

<http://www.plt.org/> is one of the leading EE programs in the US, offering teaching workshops and resources with an emphasis on forest conservation. It is similar to Project WET (Aquatic issues) and Project WILD (Wildlife Issues). Textbooks from all three projects have been translated into Japanese. The American Forest Foundation together with the Council for Environmental Education sponsors Project Learning Tree. A link for *English Language Development Theory and Practices: Background*


Information for EE Providers is available on PLT's webpage: <http://www.plt.org/curriculum/index.cfm> This PDF file is one of the best guidelines for adapting EE lessons to English language teaching. A summary article called Info Sheet #49: Linking Environmental Education and English Language Development is available at the EETAP website listed above. See also Info Sheet #50: Ensuring Comprehensible Input for English Language Learners: Strategies for EE Providers.

State Department Online English Teaching Forum Environmental Education Section is written by Susan Stempleski and has online lessons that are very good for teaching 3E's. <http://exchanges.state.gov/forum/journal/envir.htm>

Yamaha Motor has an online paper craft lesson that includes a lot of good information about endangered species in Japan and the world. The lessons are available in Japanese and English. <http://www.yamahamotor.co.jp/eng/papercraft/index.html>

WritingDEN <http://www2.actden.com/writ_den/index.htm> is a set of lessons for teaching writing in English. Many nature and science lessons are included, such as Wolves, Salmon, Geese, Bison, Pesticides, and Astronomy.

English Country School <http://www.countryschool.com/engnatur.htm> is a language school in the English countryside that does some Language programs with EE. Their web page has a good Information for Teachers page that gives some teaching project guidelines.

Japan Association of Language Teachers (JALT) publishes the Global Issues in Language Education Newsletter, which is available online <http://www.jalt.org/global/index.html>. It includes many articles on environment and language teaching, as well as peace and global issues.

eelink <http://eelink.net/eelinkintroduction.html> is a resource for many things related to the Environmental Education. This is a project of the North American Association for Environmental Educators (NAAEE), the largest group of EE teachers in the US. Searches can be made of a huge database with links to a wide variety of resources.

References


Antunez, Kay. Frederickson, Jean. et. al. (1999B). English language development theory and practices: background information for EE providers EETAP (Environmental Education Training and Partnership) Resource Library #50


