

Attachment A (Part I & Part II)

REAP Conservation Education Program Part I—Midterm and Final Report Form

*Please submit this completed form, along with Part II, via e-mail to Ross Harrison.
If you include other documents, if possible please paste them at the end of this report rather than
as a separate attachment.*

Grant Recipient (organization name): University of Northern Iowa

Project Title: Pay It Forward: Educating Educators about Waste to Reap Citizenry Skills in Students

Report Prepared by: Susan Salterberg

Project Number: 08-06

Date Submitted:

Check one:

Midterm report (covering July 2007-June 08 activities) **DUE: July 15, 2008**

Final report (covering July 2008-June 09 activities) **DUE: July 15, 2009**

Note: Your Final Project Billing Form and back-up documentation will be due to Ross Harrison on **August 31, 2009**. See Grant Agreement, Attachment B, for a copy of the Billing Form. Send billing information to: Ross Harrison, Iowa DNR.

1) Objectives and activities

The REAP CEP Board expects all work outlined in your original proposal to be completed. At a minimum, briefly explain activities completed to date for the following, as well as the percent of total work completed to date. Include what is going well, and explain. Also include challenges, and explain. Add other objectives as you deem appropriate.

- 1) Market two workshops.
- 2) Market 16-24 mini-workshops/presentations.
- 3) Conduct workshops and mini-workshops.
- 4) Expose students to waste issues.
- 5) Evaluation.

EXAMPLE	Percent completed to date
<p>#1: Market REAP CEP and workshops (i.e., public communications)</p> <p>Activities:</p> <ol style="list-style-type: none"> 1) Seven news releases published in: Iowa Reading Association, Iowa Middle Level Educators and Iowa Recycling Association newsletters as well as in the Creston, Clear Lake, Dubuque and Davenport newspapers. 2) Two workshop announcements published in Iowa Environmental Council listserv and in Iowa Conservation Education Council newsletter <p>Additional explanation: The releases sent to local newspapers generated a lot of inquiries, and subsequent registrations from teachers. I will definitely do this again. The challenge is to get more middle school teachers enrolled, as they are the target audience, but seem to be more pressured than el ed teachers with NCLB requirements.</p>	80%
<p>#1: Market two workshops</p> <p>The Waste Reduction: Addressing the Overlooked “R” workshop was marketed in the following venues:</p> <ol style="list-style-type: none"> 1) Listserv announcements to approximately 400 participants in conference sessions and mini-workshops conducted by Salterberg in the last two years. 	50%

<ul style="list-style-type: none"> 2) Listserv announcements to former participants in the Waste Reduction class 3) Announcements to those expressing interest in UNI environmental courses, but could not attend because of date, location and/or because a class was filled 4) Announcements to approximately 150 principals, requesting they forward information onto their teachers. 5) Iowa Environmental Council newsletter 6) Iowa Conservation Education Coalition listserv 	
Additional explanation, if needed:	

<p>#2: Market 16-24 mini-workshops/presentations.</p> <p>Activities: Marketing for presentations were done primarily by completing Call for Presentations applications. About 14 presentation applications were completed for six fall conferences. Salterberg was invited to conduct three other presentations. A partner, Population Connection, completed one other Call for Presentations application.</p> <p>Additional explanation, if needed:</p>	50%
---	-----

<p>#3: Prepare materials for Waste Reduction workshop.</p> <p>This year, CEEE devoted a great deal of time to re-vamping materials for the Waste Reduction workshop. The syllabus is found in Attachment I. A copy of a Teacher Notebook may be found as a separate document.</p>	65%
--	-----

<p>#4: Conduct workshops and mini-workshops.</p> <p>Activities: Workshop The Waste Reduction graduate credit workshop was held in Dubuque at the Keystone Area Education Agency on Jan. 17-18, with 29 educators in attendance. In addition, two solid waste educators from the Dubuque Metro Waste Agency and the East Central Iowa Council of Governments, respectively, attended and assisted with the workshop.</p> <p>The goal was for 30-35 educators to attend. In the week prior to the workshop, there were two or three cancellations. Therefore, UNI just missed its attendance goal.</p> <p>Mini-workshops During this period, presentations for seven conferences (listed below) were developed and all were presented. A total of 300 were reached, exceeding the goals for this portion of the grant project. (The project hoped to reach 150/year.) In addition, Salterberg asked two former participants from a Waste Reduction graduate credit class to conduct a session at the Iowa Science Teachers Conference, and about 20 more teachers were reached through that venue.</p> <p>Below is a table listing the conferences and titles of presentations given by UNI CEEE this period, as well as the number in attendance at each presentation.</p>	60%
---	-----

Date	Name of Conference	Location	Attendance	Presentation Title		
Mon., Oct. 8	Iowa Talented and Gifted	Hotel Ft. Des Moines	46	Culture, Citizenship & Global Connections	Activities Engage	Your Student
Thurs., Oct. 11	Library Assoc 50 min.	Coralville	37	Great Books with Environmental Messages	<i>(This presentation did not focus on w</i>	
Fri, Oct. 12	Iowa Assoc of the Education of Young Children	Polk County Convention Center	31	I Spy Great Books		

Fri, Oct. 12	Iowa Assoc for the Education of Young Children	Polk County Convention Center	12	Sharing a Small World (included lesson plan on pollution and toxics)		
Tues, Oct. 16	Social Studies (50 min.)	Coralville	13	Great Books with Environmental and Cultural Connections		
Tues, Oct. 16	Social Studies (50 min.)	Coralville	16	Culture, Citizenship and Global Connections		
Thurs, Oct. 18	Science	Cedar Rapids	~20	Title Unknown. Presentation by Steve Hummel and Bob Saunders about Waste Reduction Learning: Moving Waste Issues Beyond the Classroom courses. Their presentation talked about these issues		
Thurs., Oct. 18	Science	Cedar Rapids	14	Great Environmental Books for Elementary Education Teachers		
Thurs, Oct. 18	Science	Cedar Rapids	29	Population and Consumption Connection		
Thurs, Oct. 18	Science	Cedar Rapids	13	Who Polluted the Des Moines River and Other Stories Kathleen Hennings, co-presenter		
March 15	Math	Des Moines	11			
April 15	READ	Dubuque	45	Great Environmental Books		
TOTAL			300			

Additional explanation, if needed:

#5: Expose students to environmental issues.

Activities:

Educators introduced to EE lesson plans and resources through mini-workshops and presentations had opportunities to use the materials in the last school year. Educators in the Waste Reduction graduate credit workshop exposed students to waste issues between January and May. See Appendix II, "Evaluation," for details.

Additional explanation, if needed:

#6: Evaluation

Detailed evaluation information is found in Appendix II. Highlights are found in maroon.

Activities:

Additional explanation, if needed: The Waste Reduction graduate credit course continues to be successful—evaluations show that teachers and their students are engaged in the curriculum materials because they are relevant and meaningful.

The conference presentations are also a hit and UNI feels that this market is untapped by other environmental educators. Our goal is to continue to encourage others in EE to speak at conferences—especially the non-science conferences where teachers are new to EE.

Lastly, one of the most successful presentations was conducted April 15—one week before Earth Day—for the Dubuque READ association. Because we gave teachers classroom-ready materials (book and lesson plan), we found a high percentage of usage just one month later when an evaluation on Survey Monkey was conducted. Two features

60%

60%

of this presentation worth replicating are: 1) Timing (just before Earth Day) 2) Partnering with a local expert so that teachers develop a relationship with that local contact. See Appendix II for more details.	

2A) Are there changes in the direction of your project (i.e., something different than outlined in your grant proposal)?

Yes No

2B) If yes, please explain the changes and the reason for them:

Note: Any major changes must be approved by the Board as soon as possible. Contact Ross Harrison to determine whether board approval is needed for your proposed changes.

3A) Is the project on schedule? Yes No

3B) If no, please explain:

4A) For midterm only: Are matching funds coming in for your project as anticipated and as outlined in your proposal? Yes No

4B) If no, please explain:

For midterm report, go to Question 9.

5) Final report only: Please describe the contributions of third parties and of your organization to this project. List the contributors and their estimated financial contribution. Explain each contribution, if a non-cash contribution.

Name of organization	Cash contribution	Matching contribution (non-cash)	Explanation, if non-cash
Example: Iowa Talented and Gifted Assoc.		\$500	Provided 10 hrs. of assistance reviewing curriculum materials valued @ \$20/hr.
TOTALS:			

6A) Final report only. Please provide at least one concrete example of how your project met one or more of the environmental education goals listed below.

- Understand environmental processes and systems (such as the earth as a physical system, the living environment, humans and their societies, and/or environment and society)
- Develop skills for understanding and addressing environmental issues
- Understand personal and civic responsibility

- Develop lifelong learning skills such as critical thinking, questioning and analysis skills
- Understand that human well-being is tied to environmental quality
- Understand and forge connections with their immediate surroundings
- Conserve and protect Iowa's resources

(Example: The "Project X" helped students develop skills for understanding and addressing environmental issues, understand personal and civic responsibility and forge connections with their immediate surroundings. This was made possible through service-learning projects. Nearly all of the 260 students involved with Project X devoted a combination of around 10,000 hours on service-learning projects in their communities...from picking up litter and establishing recycling programs to selling used books and giving money earned to a charitable cause working on humanitarian and environmental causes.)

6B) Final report only. Testimonials from people influenced through your project help the CEP Board substantiate the need for this program. Please provide one but no more than three testimonials that address one or more of the environmental education goals listed in 6A. If possible, include identification information such as name, grade and subject taught, school and city. If you provide this information, you are responsible to secure written permission from the person quoted for use of the testimonial by REAP CEP.

(Example: "My reactions ... were feelings of reward as I witnessed all my students (even the students who are toughest to keep on task and to keep motivated), totally involved and excited to perform a positive service for others. I will definitely do the...research and reporting project next year, along with another project related to waste management with my seventh graders."—Margaret Hogan, 7th grade, Dyersville-Beckman High School, Dyersville)

7A) Final report only. (Please read Questions 7A, 7B and 7C before responding.)

Please summarize your project in three or fewer pages. This summary should include the following (including the headers), in the order shown below. Your honesty and frankness will be appreciated, and will help strengthen environmental education in Iowa.

- **Project title and Project number:**
- **Organization's name, contact person, website, phone and e-mail:**
- **Project's purpose and targeted audience:**
- **Reflect on your project, providing a self-assessment. At a minimum, answer the following questions: Did your project go as planned? Explain what went well and why. Explain what you would do differently if you did the project again, and why.**
- **Please list the most relevant outputs,¹ and explain, if necessary.**
- **Please list the outcomes,² and explain, if necessary. Be sure to include the outcomes outlined in your grant proposal.**
- **Were there any negative outputs or outcomes, and/or concerns about the accuracy of your evaluation data, which you did not list above? If so, please identify the most relevant ones and explain.**
- **Identify your one to three most effective marketing tools (i.e., conferences, e-mails, flyers, news releases in local papers), describe your use of them, and why they were effective.**
- **At least one but no more than three photo(s) of activities in jpeg format.**

7B) The REAP CEP Board wants to share your successes and lessons learned with other environmental educators. However, they respect your wishes to not share on the web potentially sensitive information that you may not want readily accessible to others. With this in mind, may the

¹ Measurements of production, such as number in attendance at a workshop.

² What important things happen as a result of the project, such as a documented change in behavior or new concepts learned.

summary you have written (as well as the photos submitted) for 7A be published on the REAP CEP website?

Yes No (If no, please see 7C.)

7C) If no, please omit the sections and/or revise the above summary for publication on the web. Include the revised section below. Note: The primary audiences for the REAP CEP website are formal and non-formal educators, who may be able to learn from your experiences—both positive and negative.

Please carefully write and review your summary to ensure it is in publishable format.

8) Final report: Please include attachments, including a copy of your evaluation form(s), your complete evaluation results, and a minimum of one photo in jpeg format. Some of this information may be published on the web, along with your project summary. Please clearly mark any attachments you do NOT want included on the website.

9) Midterm report: Include a completed Project Expenditure Summary with your midterm report. (See next page.)

10) Other comments?

Part II—REAP CEP Midterm Project Expenditure Summary

For your **midterm report**, please submit this completed form by July 15, 2008, along with Part I, via e-mail to Ross Harrison. The midterm expenditure report may be close estimates of REAP CEP expenses to date. This is not an official auditing document.

For your **final report**, please submit the Final Project Billing Form and back-up documentation to Susan Salterberg within 60 days of project completion. (Due Aug. 31, 2009.) See Grant Agreement, Attachment B, for a copy of the Billing Form. Send billing information to: Ross Harrison.

Grant Recipient (organization name):

Project Title and Number:

Do not include non-REAP CEP expenditures in the table below. E-mail to Ross Harrison.

Budget Line Item (A)	Approved Budget (B)	This Period Expenses (C)	Year-to-date Expenses (D)	Remaining Balance (B-D) E
1. Personnel (Salary and Fringe)	11070	5640	5640	5430
2. Travel	992	179	179	813
3. Supplies	6100	1736	1736	4364
4. Other	4280	807	807	3473
5. Indirect costs	2244	1122	1122	1122
6. Total	24686	9484	9484	15,202

Note: *Changes in the proposed budget that deviate from any line item by 10% or more must be approved before the expenditure occurs.* Contact Ross Harrison to request changes. The Board may request additional information, and may or may not negotiate a revision to the contract to allow for expansion or modification of services. If a revision is granted, no increase in the total amount of the grant award shall occur. Once approved, the DNR director or the REAP CEP coordinator will provide a written amendment to the agreement.

Ross Harrison shall be your first contact regarding changes to the proposed budget.

Appendix I--Syllabus

Waste Reduction: Addressing the Overlooked “R”

One semester hour

Jan. 18-19 and April 18, 2008 • Dubuque, Iowa

This workshop is sponsored by Keystone Area Education Agency, area solid waste agencies, the Dubuque Metropolitan Area Solid Waste Agency, East Central Iowa Council of Governments, and Science Education and the Center for Energy and Environmental Education in the College of Natural Sciences, University of Northern Iowa. Support is provided by Iowa solid waste agencies, councils of governments, Resource Enhancement and Protection Program (REAP) Conservation Education Program, and Iowa Department of Natural Resources Solid Waste Alternatives Program.

Lead Instructor:

Susan Salterberg

Center for Energy and Environmental Education

University of Northern Iowa

Cedar Falls, IA 50614-0293

319-273-2573 (UNI office); **319-337-4816 (field office)**; 319-273-7140 (fax); salterberg@uni.edu

Assistant Instructors:

Kristin Simon, East Central Iowa Council of Governments

Bev Wagner, Dubuque Metropolitan Area Solid Waste Agency

Course objectives

Participants will be able to:

- ✓ Articulate that recycling is almost always a net gain for the environment and a good practice, but that it has its limitations.
- ✓ Understand that reduction is the most preferred solid waste management strategy and that it shifts the emphasis from cleaning up pollution to avoiding it.
- ✓ Name at least two ways individuals can make a difference, and two ways that government may be able to make a positive difference.³
- ✓ Know ways to educate about waste reduction, drawing on various books, curriculum materials and local experts such as solid waste educators.
- ✓ Obtain a sampling of the waste reduction resources and lessons introduced at the session.
- ✓ Develop and teach a mini-unit about waste reduction.

³Government tools include phase-outs of destructive subsidies, taxing carbon emissions and other environmental costs, making consumer credit more difficult to obtain, employers encouraged to offer options of increased vacation time vs. increased pay, environmentally friendly procurement policies, eco-labeling, and extended producer responsibility such as computer take-back programs.

Textbook/Websites/Bibliography

The following are resources for educators, many of which will be introduced at the workshop:

- *Material World: A Global Family Portrait*, by Peter Menzel
- *Consumption and Waste*, by Karen E. Bledsoe (a guide published by textbook company Perfection Learning, 800-831-4190) (Note: See sample study guide for 5th graders at http://www.uni.edu/ceee/wastereduction/pdfs/consumption_waste_handout.pdf.)
- *Agatha's Feather Bed*, by Carmen Agra Deedy
- *Stuff: The Secret Lives of Everyday Things*, by John C. Ryan and Alan Thein Durning
- *A Quiltmaker's Gift*, by Jeff Brumbeau and Gail Marcken
- *The Life of a Hamburger*, produced by Dow Chemical
- *The Life Cycle of a CD or DVD*, produced by the Environmental Protection Agency
- *World Population*, produced by Population Connection
- *Teaching Population* DVD and Population Packets, produced by Population Connection
- *Someday a Tree*, by Eve Bunting
- *Recycling*, by Charlotte Wilcox
- *There's a Hair in My Dirt*, by Gary Larson
- *Wartville Wizard*, by Don Madden
- www.uni.edu/ceee/wastereduction -- Website for waste reduction, reuse and recycling issues
- <http://www.uni.edu/ceee/wastereduction/books.htm> -- url with a list of book titles and descriptions, as well as a few tips on how other teachers have used these books
- <http://www.uni.edu/ceee/wastereduction/links.htm> -- url for links to other lesson plans and resources.
- www.uni.edu/ceee/wastereduction/lesson_plan_summaries.htm -- From this "blind" url, you may access the lessons introduced during this workshop, as well as others.

Iowa Teaching Standards:

Components of most of the teaching standards may be met through this course, including but not limited to:

Standard 1: Demonstrates ability to enhance academic performance and support for implementation of the school district's student achievement goals (a, g).

Standard 2: Demonstrates competence in content knowledge appropriate to the teaching position (d).

Standard 4: Uses strategies to deliver instruction that meet the multiple learning needs of students (b).

Standard 5: Uses a variety of methods to monitor student learning (a, d)

Standard 7: Engages in professional growth (c).

Standard 8: Fulfills professional responsibilities established by the school district (e).

Staff development standards:

- ✓ Assists teachers in improving student learning;
- ✓ Improves teaching evidenced through the adoption or application of practices, strategies, and information.

Teachers will learn or better understand concepts that will help improve teaching. A portion of the workshop will also address instructional strategies proven to impact student achievement.

Outline of Course Content:

- ✓ Course expectations
- ✓ Introduction to waste

- ✓ Introduction to lesson plans and resources that promote action
- ✓ Exploration of life cycles/chain of production
- ✓ Global and cultural connections

Methodologies:

Direct instruction: 65% Interactive learning/discussion: 30% Reflection: 5%

Course requirements

The assignments are designed with two primary goals in mind:

- A) Prepare you to teach a mini-unit about waste reduction, and then teach the unit.
- B) Give you supporting documents to include in your portfolio, required by the Iowa Teacher Quality Act.

The requirements include the following:

- 1) Attend the entire course and participate. You must attend Part I and Part II of the workshop to receive credit, according to UNI policy.
- 2) Develop and submit by e-mail to susan.salterberg@uni.edu a rough draft of a one- to three-week waste reduction mini-unit. A suggested format for this Waste Reduction Mini-Unit Plan may be found as Attachment A as well as at http://www.uni.edu/ceee/wastereduction/lesson_plan_format.htm. You may copy and paste this into a Word document and complete the draft using this form.

Deadline for draft of mini-unit: February 13, 2007. (Note: Your instructor will be out of the office Feb. 6-11.)

- 3) Get another teacher's or an administrator's input on your proposed mini-unit.
- 4) Teach a one- to three-week waste reduction mini-unit and evaluate its effectiveness quantitatively and/or qualitatively. A possible evaluation tool may be found in Attachment C. (Teachers in prior classes have often found such an evaluation to be interesting and helpful to them. The information can also be helpful to UNI in their efforts to secure future funding for this course, so please pass any findings on in your final assignment.)
- 5) Participate at least one time in a MailServ, sharing or requesting information that is important to the teaching of the mini-unit. You and all other members of the class should have already received e-mails from WR2008@uni.edu. To participate, hit "Reply" to one of those e-mails, or type WR2008@uni.edu into the "TO" row of your e-mail. Use this MailServ in one or more of the following ways: To share what works or doesn't work with your unit, to ask your peers for input, and/or to **in some other way enhance you and/or your peers' teaching of the waste reduction unit**. (Print and save a copy to include with your final assignment.)
- 6) Your final assignment, due Friday, April 18, should include the following:
 - i. Final Assignment Reflection and Questionnaire, completed (see Attachment B or an electronic version at http://www.uni.edu/ceee/wastereduction/final_assignment_questionnaire.htm). You may copy and paste this form into a Word document to complete it.

- ii. A final copy of the mini-unit you taught. (This need not be lengthy; simply update the draft copy.)
- iii. Printout of at least one e-mail you submitted to the MailServ.
- iv. **Optional, but welcomed:** Sample of completed student assignment, teacher-generated handouts, or other materials that could be shared with future participants in the Waste Reduction course.

Note: Unless requested, teacher assignments will not be returned.

Methods of evaluation:

- 1) Active participation during Waste Reduction Workshop: 20%
- 2) Quality of mini-unit and completion of in-class waste reduction unit (as demonstrated via completion of #6i-6iii above: 80%

Checklist for completion of assignment:

- | | |
|---|---|
| <input type="checkbox"/> Attend 2-part workshop | <input type="checkbox"/> Final assignment reflection and questionnaire (See Att. B) |
| <input type="checkbox"/> Develop mini-unit (See Att. A) | <input type="checkbox"/> Bring final assignment to April 18 session (See 6i-iii.) |
| <input type="checkbox"/> Get input from colleague | |
| <input type="checkbox"/> Teach the waste reduction unit | |
| <input type="checkbox"/> Participate in the MailServ | |

Attachment A
Draft of Mini-Unit

The draft mini-unit must include, at a minimum, the items listed below.

Subject:

Grade Level:

Teacher's Name:

School:

City:

**Projected dates the
mini-unit will be taught:**

List of resources used (Include titles of existing resources you plan to use in the unit, as well as the new resources that were introduced through the WR Workshop. Resources include videos, textbooks, books, lessons, www etc. You must use at least two of the newly introduced resources.):

Daily activities (Complete for as many days as you anticipate your unit will last, with a minimum of 5 days. Clearly state when and how new resources will be used.)

Day 1:

Day 2:

Day 3:

Day 4:

Day 5:

Day 6:

Day 7:

Name at least one standard or benchmark in which you want your students to increase in competency through this mini-unit. (A social studies educator may want to increase competency in global connections and/or personal and civic responsibility; a science educator may want to increase competency in science as inquiry or science in personal and social perspectives. In math, it might be computation. In reading or ELA, it could be critical reading, researching, and/or critiquing texts.)

Identify one point you want your students to learn about the environment and/or waste in particular. To help identify whether you meet this goal, you might want to give your students a test such as the one provided in Attachment C of this document.

Attachment B—Final Assignment Reflection and Questionnaire

Please make this page one of your final assignment. Staple the mini-unit and additional information to this form. Assignments must be word-processed and submitted on the due date. When possible, use both sides of paper. Electronic version available at:

http://www.uni.edu/ceee/wastereduction/final_assignment_questionnaire.htm

It will help you to refer to your “Draft of Mini-Unit” (due Feb. 13) as you complete this form.

Name: _____ Grade you teach: _____
School: _____
Subject where you taught the mini-unit: _____
E-mail address: _____ Phone: _____

- 1) List the name, position and school of the teacher or administrator who gave input on your lesson.
- 2) Reflect on your mini-unit and provide a self-assessment. At a minimum, answer the following questions:

Did your mini-unit go as planned? How did it go?

What went well and why?

What would you do differently if you taught the unit again, and why?

- 3) Did the unit fit the goals and objectives of your class? Yes No Please explain. For example, list one standard or benchmark in which you wanted your students to increase in competency, and whether or not you believe that happened. Why or why not?

Did your students learn the one point you wanted them to learn about the environment and/or waste in particular? Did you use a test such as the one found in Attachment E?

Attach the following information:

- A final copy of the mini-unit (This may be in abbreviated form.)
- Printout of at least one e-mail you submitted to the MailServ.
- **Optional, but welcomed:** Sample of completed student assignment, teacher-generated handouts, or other materials that could be shared with future participants in the Waste Reduction course.

Attachment C –Sample Evaluation Form

This is called a “retrospective post-test.” In this case, a retrospective post-test is a helpful evaluation design because it identifies changes in attitude, knowledge and/or behavior before the unit to the end of the unit. If you wish to use this but the questions below are not appropriate for your students, create your own, but consider using the two-part question format of “Before my class studied waste...” and “Now that my class has studied waste...” The test can be as short as one question, and can be done orally (especially for younger grades).

1a) “Reduce, reuse and recycle” are the “3Rs.” **Before my class studied waste**, I thought the best practice for the environment of those listed below was (circle only one of the following):

- a) Reduce b) Reuse c) Recycle

1b) **Now that my class has studied waste**, I think the best practice for the environment of those listed below is (circle only one of the following):

- a) Reduce b) Reuse c) Recycle

On question 2a and 2b, rank your ability by circling the appropriate number on the continuum.

2a) My ability to communicate about recycling, reuse and reduction **before my class studied waste** was...

I couldn't have talked
or written about
this at all

1

2

3

4

5

I could have bored you to death with
my knowledge and
understanding

2b) My ability to communicate about recycling, reuse and reduction **now that my class has studied waste** is...

I couldn't talk
or write about
this at all

1

2

3

4

5

I could bore you to death with
my knowledge and
understanding

3) As a result of what I've learned in class during our study of waste, I (please check all that apply):

Have given away or plan to give away some things I don't use

Buy or plan to buy fewer things I don't need

Have talked with my peers, parents or other people about recycling, reuse and/or reduction

Have recycled more than in the past

Have convinced some or all of my family to help the environment by turning off lights or the TV when not in use, reducing the use of disposables, or adopting some other environmentally friendly practice

Am proud that I own and wear some hand-me-downs or other used clothing

Am more grateful for what I have

Appendix II Evaluation of 2008 Waste Reduction Workshop

The following is a summary of the information collected at the Part II Waste Reduction Workshop, held April 18, 2008, in Dubuque.

100% of teachers indicated that they “definitely want to teach about waste reduction again and use these resources” or “I think I want to use the resources again.”

Of those 24 of 25 teachers (96%) indicated that they “definitely” wanted to teach about waste reduction again. In addition, 100% of teacher-participants surveyed shared and/or talked with at least one colleague about their mini-unit and/or resources. Of those 44% shared and/or talked with 2-3 colleagues, and another 44% talked with 4 or more colleagues.

Of the 25 teachers surveyed, each educator taught an average of 44 students through their mini-unit. The range was 6 students to 130 students per educator.

96% (23 of 24) indicated that they used their mini-unit to help meet standards and benchmarks, portfolio requirements and/or re-certification credit. (One teacher skipped that question.)

The website usage was higher than in any previous year, with 84% (21 of 25) using the website three or more times. 52% said they used the website 6 or more times. UNI suspects this higher usage was a result of a course booklet provided to teachers for the first time. This booklet referenced urls for every lesson mentioned.

88% of the teachers indicated that the course booklet was “very useful.” 92% used the booklet three or more times. Sample feedback about the booklet included:

- “The booklet was useful the way it was organized.”
- “Keep adding lessons; more lower elementary.”
- “Include two extra pages for note taking.”
- “Include more secondary information and resources to educate us (the educators).”
- “Go paper free and ask everyone to bring a flash drive.”

One of the goals of this course was for teacher-participants to develop a relationship with their local solid waste official, in the hopes that this relationship will continue for years to come. 76% (19 of 25) either invited officials to be guest speakers; toured the landfill/recycling center and/or had a tour planned; called or emailed for information; met the official in person; and/or haven’t used the resource yet but plan to use this resource in future years.

The number one reason teachers enrolled in the class was because they were “interested in the topic (88%).” The fact that it was free was also a compelling reason to register, and 72% did so for that reason. 68% registered to get recertification or graduate credit. (Note: Teachers were asked to give all the reasons that applied, so many gave several answers.)

For 52% (13 educators) of the class, it was the first time they had attended a workshop on environmental issues for graduate credit or recertification credit. Of those 13, six “plan to enroll in more environmental education workshops in the future,” if they learn about them. The other seven educators “don’t know” if they will enroll in more. These teachers will continue to be members of the 2008 UNI Waste Reduction listserv, and will learn of other professional development opportunities through that listserv.

100% (24 of 24 educators, with one skipping that question) indicated that they have taken one or more actions to live in a more environmentally friendly manner, with 71% saying they have taken three or more actions. They provided examples, including:

- “I have reconsidered my “wants” as I make purchases.”
- “I have tried to reduce buying foods with excessive packaging.”
- “I have a permanent bottle for beverages that I consume away from home.”
- “I started an ecology club.”

83% of teachers found the books they received through the workshop to be “very helpful.” Another 17% found them to be “somewhat helpful.”

Teachers in the class also indicated that their students’ behaviors changed as a result of the mini-unit. 100% of teachers indicated that at least 25% of their students:

- Demonstrated interest and/or curiosity about learning (such as but not limited to looking ahead in resource books, looking at books after the unit was completed, talking to one another about issues outside of class).
- Behaved differently, such as but not limited to more participation in school recycling, giving peers a hard time if they were wasteful, and getting their family to recycle.

76% of teachers indicated that 75% or more of their students demonstrated interest/curiosity and 76% of teachers indicated that 75% or more of their students behaved differently during and/or after the mini-unit.

Teacher comments about the unit and/or resources:

“When I had the students make a list of all the things they had in their rooms, it was a real eye-opener...we compared the belongings of different families throughout the world in the Material World book...the discussions were thought-provoking.”—Sally Jansen, 7th grade Targeted Intervention & Enrichment, Miller Middle School, Marshalltown

“Comments I heard from students about the Material World activity—‘I never realized how much we took for granted the things we have.’ ‘We really have a lot of things we don’t need.’

Before I taught my lessons, 62% of my students felt that recycling was the only way to reduce waste and after 80% felt that reducing is the best practice for the environment.”

—Margo Weydert, 6th grade science, Drexler Middle School, Western Dubuque

“This year our [students wrote] persuasive letters to the superintendent of our school ... to see if we can begin using metal utensils for school lunches instead of plastic. We collected plastic utensils that our third and fourth graders used for one week to send to the superintendent with our letters.”—Barb Clausen, Rhonda Thompson, Mary Wagner, 3rd grade science, social studies and math, Carrie Lee Elementary, Decorah

"The population DVD had an amazing impact on all classes that saw it...Some kids from my 3rd term use of it came back to me during 4th term to ask more questions." [One] memorable quote from a student: ‘Wow. What are they doing in India...well, I guess I know what they are doing but how are they going to feed everyone? What if they all drive!!!’" Jodi Dye Zimmerman, high school, Davenport West

"I want[ed] the students to understand the role consumption is playing on the planet and our resources [so I assigned a] Buy Nothing Week: We vow to go a week without buying anything besides shelter, a grocery store trip for food and transportation to the non-negotiables (school, teams, work, church/synagogue/mosque). Student responses were strong. Some memorable quotes: 'I can't go a week without new stuff...what if a new movie comes out?' 'I have my ENTIRE paycheck left. Wow. Don't tell my mom.' 'I hated it. I cheated and ordered from Amazon...but it won't be delivered until next week so I think I'm good.'--Jodi Dye Zimmerman, high school, Davenport West

"...each of the lessons I taught went well because they were very well laid out, easy to follow and captured the students' interest right away...I observed my students attempting to reduce their impact on the environment both in my classroom and in the entire school building."—Stephen Andrusyk, 4th grade, science, Adams Elementary, Davenport

"I hope to continue to use these materials because it provided many opportunities for higher order thinking in my students' responses...I found that by tailoring the waste reduction theme to fit my biology curriculum, I was able to fulfill several science and language arts standards. The unforeseen bonus was that their interest increased significantly when the lessons seemed to come from me and not the text book. Student scores on the pre and post test over the carbon cycle went from 50% accuracy to 85%."—Jennifer Meyer, 7th grad, Roosevelt Middle School, Dubuque

Evaluation Results of 2007-2008 Presentations by Susan Salterberg at Conferences and Meetings

Presentation Title: A diversity of presentations were given such as “Sharing a Small World” and “Great Environmental Books” to the Iowa Association for the Education of Young Children conference participants and “Who Polluted the Des Moines River and Other Stories” to science teachers.

Audience: Participants in one of the following October 2007 conferences: Iowa Talented and Gifted; Iowa Academy of Science, Science Teachers Section; Iowa Council of Social Studies Teachers; Iowa Association for the Education of Young Children

Resources Provided: Participants received different resources, depending upon the presentation they attended. Some received a free book and bibliography of environmental books. Others received a free CD called “Teaching Population,” which has numerous waste and natural resources lessons on it. Still others received a lesson packet called “Sharing a Small World.”

Respondents: Given about 5 months after the presentation.

Survey Results

- √ Of 23 respondents, 74% shared resource(s) with one or more other educators.
- √ Of 21 respondents, 96% “have used the resources one or more times and will use again” or “have plans to use them in the future.” (48% had actually used the resources.)
- √ Of 10 respondents, 50% asked a school librarian, Area Education Agency, or other librarian to order one or more of the books. 50% have used one or more books along with a lesson on the environment and/or have purchased books introduced at the session and/or have borrowed one or more of the books to use in the classroom.
- √ Of nine respondents, 56% have used the curriculum, “It’s a Small World,” one or more times and plan to use it again. An additional 33% have plans to use it in the future. One respondent has no plans to use it because the educator works with older kids. “It’s a Small World” is targeted to Pre-K-first grades.
- √ Of 34 respondents, 97% said the information and resources were “very useful” or “moderately useful.” Of those, 65% said the information and resources were “very useful.”

Presentation Title: Great Environmental Books

Audience: About 45 members, Dubuque READ (Dubuque Reading Association)

Resources Provided: All participants received an annotated bibliography of environmental books, a lesson plan, as well as a free book (*Agatha’s Feather Bed, Someday a Tree, or Stuff: The Secret Lives of Everyday Things*). The lesson plans given out were tied to the free book each educator received.

Respondents: 25 people responded to survey questions, given about one month after the presentation.

Note: This presentation was a great opportunity, as it was conducted one week prior to Earth Day. In addition, UNI invited the local solid waste educator to co-present. This allowed teachers to get to know a local contact and—hopefully—develop a long-term relationship with the local solid waste agency.

The survey was given about one month after the presentation. UNI believes that the positive results were related in large part to the timing of the presentation, and how easy it was for teachers to use the books and lesson plans. UNI will seek to replicate the timing and partnership with solid waste officials in the future.

Survey Results

- √ Of 25 respondents, 56% of the educators had not ever participated in an environmental workshop or presentation before the READ presentation. Of those, 29% indicated they would consider attending an environmental education workshop where they received recertification or graduate credit because the presentation piqued their interest. 21% indicated they would consider attending because the topic “interests me,” and 36% indicated “maybe” they would consider attending a workshop.
- √ Of 25 respondents, 92% shared resource(s) with one or more other educators (32% shared with three or more educators).
- √ Of 25 respondents, 56% “have used one or more lesson plans and/or the book” and another 36% have not yet used the resources, but “have plans to use them in the future.”
- √ Of 13 respondents, an average of 20 students/educator was introduced to the environmental resource(s) within one month of the educators receiving the resources.
- √ Of 22 respondents, 27% asked a school librarian or Area Education Agency to order one or more of the books. 68% plan to purchase one or more of the books, either for use in their classroom or to give as gifts. 14% had borrowed one or more of the books from a library.
- √ Of 23 respondents, “as a result of the presentation,” nine percent asked the local solid waste educator (the waste industry’s version of a naturalist) to speak to their class. 30% are “investigating the possibility of becoming a Green Vision School” (this is a long-term program sponsored by the Dubuque Metro Solid Waste Agency), and 52% hope to use the local solid waste experts in the future. 65% indicated that, as a result of the presentation, “I am recycling more.”
- √ Of 25 respondents, 96% said the information and resources were “very helpful” or “moderately helpful” in getting them to integrate environmental issues into their existing curricula. Of those, 76% said the information and resources were “very helpful.”