

Sandra Johnson  
NR 734: School Building Energy Efficiency  
Winter School  
National Honor Society Service Learning Project:  
Energy Reduction and Community Communication

Wisconsin Model Academic Standards Addressed: A.12.3, A.12.7, D.12.4, E.12.3,  
H.12.3, H.12.4

**Action Plan Summary:** The purpose of this proposed action plan is to create awareness of the usage and consumption of the current electricity to the exit lights in the building and the lighted sign outside the school and to find alternative ways to achieve the same purpose, but more cost effectively. The National Honor Society students manage a communication sign outside the high school. This project would become a service learning project for the students to produce awareness of energy consumption and savings by replacing the systems in use with more energy efficient models, which would include writing a grant and seeking funding, and keeping the public informed. The project would entail learning about the dependency we have in our society to have instant power at our fingertips through the use of electricity. All of us as consumers of electricity have a role in managing how electricity is used so it can be there for us in the future. Introducing students to the practicality of cost efficiency can then carry over to other saving measures in the school and in their own homes.

**Introduction to the Audience:** I work in a K-12 school in Winter, Wisconsin. The K-8 section of the school was built in 1997. It includes a new district office, computer lab, media center, ITV lab, kitchen, commons, laundry area, and maintenance department. The older part of the building was opened in 1977 and houses the high school level. The school has two gyms. The office areas do have air conditioning, as well as the new computer lab, ITV lab, and media center. During the school year the building is used in the evenings after school for sports, after school enrichment programs, club activities, and community activities on a very regular basis.

**Statement of the Problem or Need:** The lighted sign outside the high school is on all the time, all night long. No one knows the type of lighting the system uses and the wattage of electricity that is being paid for. The exit signs use incandescent lights. We feel that these should be replaced with LED lights that would save the district a substantial amount of money over time. The outdoor sign is important to the school and community as a tool for communication. Replacing the old sign with the LED lighted sign with a timed number of hours for operation can also save the district. There are several areas that students will study and address including:

- ✓ Public awareness of activities and events taking place at the school
- ✓ Making the school as a whole aware of the energy conservation project
- ✓ Informing the community of its findings and keeping them updated through newspaper articles in the local paper

- ✓ Completing research on operating costs of the current outdoor lighted sign vs. a new LED sign (media or message board).
- ✓ Completing research on current operating costs of existing exit signs in the building vs. replacing incandescent bulbs with LED lighted exit signs.

**Project Goals and Objectives:** The greatest goal is for students to become aware of how much the district is paying for these two lighting areas of the school and how they can participate in reducing that cost. Other goals include...

- ✓ students and the community will increase awareness of energy consumption and cost
- ✓ developing attitudes that see the benefits of conserving energy
- ✓ complete energy cost analysis sheets
- ✓ public speaking and public service announcements
- ✓ develop leadership skills
- ✓ use creative writing and speaking skills
- ✓ develop working understanding of how energy is consumed, who is responsible and the cost/efficiency factor
- ✓ earning money through a fundraiser selling florescent light bulbs for home use
- ✓ grant writing (Xcel foundation grants, other energy grants)

**Methods and Timeline:** For the action plan to come together, students will have to have regular club meetings. They will need to write articles for the local newspaper to inform the public of our goals and our findings, followed by our accomplishments. They will also need opportunities to learn about the tasks involved in the implementation of this project. The students will have the task of writing the grant and presenting information to the school administrator. They will need to contact Focus on Energy representative, Carrie Ziolkowski to complete the fundraising part of the project. The timeline of the project is expected to take the entire 2005-2006 school year.

**Evaluation Criteria and Process:** The evaluation of this project would be the results of the fundraising, the results of the grant writing activities, the comments and assistance of the community and the staff members at school, student approval, and results of any presentations either orally or in writing, and most importantly if we achieved the goal of awareness of the consumption of electricity in just two small areas of the school and the savings due to upgrading to more energy efficient ways of producing the same visual information.

**Budget:** The National Honor Society has a fund balance from previous fundraising events. They would be willing to contribute funds or get matching funds. The students would service this project by doing the research, writing grants, through public speaking, writing newspaper articles, raising money, and contributing financially. At the time of this writing the cost is unknown.