

# A Novel Service-Learning Project for Non-major Biology Classes

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## Introduction

During the fall, 1998 semester, a service-learning project was first introduced into the BIO 102, Human Ecology curriculum. Service-learning involves students applying what they have learned to help others in the community. Since the early 1980s, service learning has become an accepted part of higher educational programs. In 1997, almost 30% of the 6.7 million college students nationwide participated in service learning activities (Shumer and Cook, 1999). Many of these service-learning opportunities arose as a result of students taking formal "service-learning" or experiential education courses. What this data does not include are those students involved in service-learning activities that have been incorporated into "regular" university courses. A number of faculty at the University of Kentucky have incorporated service learning projects into their courses. While service learning has not been shown to increase student performance (better average grades) in courses, it does have

a strong influence on student development in civic responsibility, and interpersonal skills (Gray *et al.* 1999).

In 1993, the Alliance for Service Learning in Education Reform produced a document, which outlines the standards for service learning (*Standards of Quality for School-Based Service Learning*, 1993). This document describes the components of service learning. These include the project meeting a community need, involving collaboration with the recipients of the service, incorporation of the activity into the course curriculum, evaluation of the activity, and promotion of a sense of caring for others. The eleven standards of quality are then based on these components.

In the service learning activity, the students (in groups) design and produce a booklet that describes an ecological concept or issue that had been discussed in class earlier in the semester. The booklets are then donated to an elementary school. During fall 1999, the books were given to Shearer Elementary School. The contact with this school was made through one of the students in the class. Shearer Elementary School had been burned down in August 1999 and the school was operating out of a church hall. The school had lost its entire library and so the books were very much needed and appreciated.

Each group was assigned a particular topic on which to base their book. Some topics included: global warming, ecosystems, value of trees, soil erosion, water cycle, flow of energy through ecosystems, etc. The students were provided with a vocabulary list of terms appropriate for the grade level for which they were writing (3-5<sup>th</sup> grade). This project was coordinated with the Writing Center. On the third day of the project, the entire Writing Center staff came to the classroom and helped the students with their writing (correcting grammar errors) and also gave them tips on how to write literature for children. In subsequent semesters, the writing consultants were available to the students, throughout the project rather than only on the third day. The books submitted by the students were reviewed and graded (this was part of a student's grade), and a student delivered those books to the school that were grammatically and scientifically correct. The elementary school students not only read the books but they wrote letters to the students thanking them for the books.

The books that were submitted by the students were of exceptional quality. Many of the students included original artwork and the finished products demonstrated the creativity of the students. An evaluation of the activity was conducted. Overall opinion indicates that the students enjoyed and learned from the exercise. Time and time again the students mentioned in the evaluation, the specific course content that they learned as a result of this activity. In informal conversations with students, many would remark "*I thought I knew this material until I started to write the book, then I realized I didn't know it as well as I thought*".

## Materials

### Day 1:

- Copy of the student handout (one per student),
- List of grade appropriate vocabulary – one copy per group (check with your local school district) – this gives the students an indication of the type of terms that the elementary school students will be familiar with.
- Attendance sign in sheet – one per group
- Index cards with book topics written on them. Hand these out randomly to the groups.
- If you have a large class, It is also helpful to have a TA in class on these three days to help answer student questions and to wander around the room. This makes it easier to respond quickly to student questions and the instructor won't feel pulled in too many directions at once.

**Day 2:**

- Attendance sign-in sheet – one per group

**Day 3:**

- Attendance sign-in sheet
- Participation record sheet – Appendix A (I have each student in a group record their level of participation and contribution to the finished group project. Because one form is filled in by all members of a group, students do not exaggerate their contribution to the project.)

## Student Handout

- ☛ Groups must consist of at least five students and no more than seven students.
- ☛ One copy of the completed project to be submitted by the required date. Please make sure the full names of all group members (in alphabetical order) are clearly typed on the front page of the completed project.

### Background

According to *A Greenprint for Minnesota*, (Minnesota Office of Environmental Education, 1993), “An environmentally educated person should

- Understand the scientific concepts and facts that underlie environmental issues and the interrelationships that shape nature.
- Understand how human society is influencing the environment, as well as the economic, legal, and political mechanisms that provide avenues for addressing issues and situations.
- Explore his or her values in relation to environmental issues; from an understanding of the natural and social contexts, the person decides whether to keep or change those values.
- Becomes involved in activities to improve, maintain, or restore natural resources and environmental quality for all.”

One of our responsibilities as environmentally educated people is to promote environmental literacy. This group project focuses on that responsibility.

### Assignment

Each group will produce a 10- to 12-page booklet describing an environmental concept or issue. The course instructor will assign each group a topic. You do not choose your own topic. The target audience for the booklet is 5<sup>th</sup> grade elementary students.

### Instructions

1. Form a group of 5-7 students.
2. Once your group has been formed, get the topic for your booklet from the instructor.
3. Research the topic, decide what information should be included in your booklet, design and produce the booklet.

### Things to remember

These booklets are going to be given to a local elementary school, so they must be scientifically and grammatically correct.

Design your booklet so the students will **want** to read it. Include drawings, diagrams etc. Explain any terminology you use in the text.

**Grading**

This project will be graded as follows:

- 5 points for attendance on Monday 31<sup>st</sup> March 2003\*
- 5 points for attendance on Wednesday 2<sup>nd</sup> April 2003\*
- 5 points for documented evidence that your book was proof read by TA
- 15 points for the submitted booklet (includes 10 points for individual participation\*\*\*)
- 30 points

A bonus of 10 points will be awarded to each person (who **fully participated** in the project\*\*\*) of any group that submits a book that is accepted by the librarian of the elementary school. **(These books must be scientifically and grammatically correct.)**

\* *NOTE: Attendance will be taken during the first ten minutes of the class period. Students who show up more than ten minutes late for class will not receive attendance credit for that day. Problems with parking, traffic, breakdowns, oversleeping, not hearing the alarm etc are not acceptable tardy excuses.*

\*\**NOTE: All submitted work must be the original work of the group members. Read the note in your course syllabus regarding plagiarism and cheating. If ANY portion of a submitted group project is plagiarized, the ENTIRE GROUP will be charged with an academic offense.*

\*\*\**NOTE: Individual participation information will be recorded on a form handed out on Friday 4<sup>th</sup> April 2003. Each student must state their contribution to the group project on the form and then MUST sign the form. Failure to sign the form will result in an automatic score of 0 for individual participation. The completed form must be turned in with the book on 7<sup>th</sup> April 2003. If a group is concerned about the stated contribution and participation of one of its members, that concern must be detailed on the reverse side of the participation form.*

**Literature Cited**

Gray, M. J., Ondaatje, E. H., & Zakaras, L., (1999) *Combining Service Education and Learning in Higher Education: Summary Report.*, RAND, CA.

Alliance for Service Learning in Education Reform, (1993). *Standards of Quality and Excellence for School-Based Service Learning.* Washington, DC. : Council of Chief State School Officers.

Shumer, R., & Cook, C. C., (1999) *The Status of Service-Learning in the United States; Some Facts and Figures,* National Service Learning Clearinghouse.

**Appendix A**

**Participation Record Sheet**

| Name (print) | Name (signature) | Describe your contribution to the finished project |
|--------------|------------------|--|
| 1.           |                  |  |
| 2.           |                  |  |
| 3.           |                  |  |
| 4.           |                  |  |