Design and Implement an Environmental Education Plan Utilizing the Natural Areas of Albrecht Elementary School

by
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ABSTRACT

The purpose of this project was to write an environmental education plan that utilizes the natural areas of Albrecht Elementary School in the Brodhead School District, which is located in southern Wisconsin.

There are established natural areas on the district property that lie between the elementary, middle and high schools. The Blackford Arboretum includes over 100 species of trees and shrubs on its two and a half acres. A historically significant 100 year old cabin has been relocated adjacent to the arboretum for use as an outdoor classroom. Earlier grant funding awarded the school district the opportunity to develop numerous butterfly and prairie gardens.

An Environmental Education Committee was formed and resulted in directions that expanded beyond the scope of this project. One significant result was the organization of an ecology club. Environmental subjects were infused into other school programming and special events. The science committee revised their curriculum to include a unit on the prairie. Earth Day and Arbor Day events were expanded on a school wide basis. Teachers also enrolled in environmental education course work through UW-Stevens Point.

An inservice was held in September 1999. Staff members were presented with research which provided a foundation on the importance of environmental education. Time was also spent discussing ideas for the development of lessons and to review resources. In March 2000 another inservice was made available for
teachers to write their plan in our district's curriculum format. Plans were written from six teachers that included first, second, fourth and fifth grade levels. Special areas of art and music also provided written plans.

This project has expanded the scope of environmental education as exemplified in written plans, school programing and special events. Work needs to continue. Curriculum development is an on-going process and never complete. Teachers involved on the Environmental Education Committee must continue their work to keep programs strong. Their expertise, enthusiasm and leadership will establish credibility in the importance of environmental education in our schools.
ACKNOWLEDGMENTS

I would like to acknowledge the many people who were involved with this project by providing their expertise, guidance and support.

The staff at the University of Wisconsin - Stevens Point College of Natural Resources and the Wisconsin Center for Environmental Education should be commended for their dedication to Environmental Education. A special thank you to my advisor, Dr. Dennis Yockers for being so available with advice and encouragement. I feel fortunate to have been a part of this program and to have been provided with the opportunity to associate with those responsible for its existence.

I am also fortunate to be a member of a school district with a depth of ecological history. The Marjorie Blackford Arboretum, the Community Cabin and numerous prairie gardens provide such fertile ground for environmental inspiration to grow. My colleague, Paul Roemer should be commended for his dedication to developing and maintaining the numerous natural sites from which future generations will benefit. I have enjoyed teaming up with him artistically and environmentally.

On a more personal note, I must also recognize my family who made this pursuit of a Masters Degree in Environmental Education a reality for me. My husband Leon and I began this endeavor at a totally different place in our lives. Thank you Leon for your love, support and patience through the tears of these past years. Thanks to you Joey, who came to us after this pursuit began, and for growing
strong enough for me to continue. You have taught us so much about life and love. A heartfelt thanks is extended to my father and mother for providing a family farm. It was the best 3rd birthday present - gifting me the chance to grow and connect with the natural world. I now realize the significance of your decision long ago. A lesson learned . . . the significance of a child's learning through experiencing their environment.
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CHAPTER ONE
INTRODUCTION

The Brodhead School District is located along the state line in southern Wisconsin. It is a rural school district with 1300 students enrolled. The district school population is divided into three buildings. Albrecht Elementary is for students in Early Childhood through grade five. The middle school has students enrolled in grades six through eight and a new high school houses students in grades nine through twelve. These three school buildings currently form a spacious triangular arrangement which is located on one large parcel of land totaling 45 acres.

The Brodhead School District has a conservation history that started over thirty years ago by teachers who had an insight for the significance of developing natural areas for student learning. There are three established natural areas on the district property that lie between this recent triangular formation of school buildings. The Blackford Arboretum was developed in 1972 and at that time, was the area at the most southern edge of the school district property. It includes over 100 species of trees and shrubs on its two and one half acres. Each is identified with marker posts along with twenty-five informational signs that have been installed to provide narrative details on the species for arboretum guests. The purchase of 20 acres in 1988 allowed for continued development of the district campus as required by increased enrollment. This real estate addition, to the south and adjacent to the arboretum's edge, now formed the arboretum into a peninsula into the school district's property.
Another environmentally sensitive teacher, Paul Roemer, acquired for the school district an historically significant 100 year old log cabin. Relocation to the school property in 1995 included aesthetic restoration of the cabin for its use as an outdoor classroom adjacent to the Blackford Arboretum.

Other educational leaders were granted funding through the Department of Public Instruction to connect the science of a local business with classroom instruction. In 1992 interested teachers made an 18-month commitment to be involved in training provided by Applied Ecological Services. This local Brodhead business inserviced teachers on their scientific restoration efforts of wetlands and prairies. The results of this experience was the restoration of mowed school lawn areas into native forbs and grasses to aesthetically enhance the district property and to facilitate student environmental learning.

In 1995 another grant was awarded to our school district from the Environmental Protection Agency. This grant was focused on the issue of water quality in a growing river community. An Environmental Education committee was formed to work on getting authorities in to speak (during district inservice times) for the teaching staff at Albrecht Elementary.

Efforts to coordinate environmental education in curricular areas have been limited. There has never been an environmental education plan written for the district. Teachers have worked in their own classrooms and on occasion as teams to provide environmentally-related activities. Some activities centered around the celebration of Earth Day and Arbor Day in April.
Due to lack of grant funding and the loss of influential supportive staff members, the Environmental Education Committee considered dissolving. Since 1997, when this project began, the Environmental Education committee has persevered with their objectives in continuing to organize Earth Day and Arbor Day celebrations, organizing an after school ecology club, establishing an EE Liaison, that would disseminate information from the Wisconsin Environmental Education Network, and advocating sustainment of the school's natural areas with the development of a written educational plan.

**Statement of the Problem**

The purpose of this project is to design and implement an environmental education plan utilizing the natural areas of Albrecht Elementary School.

**Subproblems**

- **The first subproblem:** to gain administrative approval in writing an environmental education plan.
- **The second subproblem:** to secure administrative support in providing inservice time.
- **The third subproblem:** to identify teachers interested in developing an environmental education plan for the school's natural areas.
- **The fourth subproblem:** to develop and present an inservice program on environmental education that focuses on the utilization of school sites for the teachers at Albrecht Elementary School.
The fifth subproblem: to assist teachers in the implementation and writing of an environmental education plan that utilizes the school's natural areas.

Limitations

1. Teachers who participate in the inservice will determine the grade levels and subject areas included in the environmental education plan.
2. This project will be limited to environmental education that utilizes the school's established natural areas.
3. This project will not provide an evaluation of the environmental education plan.

The Definition of Terms

Environmental Education is a lifelong learning process that leads to an informed and involved citizenry having the creative problem-solving skills, scientific and social literacy, ethical awareness and sensitivity for the relationship between humans and the environment, and commitment to engage in responsible individual and cooperative actions. By these actions, environmentally literate citizens will help ensure an ecologically and economically sustainable environment. (Wisconsin Department of Public Instruction, 1998)

Albrecht Elementary School is a Early Childhood through 5th grade school in the Brodhead School District, in Brodhead Wisconsin.
School natural areas are identified as the Blackford Arboretum, Community Log Cabin, Prairie Gardens and the Butterfly Garden. Blackford Arboretum is a 30 year old established arboretum on the school property. Community Cabin is a historically significant 100 year old log cabin that has been aesthetically restored and relocated on the school property adjacent to the Blackford Arboretum. Prairie Gardens are located adjacent to the Community Cabin, Blackford Arboretum and several other areas on the school property.

Assumptions

The first assumption is that there will be teachers willing to participate in the development and implementation of an environmental education plan.

The second assumption is that there will be administrative support for the development and implementation of a environmental education plan.

The third assumption is that all teachers involved have a basic knowledge of environmental education through previous grant funded inservices.

The fourth assumption is that the teachers will specify the environmental education topics; the subject areas for infusion; and which site they will utilize.

The Importance of the Project

The condition of our natural environment is a prominent concern. Environmental education has a philosophical base which states that the quality of life and the quality of the environment are
directly related; every citizen is responsible for maintaining environmental quality (Engleson and Yockers, 1994). Because all subject areas contribute to education, educators share responsibility for preparing citizens to maintain environmental quality. The Wisconsin Department of Public Instruction established a requirement that every school district develop and implement a plan incorporating environmental education into all subject areas, with the greatest emphasis in plans for art, health, science, and social studies (Engleson and Yockers, 1994). Academic Standards for Environmental Education supports Wisconsin's commitment to requiring instruction for the conservation of our natural resources (Fortier, 1998).

The Brodhead School District's ecological history was started in 1972 by individuals who had insight into the importance of developing natural areas for students environmental education benefit. Currently three major natural areas have been established on school property for classroom use.

At the time this project began, school property space was heavily scrutinized because of the passing of a referendum for building a new high school and remodeling the middle school. Space needed to be developed for driveways, practice fields, fire lane access, water retention and parking. An area that had been restored as a savannah prairie was taken for road access for the new building project. Concerns are that other school property areas, including natural areas, will be scrutinized for other various needs if their benefits are not documented.

This project will document the value our district's natural areas
have in providing students with an environmental education experience. It will be a continuum of those early efforts that established the natural areas by infusing and integrating environmental education into the various curriculum areas. Current educational research and reforms make efforts to utilize these areas a high priority. Attention has been placed on students' learning styles and multiple intelligences. Howard Gardner's theory identifies the eighth intelligence as "Naturalist" and defines it by "having the ability to understand patterns, relationships and connections in nature" (Meyer, 1998). Teachers have a responsibility to provide meaningful experiences and appropriate instruction. The use of our school's natural areas allows for a variety of learning opportunities and ensures that all students can be successful.
CHAPTER TWO

REVIEW OF RELATED LITERATURE

The Value and Use of Natural Areas as a School Site for Environmental Education

Teachers commonly believe that providing nature experiences are important, relevant to the school curriculum, and something their students would enjoy. Teachers reported a strong preference for taking students to places with unpaved trails, conveying a sense of solitude or being out in the wild. They stated that areas with well kept lawns, grounds and playground equipment were less desirable. Logistical barriers to providing nature experiences were funding/cost, safety, and time constraints (Simmons 1993). Many of our schools were built and landscaped with paved and cemented areas and a monoculture lawn replacing the diversity that had previously existed. Schools that have restored a site back to a natural area are dealing with biodiversity on a small scale and are also addressing some of the reported logistical barriers.

Our schools are places of hope and learning. Natural areas for environmental education, when effectively used by students and teachers, are places where learning is brought to real life. Students have a greater interest when environmental education concepts are introduced in the classroom and then made meaningful by a tangible hands-on experience. “The most effective learning, appealing to the broadest spectrum of learning styles and the widest range of personalities, takes place in diverse settings...”(WILD, 1993).

Wilson (1996) believes that children learn about their environment by interacting with it. Environmental education based
on life experiences plays a critical role in shaping life-long attitudes, values, and patterns of behavior toward natural environments. Children must develop a sense of respect and caring for the natural environment early or be at risk for never developing such attitudes. Wilson's research outlines guidelines for this development to include "providing frequent positive experiences outdoors". The exposure should be provided on an almost daily basis as ongoing experiences that are close to school, rather than spending time and energy in making arrangements for field trips to unfamiliar places the children may seldom visit.

**Environmental Education Development Using Natural Areas**

An interdisciplinary education plan is an integrated approach to teaching and learning that makes connections across the disciplines. This curriculum organization emphasizes a specific topic and how it relates to different disciplines. The connections among these disciplines may not be evident to learners if the topic is taught in isolation in the various disciplines (Cantrell, 1994).

During the development of an environmental education plan, five subgoals need to be addressed. The Wisconsin Department of Public Instruction lists them as:

1. Perceptual Awareness: Developed when a stimulus is combined with thoughts and feelings to produce meaning.
2. Knowledge: A basic understanding of how the natural environment functions, how to interact with the environment, and how to prevent and resolve issues resulting from those interactions.
3. Environmental Ethic: Environmental issues are not factual
questions but ethical questions about proper goals and actions for society and individuals.

4. Citizen Action Skills: To help students develop skills needed to identify, investigate and take action toward the prevention and resolution of environmental issues.

5. Citizen Action Experience: Applying the subgoals into citizen action experiences such as persuasion, consumer action, political action, and ecomanagement. (Engleson and Yockers, 1994)

Studies show that learning can be acquired more quickly and effectively in a favorable outdoor environment than in a classroom. Implementing a well designed environmental education plan that uses a natural area has the following advantages:

1. It develops in students the habit of enjoying the beauty of naturally occurring events and circumstances. It is those who appreciate the beauty of the natural environment will be concerned about preserving it.

2. Students have the chance to verify classroom instruction through observation and investigation experiences.

3. Students take an active part in the lesson and become more responsible members of a group.

4. Relationships between students and teacher can improve with students becoming highly motivated (Teaching, 1983).

Environmental Education Inservices for Teachers

Teacher inservices are a necessary component in implementing environmental education into the curriculum. Lane (1994) studied Wisconsin teachers' perceived competencies in environmental education.
education and the amount of class time they devoted to teaching about the environment. The results imply that the lack of training is a major reason teachers do not infuse environmental education concepts.

Wade (1996) reported the survey results on environmental education inservices from the National Consortium for Environmental Education and Training. A specific finding in the survey reports that respondents believe that it is important that the inservice provider have an ability "to understand where teachers are coming from--their classroom background", to provide practical ways teachers can integrate and infuse environmental education into classrooms and "to provide follow-up support to help teachers implement environmental education in classrooms" (Wade, 1996).

**Barriers to Environmental Education**

Progress has been made yet barriers still exist to fully achieve the goals and objectives in the development of environmental education learning opportunities in our public schools. Administrators and teachers involved with curriculum planning face the problem of a curricula that is filled with discipline-based, societal-based, and learner-based needs (Ramsey, 1992). The process of infusion addresses this problem of where and how environmental education can be included and is outlined in *Guide to Curriculum Planning in Environmental Education*. Infusion refers to the integration of content and skills into existing courses in a manner as to focus on that content without jeopardizing the integrity of the courses themselves (Ramsey, 1992).
A study by Smith-Sebasto (1997) reported findings that there are barriers perceived by teachers for not infusing environmental education concepts. The top five reasons were as follows:

1. concepts not related to subject matter
2. not enough knowledge or background
3. not enough class time
4. other (general)
5. not enough preparation time

Other literature acknowledges the same logistical and attitudinal barriers. Roy (1997) reports two common conceptual barriers are that environmental education is relevant to science only and that environmental education is a separate subject. Logistical barriers include the perceived lack of time to teach and prepare quality lessons. The failure to infuse environmental education may be related to the types of instructional materials available. His response to the conceptual barriers perceived by teachers would be the development of environmentally supportive teaching tools.

Simmons (1989) concludes that the availability of curriculum materials has played an essential role in getting environmental education into the schools. She cites the nationally reputable curriculums: Project Learning Tree, Project WILD, Project WILD Aquatic and Living Lightly in the City.

Teachers may also find a means to access information on the World Wide Web. Milbourne (1996) states that for educators it is quickly becoming the era of information-on-demand and collaboration-at-a-distance. Documents, data, images, and interactive sessions are all provided by a global network of individuals, organizations, businesses, and federal agencies.
Teachers can find ideas for lessons and activities and collaborate with others on projects of mutual interest.

**Summary of Literature Reviewed**

Educators generally agree that there is need to provide students with nature experiences that are relevant to the school curriculum. The Wisconsin Department of Public Instruction has mandated that schools develop and implement an environmental education plan. Time availability concerns surface when educators are faced with adding a new subject into an established curriculum organized into separate disciplines. An infusion approach to implementing an environmental education plan can ease those concerns.

For students this approach creates a greater understanding of environmental relationships. The utilization of a natural area gives students of all learning styles a tangible hands-on experience in applying concepts that are introduced in the various disciplines. Because all subject areas contribute to a total and complete education, educators share responsibility for preparing our students as future citizens with the knowledge, awareness, ethics and skills to maintain environmental quality.
CHAPTER THREE

PROJECT METHODOLOGY AND TREATMENT OF SUBPROBLEMS

The first subproblem: to obtain administrative approval in writing an environmental education plan.

Upon my return to school at Albrecht Elementary after my summer course work at UW-Stevens Point, I would contact our building principal in August of 1997 and request to meet with him. The meeting was to inform him of my studies in environmental education and the proposed project that would involve writing a plan utilizing our school's natural areas. I would emphasize that these areas are unique established sites and have learned through my course work, that school districts from various parts of the state were not so fortunate. Many graduate projects were focused on beginning to create them.

The second subproblem: to secure administrative support in providing inservice time for presenting environmental education to teachers.

Our district has had an established “Early Release” time. This occurs once during each of the eight months of the school year. Students are dismissed at 12:30 p.m. and the staff members are required to attend scheduled meetings. This release time would be optimal for administration and teachers. During my meeting with my building principal and district curriculum coordinator I would point out that administration would not have the expense of
contracting substitutes and teachers would be more receptive to this inservice if they collectively are given release time.

To further secure administrative support I would review the ecological history of the district and, emphasize that supporting an inservice for writing an environmental education plan would be an extension of those earlier historical efforts. In meeting with the curriculum coordinator I would ask if he believed that the Brodhead School District was compliant with the Department of Public Instruction mandate to have a written Environmental Education plan.

The third subproblem is to identify teachers interested in developing an environmental education plan for the school's natural areas.

After meeting with our building principal and district curriculum coordinator the next step would be to propose the project idea to the teachers at our staff meeting. A brief presentation should include the unique resources we have easily accessible, most significantly our school's natural areas which include the historic log cabin, the arboretum, and butterfly and prairie gardens. Teachers interested in utilizing these areas would be welcomed to participate. Information presented during the meeting would also be repeated on an informational handout and distributed to all staff members.

The fourth subproblem: to develop and present an environmental education inservice for the teachers at Albrecht Elementary School.

The development of an environmental education inservice should be sensitive to the experience and background of the audience. The Brodhead School District has inserviced teachers on
various methods of instructional delivery and the diversity of students’ needs for success. An inservice built upon previous training, connections, and teacher experiences would create a greater sense of credibility for inclusion of environmental education.

The inservice should present to teachers various materials and resources that are readily available. The Brodhead School District, course work at UW-Stevens Point and the Wisconsin Center for Environmental Education can provide access to materials for classroom instructional development.

The fifth subproblem: to assist teachers in the writing and implementation of their environmental education plan that utilizes the school's natural areas.

Teachers committed to developing environmental education in their classroom need to be given the opportunity to do so. Inservice time will have to be made available during an Early Release time. Follow up meetings can be done after school and scheduled individually as needed to support those teachers involved in developing and implementing environmental lessons.
CHAPTER FOUR
RESULTS

Obtaining Administrative Approval in Writing an Environmental Education Plan

I returned to Albrecht Elementary School after my summer course work at UW-Stevens Point in August 1997. I asked to meet with our school principal. The objective was to inform him of my studies in environmental education and the proposed project that would involve writing a plan utilizing our school's natural areas. We discussed our Environmental Education Committee's work over seeing the administration of grant funds which had ended the past year. Now that it was the beginning of a new year, the principal offered his support and encouragement to continue the committee with new leadership and new ideas. He required each staff member to be involved in any of the various committees. He offered to include the Environmental Education Committee among the choices for which he had the staff sign up.

With the approval of our building principal, I now had to seek out our district curriculum coordinator. In September of 1997, he and I met to discuss the proposed idea of writing an environmental education plan. With his background as a science teacher he was very supportive of the idea, and as a curriculum coordinator, was aware that the district was not in compliance with the Department of Public Instruction mandate to have a written Environmental Education plan in place.
Securing Administrative Support in Providing Inservice Time

During each of the eight months of the school year the Brodhead School district has established “Early Release” time. Staff members are required to attend scheduled meetings after the 12:30 student dismissal: Our building principal was supportive of the environmental education committee’s efforts but was not able to provide inservice time during the Early Release dates. He referred me to our district curriculum coordinator.

I met again with the district curriculum coordinator, reaffirming my intentions to work out an environmental education plan emphasizing that the need for time was imperative to accomplish the task. Finding time would be difficult. Our district was fully committed to working on coordinating our curriculum with the Wisconsin State Standards in all curricular areas Kindergarten through 12th grade. With a priority of this magnitude, finding time and staff available for the environmental education plan would be impossible to implement at this date. Another committee that plans out the programs to be presented on each Early Release was the District Leadership Team. This committee is comprised of administrators, a school board member, and teacher representatives from each building. I questioned our building representative about their process in the planning of the Early Release times. The committee organizes the Early Release sessions up to a year in advance to meet goals and objectives established by the administrative leaders. It was apparent that obtaining inservice time for environmental education was not possible. Meanwhile I submitted my request and then continued to work on Earth Day
programming, the ecology club and as a EE Liaison for our building through the Environmental Education Committee.

In the 1998-99 school year there was an opening for a representative on the District Leadership Team. I was informed by my principal that he nominated me for the position and asked if I would consider taking on the responsibility. The strategy would be that, if I was on the committee that makes decisions on how the Early Release time is used, my direct input could have a greater impact on actually getting inservice time. This would be a step closer to getting at writing an environmental education plan. The position on the committee was a three year commitment and it was not until my second year that I was able to obtain inservice time. Environmental Education was a session offered to staff members in September and again in March of the '99-2000 school year.

**Identifying Teachers Interested in Developing an Environmental Education Plan for the School's Natural Areas**

In September 1997 an agenda was sent out to the entire staff for an Environmental Education Committee meeting. Everybody was welcome to attend. The meeting was held after school from 3:00-3:30. During the meeting we discussed what we wanted to accomplish. I proposed my UW-Stevens Point EE Masters project. With different ideas from other members it was concluded that our goal of promoting environmental education in our school would be accomplished by:

1. Continuing to plan out Earth Day and Arbor Day celebrations.
2. Organize an after school ecology club.

3. Support efforts for inservice in writing an environmental education plan that utilized our school's natural areas.

The established committee identified interested teachers from areas of music, 1st grade, 2nd grade, and 4th grade. I began to look for ways to identify others that would be interested in environmental education.

I requested to be put on the agenda for the next staff meeting to introduce the Environmental Education Committee and our many resources available to our school to further student learning. A computer-formatted slide show presentation was shared with listing our school sites, the past efforts of the committee and the information available from the EE Network.

Forming a committee, presenting information at a staff meeting and providing an inservice were attempts to reach every prospective interested teacher.

**Developing and Presenting an Environmental Education Inservice**

In developing this inservice I took into consideration our school district's history of environmental education inservices. I decided that my approach would be to provide rationale and reason for the development of environmental education through research and literature acquired through my course work at UW-Stevens Point. It was information that I valued as having a strong educational foundation that was not present in previous inservices.

An inservice was held on September 15th, 1999 for teachers at Albrecht Elementary School interested in Environmental Education
The eleven teachers that attended were greeted with an informal atmosphere created by an audio recording of bird calls and Far Side cartoons with an environmental theme. A back table displayed posters, books, and other environmentally related teaching resources that teachers could receive as a door prize. Each table was supplied with additional resources on loan from the Wisconsin Center of Environmental Education library. While awaiting to start, teachers began looking through these items. Verbal exchange and interest level was observed.

The first part of the inservice was focused on the particular environmental issues that affect us directly and the positive experiences in our childhoods that have developed our personal interest in the environment. In identifying those personal issues and experiences I related them as having significant motivating implications for us today as educators.

With our district's attention so focused on the state standards, I decided to present the publication, *Wisconsin Model on Academic Standards for Environmental Education* (Fortier, et al. 1998). I acknowledged that there were not any efforts to comply with this document or the Wisconsin Administrative Code PI 8.01(2)(k) which established the requirement that every school district implement a written plan incorporating environmental education into all subject area curriculum plans (Engleson and Yockers, 1994). Staff members were also presented with the goals of environmental education as stated in *A Guide to Curriculum Planning in Environmental Education*.

Further implications for us as educators involve factors that
contribute to environmental sensitivity. The inservice participants were presented with an overhead of six different factors. The conclusion being drawn was that they have personally experienced these factors and that this contributed to their participation in the inservice. The factors also have direct implications to us as educators; we have significant impact upon students' environmental sensitivity. Teachers can especially have impact cited as "role model" which Peterson and Hungerford state was as important as outdoor experiences in developing environmental sensitivity. An article was distributed to teachers for further information titled "How Nature Shapes Childhood" (Nixon, 1997).

Past inservices offered in our district have focused on teaching to all the distinct abilities of our students. In my first inservice I decided to include a review of Gardner's identification of the seven intelligences from his original work but updating our staff members on the eighth mode that he added in 1995; this is the "naturalist intelligence". Staff members were then given a "Naturalist Checklist" (Meyer 1998) that would assist them in identifying a child who has a strong naturalist intelligence. Further information was provided in the article "Learning and Teaching Through the Naturalist Intelligence" (Meyer 1998).

This first part of the inservice provided staff members with an applicable foundation on the importance of environmental education. The remainder of the inservice was utilized to provide ideas and resources for development of lessons. Staff members were presented with a slide show of our school's natural areas and their significance for opportunities as an outdoor classroom. I had on loan many
resources from the Wisconsin Center for Environmental Education. Staff members examined them and discussed their thoughts about the issues presented in them. Other resources were handed out for staff members to take for further consideration in developing environmental education with their students.

The inservice was concluded with a survey that would provide information about their continued interest (Appendix B). Names were drawn and winners were given environmentally-related door prizes. Participants were also given an evaluation form from the District Leadership Team.

Assisting Teachers with an Environmental Education Plan

The Environmental Education Committee continued to meet on a monthly basis. Notification of each meeting was sent out to each staff member a few days ahead of time in the form of an agenda (Appendix C). Committee minutes were typed up and distributed after each meeting (Appendix D). As the EE Liaison I included in each meeting a report of information from the recent network's mailing. This information was also provided on the meetings' minutes with suggesting that staff members could see the complete network mailing posted on the Environmental Education bulletin board. This was an area I established in the teachers workroom as the EE Liaison.

A second inservice time was made available during the March 15th 2000 Early Release time. The purpose was to provide an opportunity for teachers who used our school's natural areas to write their plan in our district's curriculum format (Appendix E).
Staff members were greeted with an informal atmosphere accompanied by an audio recording of natural sounds, treats, and an interactive opening activity. A brief overview of the inservice format was presented. The goal we wished to accomplish: document what we teach in our school's natural areas, and what we are not teaching but we would like to. This would provide information for development in the future. A video of the SNAP (School Nature Area Project) program was presented to get staff members thinking about the scope of environmental education. In a large group a list was generated on an overhead that addressed the question, "What we do with our outdoor areas?". Another list was created when asked "What would you like to do in our outdoor areas?" (Appendix F). This information gave direction and purpose for the remainder of the inservice time.

The Brodhead School District Curriculum Form (Appendix G) was distributed and staff members were given the opportunity to write down how they used the outdoor sites. Many resources in the form of environmental education guides from Project Learning Tree (1987), Project WILD (1985), Project WILD Aquatic (1987), KEEP (1997), and books on various subjects were made available.

On an informal basis I kept contact with staff members who were pursuing environmental education in their classrooms. With a great view from my classroom windows, I could see teachers with their students at our school's prairie gardens, arboretum or log cabin. I would have the chance to touch base with them every time they brought their students for my art class.

To assist them in their writing I contributed my time to type up
the form and provide the Environmental Education Standards that their plan would address.

Another informal method resulted in further interest from teachers to integrate environmental education into their curriculum areas. Art shows and displays of student work, originating from lessons I developed that utilized our school's natural areas, prompted many inquiries and comments from staff members. Students in third grade built clay wall pots and decorated them with a collection of prairie plants. Arbor Day was celebrated in the art room with second graders creating a clay frame for a picture of them in the arboretum with their adopted tree. Fifth graders learned three abstraction techniques artists used and then interpreted the prairie garden for their own abstract drawing. Watercolor techniques were introduced to students in third grade and utilized in a painting of the prairie gardens. These works of art were displayed on the hallway bulletin board and in the school's display case. Staff members inquired about the process in which they were created and expressed their interest.

The involvement as a member on the District Leadership Team did result in securing an inservice time during the district's Early Release. Participants were interested but limited their involvement and level of commitment. With efforts to persevere, plans were written by six different teachers that included first, second, fourth and fifth grade levels. Special areas of art and music also provided written plans (Appendix H). The intent was to write a plan that utilized our school's natural areas. Through the methods of this project, I also became aware of environmental education that is
already being implemented in various classrooms by teachers and is not represented in this project. These environmental lessons while being implemented, are not documented in any form to comply with the requirement established by the Wisconsin Department of Public Instruction. This realization has implications for recommendations about further development in our written curriculum.

**Assessment of District Initiatives and Direction**

Our school district has been fully committed to working out the Wisconsin State Standards in all curricular areas in Kindergarten through 12th grade. The purpose of this project was to develop an environmental education plan that utilizes our school's natural areas. A written plan would document the educational value and secure the continued existence of these natural areas. The results were dependent upon the teachers who volunteered for the inservices. The number of staff members available for yet another commitment was limited. By realizing that our district's initiative and direction was not in alignment with this project, I reached out, with indirect methods, to staff members through committee work, staff meetings and inservice time.

Involving myself in the work efforts of various committees, did result in furthering environmental education at our school. At the time of this project the science curriculum was also being reevaluated. A science committee was formed to consider the scope and sequence of topics covered in Kindergarten through 5th grade. I became a member of that committee as an advocate for the inclusion of environmental topics that utilized our school's natural areas. The
results were the addition of a prairie unit at the 4th grade level. Through the committee’s continued work, I also became a resource person for materials on the additional topics that include environmental education connections. These topics such as prairie, forestry and energy, are currently not inducing teachers to utilize the school sites specific to this project and have implications for recommendations in further development.

Extensions of the Project

The continuation of the Environmental Education Committee resulted in directions that expanded beyond the scope of this project. One significant result was the organization of an ecology club. A committee member was concerned that his primary teaching responsibility of music greatly limited his desire to present environmental learning opportunities on a deeper level. Organizing an after school ecology club was a way to have focus on environmental issues and utilize our school’s natural areas. An informational letter was sent home. (Appendix I). Other committee members supported his efforts by assisting him in his activities and also developed and presented their own activities. I developed a journal and distributed it to each student. (Appendix J).

Staff members were provided with information that I received as the liaison in the Environmental Education Network. At each Environmental Education meeting information was discussed and the minutes included an overview of the mailing's contents. The complete mailing was posted in an area designated for Environmental Education in the teacher’s workroom. The most significant result of
this effort was that four staff members attended classes offered by
the College of Natural Resources at the University of Wisconsin-
Stevens Point. While only two of them have become involved in
developing a written plan, the other individuals with environmental
education course work experience have the ability to participate in
future curriculum development.

Through the visibility and continued contact with the staff
members, environmental subject matter was infused into other
school programing. Each year a committee develops a “Motivational
Reading Program” at our school. Students are to read a prescribed
amount of minutes to reach a specified goal. Special events, prizes,
and guests are all integrated on a particular theme. I became a
member of the Reading Motivational Committee and encouraged the
selection of an environmental theme. In 1997 the motivational
reading program titled “The Prairie Readers” was based on the
literature authored by Laura Ingalls Wilder. The log cabin, prairie
gardens and arboretum were used for special prairie activities and
presentations. A “Lost Botanist” stumbled into classrooms in
authentic 1800’s attire, asking students if they have seen “Big Blue”
and other named native plants of the virgin prairie landscape. Prairie
Prizes were awarded to students that reached their reading goal.
(Appendix K).

In 1999 the theme was “Going Buggy Over Books”. In each of
the six weeks some topic relating to the theme of insects was
presented. I contacted 4-H members who exhibited collection
projects at the Rock County Fair, to display their specimens for our
students. I presented information to the committee and they were
willing to fund a school assembly titled "The Creepy Crawly Zoo". Featured entomologist Tony Gustin provided students with a "hands-on" experience with live arthropods. Students were presented scientific information on insect defenses, conservation, and the role of insects in the environment. (Appendix L).
CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The purpose of this project was to develop and implement environmental education opportunities that utilize the natural areas at Albrecht Elementary School. I recognized many opportunities for the integration of environmental education by connecting with various district curricular and professional committees. Committee work related to this project involved being chairperson on the Environmental Education Committee, which included the EE Liaison position. I also became a building representative for the District Leadership Team which included being part of the long range planning process and securing inservice time for environmental education. The Science Curriculum Committee welcomed my membership during their revision process and integrated environmental topics into their curriculum plans. To further environmental programming the Reading Motivational Committee considered my campaign and selected the theme of “Prairie Readers” in 1997 and “Going Buggy over Books” in 1999.

My plan was to involve as many teachers as possible in the Environmental Education Committee’s work and inservices, by providing invitations for participation at any level of commitment. To accomplish this goal I utilized a variety of strategies; committee meetings, inservice presentations and continuous informal contact. Time restraints and additional instructional initiatives the school
district imposed upon the teaching staff affected the results of inservice participation. The environmental education plans written are not inclusive of all grade levels and time was greatly limited for revision of what was submitted.

The Brodhead School District is fortunate to have a historic log cabin, multiple prairie gardens and a mature arboretum on the school property. With public education being heavily scrutinized from numerous directions, school resources are in question. Environmental education may be viewed as less important than other strictly academic subjects in the future.

This project has expanded the scope of environmental education as exemplified in written plans, school programing and special events. Work needs to continue. Curriculum development is an on-going process and never complete. Teachers involved on the Environmental Education Committee must continue their work to keep programs strong. Their expertise, enthusiasm and leadership will lend credibility to environmental education in the perceptions of fellow teachers and administration.
Recommendations

1. Teacher involvement in professional development was limited because of administrative demands on teachers for the Early Release inservice time. Therefore, environmental education inservices should be offered by the District Leadership Team on a continued basis. Inservices offered through this project received positive responses which indicate teacher interest.

2. The Environmental Education Committee should continue to work together. Meetings should be scheduled monthly, or as needed, to continue to accomplish educational goals set for the year. A member should be designated to represent environmental education and advocate infusion when revision work is scheduled for other curricular areas.

3. The school should continue school membership in the Wisconsin Center Environmental Education Network. The Liaison receives mailings and reports information at committee meetings and updates postings on the Environmental Education bulletin board in the staff workroom. Information applicable for middle and high school levels should be channeled to a representative in each building.

4. Seek out awards and recognition of staff by nominating them for their involvement in environmental education. I felt a gain in credibility with my principal and staff when an outside
organization, the Green-Rock Audubon Society honored me with the Environmental Teacher of the Year award. Recognition is good for public relations. Distinctions of honor advocate to our school districts decision makers the importance of their role in providing support for environmental education.

5. Continue to seek out environmental education course work opportunities to be offered for teachers in Kindergarten through 12th grade. It is significant to realize that during this project's time line, four teachers did enroll in University of Wisconsin-Stevens Point Environmental Education courses. Teachers mindfully maximize their time when considering any training to also receive college credit for relicensure and salary compensations.

6. Efforts should continue to document environmental education instruction that is already occurring in classrooms that were excluded from the limitations of this project.

7. Maintain our annual Environmental Education Committee budget by continuing to request funds through the district's established process.

8. Continue with the ecology club titled Brodhead Ecology Studies Team.

9. Correspond to all staff members at the elementary, middle school and high school any information regarding environmental
education opportunities through the district's networked e-mail system, printed memos and visual displays.

10. Encourage district level support for the development of a comprehensive Kindergarten through 12th grade environmental education plan for the Brodhead School District.
References


APPENDIX A

Environmental Education Inservice
Wed. Sept. 15th, '99

A G E N D A

1. Welcoming Activities
   Play bird calls, FARSIDE cartoons
   Intro - Tribond Game  Do a few cards
      Light, Flurry, McNeal
      Do Environmental Tribonds
      -Maple, elm, poplar
      -Black, White, Swamp
      -Purple cone, liatrus, blackeyed susan
      -Indian, bluestem, sideoats
      -caterpillar, pupa, chrysalis

   Writing tribonds - select topic, concept to emphasize and 3 its components.
   Do Globe activity for staff introductions

2. Why Are We Here?
   a. You
      -Why Environmental Education?
      -Seriously ENVIRONMENTAL concerns all of us. If you don't think you
         aren't affected consider this:  do you have to recycle for
         garbage pickup?
      -Have you bought bottled water? Install a water purifier?
      -Did you notice a tax increase to help pay for a new waste
         treatment plant? Or have to put in a new mound system?
      -Are you paying higher prices for fossil fuel to run your car?
      -Do you know about what is "Global Climate Change"? or Global
         Warming. How are we affected???
      -Or you perhaps have a personal interest that was instilled in you in
         your earlier years and continue to have the natural world as a
         special interest. More on that later.
      Do "Apple Demonstration" for fresh water supply example.

   b. Me
      -I am working on my Masters in Education with emphasis in Environ. Ed at
        Stevens Point.  I have spent the past 3 summers there and have the
        non thesis project to do yet. More on that later.
3. **Implications as Educators**
   a. DPI and State Standards
      Transparency - DPI Code
      Transparency - Goals of EE
      State Standards Publication
   b. Child development - articles and research, check our own experiences.
      Transparency - “Factors Contributing to Environmental Sensitivity”
      Handout Article - “How Nature Shapes Childhood”
      Handout Article - “How Schoolyards Influence Behavior”
   c. Naturalist Intelligence
      Transparency - “Reviewing the Seven Intelligences and Unwrapping the Eighth.”
      Handout - Naturalist Checklist
      Handout Article - “Learning and Teaching Through the Naturalist Intelligence”

4. **Great Resources - Our School Sites**
   Slide Show
   a. Restored Historical Log Cabin
   b. Marjorie Blackford Arboretum
   c. Prairie Gardens
   d. Butterfly Garden

   - I have learned about school sites from my course work my classmates from schools all over Wisconsin, even out of state that we have a unique situation. Many schools are working to just get a prairie garden, or start an arboretum or any outdoor natural site for student study. We already have them. PAUL

5. **Other Resources**
   a. Wisconsin Center for Environmental Education
      - Liaison Information
      - EE News
      - Handout - Environmental Education Web Sites
      - Handout Article - “Outdoor Classrooms: The Learning Link”
   b. Books
   c. ME - As part of my program I need to work on developing lessons and curriculum that will integrate environmental education that would utilize our school sites.
   d. Phenology Calendar - Cable Wisconsin Natural History Museum
   c. Millennium Tree Project
      - Background Information
      - Activity Packet
      - Ornament
   e. UW- Stevens Point
      - Course work
6. Continued Interest
   a. Curriculum development that utilizes our school sites.
   b. Survey - "Environmental Education Interest"

7. Resource Sharing

8. Conclusion - Door Prizes
Wisconsin Administrative Code PI 8.01(2)(k)

Requires every school district to develop and implement a written, sequential curriculum plan incorporating instruction in environmental education into all subject area curriculum plans, with the greatest emphasis in plans for art, health, science, and social studies education.

Taken from: “A Guide to Curriculum Planning in Environmental Education” Wisconsin Department of Public Instruction
The goal of environmental education is to help students become environmentally aware, knowledgeable, skilled, dedicated citizens who are committed to work, individually and collectively, to defend, improve and sustain the quality of the environment on behalf of present and future generations of all living things.

Taken from: "A Guide to Curriculum Planning in Environmental Education"
Wisconsin Department of Public Instruction
Factors Contributing to Environmental Sensitivity
(Peterson, Hungerford - 1981)

1. OUTDOORS - Interaction with natural, rural or other relatively pristine habitats; exploring/playing in the out-of-doors (hunting, fishing, bird watching, camping)

2. HABITAT - Being raised in any one particular environment (rural, suburban, urban) does not appear to be significant; however, frequent, perhaps daily contact with natural, rural, or other relatively pristine habitats is.

3. SOLITUDE - Frequent contact with relatively pristine habitats, either alone or with just another person.

4. HABITAT ALTERATION - Witnessing the commercial development of one's habitat; degradation of areas frequently visited produced a feeling of “loss of beloved open spaces”.

5. ROLE MODELS - Both family and non-family (especially teachers encouraging environmental sensitivity. “Role models appear to be equally important as outdoor experiences in developing environmental sensitivity”

6. BOOKS / READING - Nature oriented books were especially influential. Access to those books was the key.
Reviewing the Seven Intelligences and Unwrapping the Eighth

Gardner (1993) defines intelligence as the "ability to solve problems or fashion products that are valued in one or more cultural or community settings." In his original work, he outlined seven intelligences. In 1995, he added the naturalist intelligence.

Verbal-linguistic: the ability to recognize, understand, and compose meaning with words

Logical-mathematical: the ability to learn through numbers, order, and reasoning

Visual-spatial: the ability to conceive mental images and transform them

Musical-rhythmic: the ability to learn, create, and communicate through rhythm, rhymes, and musical patterns

Bodily-kinesthetic: the ability to learn by using simulations (becoming) and other highly physically skilled methods

Intrapersonal: the ability to know the self

Interpersonal: the ability to work with and understand others

Naturalist: the ability to understand patterns, relationships, and connections in nature
Naturalist Checklist
You can identify a child or adult who has a strong naturalist intelligence through observation. Usually a naturalist is a person who

- is very comfortable outdoors
- chooses to read books and watch programs about animals and the ecosystem
- nurtures living things (plants and animals)
- readily follows cyclic phenomena such as tides, seasons, phases of the moon, and climate
- recognizes patterns, colors, and classifications
- automatically uses senses to explore the environment
- observes patiently
- feels a definite connection and relationship with nature
- feels an affinity for natural habitats such as oceans, forests, deserts, and wetlands
- wants to view and appreciate the aesthetics of nature
- favors natural settings over the human-influenced environment
- is renewed by visiting natural settings
- is constantly aware of surroundings
- touches and explores "yucky things"
- enjoys collections of rocks, minerals, leaves, flowers, shells, feathers, and so on
- seeks music related to nature
- prefers to go to a zoo over an amusement park
- sets up feeding stations for birds, small mammals, and other wildlife
- participates in volunteer projects that benefit plants, animals, watersheds, or Earth
- uses binoculars, telescopes, microscopes, and hand lenses when observing
- feels satisfaction in learning names of flowers, trees, animals, rocks and minerals, cloud types, volcanoes, and so on
- collects articles, posters, pictures, figurines, stuffed animals that relate to wildlife or nature
- grows plants (gardens, window boxes, indoor plants, herbs)
- photographs or sketches animals, plants, habitats (places)
- shares observations with others (enjoys showing something such as a flower blooming or small insect)
- shows a sense for detail and notices even the smallest things
- manipulates equipment to find out more about environmental water test kits, butterfly nets, plant presses, and so on
- makes crafts and projects of natural materials (dried arrangements, plant presses, shells, and wood)
- documents by sketching, photographing, or listing natural phenomena
- names pet stores, aquariums, wildlife parks, zoos, farms, and so on as "special places"
- enjoys recreations such as hiking, fishing, mountain or rock climbing, cross country skiing, camping, sailing, scuba diving, and so on

Taken from Meyer, Maggie, Learning and Teaching Through the Naturalist Intelligence”, Clearing, 7-11, Sept./Oct. 1998.
APPENDIX B

Environmental Education Interest Survey

1. Are you interested in any further training or inservice on environmental education?

2. What topics or areas would you like further information on?

3. When would you like further training or inservices?
   - [ ] Early Release
   - [ ] after school
   - [ ] during school

4. Are you interested in any environmental education workshop, training session, conference that would offer a 1 credit from a college in the UW system?

5. Are you interested in working on developing any environmental education projects?
   - [ ] phenology calendar
   - [ ] Millennium Tree project
   - [ ] lessons for you classroom that utilizes our outdoor school site?
   - [ ] lessons that are multidisciplinary
   - [ ] any others ideas

Additional Comments

Your name__________________________________________
All Brodhead Elementary Staff are invited to:

Environmental Education Committee Meeting
Thursday, September 4, 1997
3:00 p.m. Art Room

Are you interested in nature and learning more about it?
Would you like to be informed of environmental resources available to you?
Would you like help infusing environmental education into your curriculum?
Would you like to make decisions concerning Brodhead's "Outdoor Classrooms"?

If you answered "yes" to any of the four questions, please join us. We meet only when necessary. It would be great to have one teacher from each grade level. Please join the following committee members on Thurs., Sept 4:Marge Marchant (Gr. 1), Teri Lokrantz (Gr. 2), Kari Ludwikowski (Gr. 3), Candice Utzig (Gr. 4), Barb Miller, Kris Brugger, Nancy Hach, Greg Wells, Paul Roemer

AGENDA

1. Thank you to Tom Aronow
2. Use of Biolab
3. Plans for Ecology Club (B.E.S.T.)
4. 1997 Midwest E E Conference October 16-19
5. Barb's Summer, 1997 Work on Curriculum
6. Materials from Randy Korb
7. Future restorations of school property
8. Other Business

All staff members are invited to attend!!
Environmental Education Committee Meeting
Wed. April 14th, '99 - 3:00 IMC

AGENDA

The topic of tonight's meeting is on Earth Day plans.

1. Common Theme - "Keeping the Wild Alive" & materials
   Paul got her 4th grade yet Paul wild copy. prov.

2. Discussing what each grade level is interested in doing.
   - Kindergarten - Keeping unit
   - 1st grade - Animals: app厢let, let us know if any
   - 2nd grade -
   - 3rd grade -
   - 4th grade - About you, there and said testing?
   - 5th grade - ??

Anybody going on a fieldtrip? 4th grade & AES. Anybody want to do the prairie clean-up? Kris & Mailbox/CopyCat materials.

3. Assembly Program - 8:30 April 14th - Paul will do the opening, ECO
   - Earth Day Rap?, Candice & Aluminum Can Drive Posters, Kris & 5th Nursery Rhymes, Barb - Fun Facts, 2nd-Insect Report, Any other ideas?

4. Any other business -
   - Prairie garden concerns expressed - Kathy M. Bees problem.
   - Butterfly garden discussion - corner is wet. When it gets wet. Sprinkle - start plants. Cooters are, look of morning - can not move there. 6th grade came - wanting me present. The corner is wet. Find out info before Buzz

5. Next

Environmental Education Committee Meeting
Wednesday Oct. 13th - 3:00 Art Room

AGENDA

1. Goals for the year -
   - What programs, events, days to focus on.
   - When do we meet?

2. Curriculum guide writing -

3. Phenology Calendar - for the Lesson Calendar?

4. Seed collecting - Fund raising?

5. Solar Energy Project and Grant -

6. Millennium Tree Project -

7. Use of donation money - Antelope Valley family?

8. Any other business -

Environmental Education Committee
Meeting Thursday December 10th '98
3:00 in Art Room

AGENDA

1. Discuss America Recycles Day
   - Any activities done???
   - Plan for the future??

2. All School Reading Program Theme
   - Bugs?
   - Plans, Activities, Assignments

3. Paul's Nomination

4. Solar Panel Project Update

5. Old business?
   - Posters?
   - EnviroScape?

6. Any new business?
   - Ecology Club?

Environmental Education Committee
Meeting
Wednesday, February 9th, '00
3:00 - Art Room

AGENDA

1. Cheese Cake!!!

2. Ecology Club

3. Early Release Session

4. Earth Day 2000 Ideas

5. Information / Opportunities from EE Network
   - Resources in IMC?

6. Resources in IMC?

7. Old Business

8. Other New Business

   This will be a quick moving meeting that will
discuss some exciting upcoming events. We could
use your input. Besides there is treats!
APPENDIX D

Environmental Education Committee Meeting Minutes
Wednesday October 13th - Art Room
Members Present: Paul Roemer, Candise Utzig, Kathy Johnson, Teri Lokrantz, Barb Miller

1. Goals for the Year
*We discussed what we have done in the past such as Earth Day, Prairie Days, America Recycles Day.
*What do we want to do this year? Teri Lokrantz would like to see more writing projects referring to the opportunities that are in the packets of information from the Wisconsin EE Network. This information is posted in the workroom bulletin board.
*We should do EARTH DAY again. Discussion on getting more hands on stuff for kids and to get them more involved. How do we do that?? Teachers could be more prepared if courses were offered. We have Annette J., Kathy R, and Judy T., taking a course would other teachers be interested? Members bring back grade level responses.
*Other ways for hands on activities to be shared through committee members, networking, work of mouth efforts.
*Monthly meetings? When is a good time? At the end of the month so members can share the week when SET minutes are shared.
*Ecology Club. Paul would like to coordinate again.

2. Writing a Curriculum Guide
*Discussion on getting something written down as to how we use our school's natural areas.
*Concern is for the future when our areas are in question. This would be documentation. Also our State Standards and DPI mandates would be met.
*Barb would like to work with any teachers willing to coordinate an EE lesson. Example shared with the Monarch Migration with Kathy J. and Candise U. with the Prairie Gardens.

3. Phenology Calendar - (Phenology is the study of natural occurrences)
*A summer survey showed consistently that teachers felt that our school sites were not used enough.
*Barb showed an example of a phenology calendar which just records observations of natural occurrences. 1st snow fall, the daily temperature, bird count, rainfall amount, etc. We could use our weather station for this also. Would classrooms be willing to go out once or twice a month to record observations???
*This could be possibly used for our District Calendar in the future. Barb spoke with Ron E. about the possibility. Photographs of our areas and drawing could be included.

4. Seed Collecting
*The prairie gardens are ready for harvest and will go to waste if not collected soon. In the past we have used for replanting.
*Could we collect now and use later for a fund raising project instead of the can drive? Students in art class could draw the seed packets and put a mix of plant seed inside.
*Is there any classroom that is studying seeds and would be willing to go and collect? Paul will collect with his "Lunch Bunch" around the arboretum. What about the gardens out front?

5. Solar Energy Project and Grant
*Paul would like to provide lighting in the cabin. We have a grant application due at the end of the month. Paul and Candise will work on it.
Environmental Education Committee Meeting Minutes
Wed. April 14th, '99 - 3:00 IMC

Members Present: Teri Lokrantz, Kris Brugger, Paul Roemer, Marge Marchant, Barb Miller, Candise Utzig

1. Our Earth Day theme is "Keeping the Wild Alive". Paul sent for materials but they haven't arrived. He will post what he has to share on the EE board in the workroom for those who wish to use.

2. Discussion and report on what each grade level is doing, needs resources, etc.
   We are looking for a classroom that is interested in cleaning up the prairie gardens. Thanks to Kris B. for collecting library materials.

3. Assembly program is this MONDAY APRIL 19th at 8:15-8:40(approx). The order will be:
   1. Music (Paul) - as kids come in and get seated.
   2. Welcome (Paul) - explanation of Earth Week, Earth Day, Arbor Day and the theme of keeping the "Wild Alive" and our ENVIRONMENT. Use portable 'mike for kid answers.
   3. "Fun Facts" (Barb)- with student help to read facts and audience volunteers to demonstrate the "Facts".
   4. Aluminum Can Drive(Paul)- Details of student participation. Explanation of what we did in the past with proceeds to "Keep the Wild Alive".
   5. Posters (Candise) - presenting work by 4th gr. to encourage and remind us of what we ALL can do here at Albrecht Elem... participating in the aluminum can drive.
   6. Other grade levels: 2nd grade(Tamara) - with a special presentation
      5th grade(Sherry H.) - Mother Nature's Earth Rhymes
   7. Closing(Paul) - Earth Day Song

4. Other Business:
   Kathy Matteson expressed concerns about gardens attracting bees and the increase of students getting stung. Also a concern of the condition and upkeep of the gardens. Request to consider where we put gardens with kids on the playground. Paul recalled playground committee's wish to have more landscaping and attractive plantings as an enhancement of areas not usable. Conclusions and actions:
   1. Barb will make contact with UW-Stevens Point resource with experience in prairie sites on school grounds for advice on how to proceed. Also UW-Madison Arboretum.
   2. Paul will talk to Bill Kolb about the mowing.
   3. Paul has cut back plantings before will continue and possibly stake.
   4. Candise suspects from experience that bee nests are the problem.
   5. Look into the possibility of getting different plantings that would flower in the spring/early summer and not in the fall when students arrive back in bee territory.
Environmental Education Committee Meeting Minutes
Thursday April 8th ’99 3:00 IMC

Members Present: Teri Lokrantz, Marge Marchant, Kris Brugger, Barb Miller, Paul Roemer, Candise Utzig, Katie Pomroy

1. Discussion on common theme for Earth Day. Paul received from the National Wildlife Federation information & their theme is "Keeping the Wild Alive." We decided to adopt that as our focus. All classroom activities can be about anything that is "WILD" (i.e. - animals, streams, insects, plants etc.) and the efforts to keep them "ALIVE" (i.e. - non polluting activities, restoring, maintaining, cleaning up habitat, etc.)

2. Discussion on what each grade level is doing for classroom involvement.
   - Kindergarten - Possibly something on recycling
   - 1st grade - Topic possibilities given to Marge.
   - 2nd grade - Insects if they come in from company
   - 3rd grade - ?
   - 4th grade - Possible field trip to AES. Barb will contact.
   - 5th grade - ?

Paul will check if Tom Aranow can come to do a program. Is there any grade level that would like to go on a field trip? Funding is still available! Kris will check on "Mailbox" or "Copycat" for ready made materials. Is there any classroom interested in cleaning up the prairie garden in the front of the school?

3. All School Assembly Ideas - Have it on Monday April 19th at 8:20, to kick off the aluminum can drive. Paul will do something with 3rd gr. with reading theme on Johnny Appleseed and tree planting. Paul will look into 1st gr. doing tree song. Possibly 2nd gr. will report on their insect study. Candise will do posters with her students to advertise the can drive and present to audience. 5th gr. students will recite "Mother Nature's Nursery Rhymes". Also looking for "Fun Facts" to present and demonstrate to students. Examples such as how big a gray whale is, how many insects a bat can eat in one night. Paul will get music for good greetings so we will be familiar with the tune. We will then be familiar with it and can sing along at assembly. Teri is looking for Earth Day Raps. Anybody else have a rap for the environment???

4. Other Items -
   - Paul in interested in pursuing a garden at the south end by the windows of the art and early childhood rooms. Barb will check into it.
   - Need to have a picture for the paper on Earth Day activities.
   - Committee should develop field trip ideas list.
   - Plan in the future for an all school event with outside activities and switch to each station. Each classroom be a multi age group K-5th that would be involved in environmental games, activities, lessons at each station.
   - Idea to develop an area adjacent to arboretum for students to compost/landfill different items to demonstrate how long it takes to decompose.
   - Idea to develop animal tracks in arboretum in cement stepping stones. A map and guide of animal for students to use.
   - A millennium idea for the environment. Paul needs to contact newspaper reporter next year to be interviewed for an article about the turn of the century and that the decade of environmental activities.
   - Discussion for hopes to have in service time for developing an environmental education guide of our natural areas.

NEXT MEETING DATE: WEDNESDAY, APRIL 14TH at 3:00 in the IMC
Discussions / Conclusions on the following

1. ACTIVITIES, IDEAS AND GOALS - Our goal is to have a meeting each month. Discussion on when would be the best time so people would have a chance to attend. Wed. or Thurs were thought to be the best. Several activity ideas were discussed. Items were put on a year at a glance calendar. There is interest in Earth Week, a ecosystem/habitat project as a mural in the hallway, America Recycles Day, Arbor Day?. Other ideas will be added as the year progresses.

Discussions:

Hallway mural project - We need to look at working toward curriculum coordination. Where and when do we have ecosystems or habitats covered? Which ecosystem should be done? Suggestions were rain forest, ocean. Any others? Members talk to grade level for next meeting.

Earth Week - Suggestion was to contract Tom Wolfram for a presentation that week. Paul has a lead on the TAP IT group. Candise will look into a BUG guy. Members will be on the look out for other ideas and report at the next meeting.

America Recycles Day - Is on Nov. 15th. The theme this year is *If you aren’t buying recycled, you aren’t really recycling*. The concept is that many items are now made out of recycled materials but we as consumers have to choose to buy these items to complete the recycling cycle. 3rd grade have worked on this in the art room. Several ideas were discussed as activities that classrooms could do.
   a. Classroom contest with students reading labels on products trying to find the highest % of recycled content.
   b. A walking field trip to a local store to read labels and find items that are made out of recycled materials.
   c. A product comparison of an item made out of recycled materials will be put in the front display case.
   d. Other ideas will be run off and put in teachers mail boxes.

2. CABIN USE PROCEDURE - REVIEW

Paul shared info from handout. Suggestion was that it should be put in the staff handbook or put in staff members mailboxes. See Paul for checking out the key. A record as a clipboard of cabin use was suggested.

3. SOLAR ENERGY PROJECT

Paul is interested in getting the materials to set up a solar energy collector for a battery that would run lights in the log cabin. Teachers are finding it is too dark and better lighting would improve classroom use. Barb is looking into a grant for approx. $1000 but we will need to do a curriculum connection. Katie will get out a memo to see if a grade level is studying anything about electricity, solar energy or alternative energy sources.

4. INFORMATION FROM THE ENVIRONMENTAL EDUCATION NETWORK

Barb has received a lot of information about opportunities for teachers and students. A bulletin board in the workroom will be updated with information of workshops, classes, resources, student materials etc. Staff members are encouraged to acquaint themselves with this area.

NEXT MEETING DATE: THURSDAY NOV. 12TH, '98, 3:00 in the ART ROOM.

Door prize winners - Katie P., Kathy M., Candise U.
Environmental Education Committee
Meeting Minutes for Feb. 9th, 00

Members Present: Paul Roemer, Annette Jasinski, Barb Miller, Teri Lokrantz, Diana Rahmlow, Sherri Liptow

1. Cheese Cake - Was present and shared with members attending.

2. Ecology Club - Paul gave a report. Last year 5 members signed up and this year there are 15. This program runs till March 9th on every Thursday. If any staff members are interested in helping out and joining the fun please see Paul.

3. Early Release - Barb has talked with several staff members that use the outdoor areas in their teaching. An Early Release Session in March has been designated for elementary staff members to use this time to talk about what they do. Other examples will be shared at the session. Also additional resources to enrich teaching activities will also be available. The goal is to get these activities and lessons written down during the work time. Teachers that would like to develop an outdoor lesson should also consider signing up for the session.

4. Earth Day 2000 - Discussion on where Earth Day falls was of a concern. Should we move it to the week before Spring Break? And what activities should we do? Introduce the idea at the staff meeting with a follow up survey. Discussion concluded that an all school assembly was too stressful. We have money available for speakers and field experiences. Annette is interested in pursuing a 5th grade field trip to the Arboretum. Diana mentioned about Platteville students that are doing some EE work. She will get a list of people and topics. Barb has a list of DNR speakers. Discussion concluded that students were interested in a trivia contest in the past. Committee members will come up with EE questions. Paul and Sherri will do an aluminum can drive. Should we have some sort of afternoon with several sessions that classrooms can rotate to? Would teachers be interested in doing something different that last crazy week before spring break anyway?? Input from staff is needed. Other teachers, parents and community members would be needed to pull it off. Do we have people interested in doing this?

5. Information / Opportunities from the EE Network - Barb shared information received. What is the best way to get info out to staff?? Discussion concluded to continue to post in lounge and through the committee. Many opportunities include workshops, conferences and yes college credit. Also available are activities and resources for the classroom, awards and contests. If interested see Barb and the bulletin board in the lounge.

6. Resources in IMC? - Kris Brugger is looking to find a new home of the stuffed animals. Any ideas? Barb will call about getting them cleaned and more secured if anyone is interested in having them.

Concerns about having EE books and materials stored in the storeroom in the boys bathroom were shared. Kris will be looking for a space for EE resources.

Next Meeting Date: Wednesday March 8th

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program provides free environmental curricular materials for grades K-12 that are used year-around by teachers all over the country. Earth Day Network is the international organization coordinating Earth Day 2000 events worldwide. See the enclosed flyer for contact information. Also, see the cover of the enclosed EE News to find out how your students can make a difference by participating in the Wisconsin DNR sixth annual Earth Day Project.

Adopt-A-Lake Winter Workshop: (ELEM/MDUSEC). January 26th at Beaver Creek Reserve, Fall Creek and February 2nd at Bong State Recreation Area, Kansaas are the sites for the Life Under the Ice workshops for youth and adult teams. Learn how your group and "Adopt A Lake with fun hands-on activities. Flyer enclosed.

Water Action Volunteers: (ELEM/MDUSEC). Look who cleaned up Wisconsin rivers and look who painted the town with waves! 719 volunteers stenciled "Dump No Water-Drains to River (Lake or Stream)" alongside their local drains in 1999. 1,792 volunteers participated in the river cleanup. See the photos and reports of Wisconsin participants of the 1999 Water Action Volunteers Program of Wisconsin DNR and UW Extension and contact them to find out how your students can become involved.

Savine Energy Starts with Me! (ELEM). Plug your students and their families into energy-saving strategies with "Saving Energy Starts With Me" - a free, activity-packed unit for grades 4-6, sponsored by the U.S. Department of Energy, Owens Corning and Scholastic. To order, see the enclosed flyer.

Crunch Time Chocolate Bar Fundraiser: (ELEM/MDUSEC). Before the year is out do something kind for Mother Earth, such as saving an acre of tropical rainforest and the millions of inhabitants who live there. Crunch Time "adopts" an acre of tropical rainforest in your group's name when you sell Crunch Time chocolate bars as a fundraiser. Sample chocolate bar and information in the envelope enclosed.

Ecosystems of the Midwest Poster: (ELEM/MDUSEC). This colorful poster from the Environmental Protection Agency depicts the loss of habitats in the Midwest from the early 1800's to the present time. The reverse side of the poster outlines ten projects you can do with students to restore, preserve, and enhance habitats for plants and animals. For example, build a bird nest box with the diagrams and instructions given or become informed with the many resources listed for use with students of all ages.

Gardening with Kids: (ELEM/MDUSEC). Featured in the enclosed flyer are products from the National Gardening Association-Gardening with Kids-Catalog. Great ways; create investments that provide benefits to upcoming classes and enhance students' attraction to learning.

Crane - Motivators for Learning: (ELEM/MDUSEC). Prepare students for an experience that makes conservation come alive! Use curriculum packets (K-12) on subjects such as wetland ecology, bird behavior and relationship between people and the natural environment. Then, plan a two-hour tour by the International Crane Foundation. See the green flyer enclosed for details about their programs.

Trees for Tomorrow 2000 Course Catalog: (SEC) Workshops for students at Trees for Tomorrow are offered September through June for high school juniors and seniors who want a close up, hands-on look at what's available in resource-related jobs today. Students meet with and shadow working professionals, visit the campus of a natural resource college, and learn what various occupations require for education and training. See the Trees for Tomorrow 2000 Course Catalog.

Natural Resources Careers Camps 2000: (SEC). See the enclosed flyer to find about UW-Stevens Point's Central WI Environmental Station high school students careers camps for June and July 2000.

U.S. Environmental Protection Agency (EPA) Video Library: (ELEM/MDUSEC). Here's a collection of videos available for free loan. Check out videos on wetland education, watershed protection, air resources, waste, Great Lakes, and toxics among other topics. To send for these free, state-wide professional organization, which is composed of university engineers who are interested in learning about and educating others about environmental issues. You can become a member of this professional organization. See the enclosed brochure for details.
Upcoming Events
© Mark Your Calendar ©
April 16 - 22 National Wildlife Week
http://www.nwf.org/nwf/wildlife/week
April 23 - 29 Forest Appreciation Week
April 22 Earth Day http://www.earthday.net/
April 28 Arbor Day http://www.arborday.org/
May American Wetlands Month http://www.stceres.org/wetlands.htm
May Wisconsin Rivers Clean Up Month
http://green-water.orex.edu/wat/index.htm
May 5 International School Grounds Day
May 13 International Migratory Birds Day
http://www.americanbirding.org/imbday.htm

National Wildlife Week is celebrated April 16 - 22 this year. “Water for Life: Keep the Wild Alive” is the theme for the National Wildlife Federation’s celebration. A free teacher packet is available via the Internet. The packet includes activities, posters, and online games.
NWF, 8925 Leesburg Pike, Vienna, VA 22184-0001 (703)790-4582

Forest Appreciation Week celebration begins the Sunday prior to Arbor Day and throughout that week in Wisconsin. Hug a tree!!

Earth Day is celebrated on April 22 each year worldwide. There are many opportunities to participate in events or start one of your own. Call your community environmental groups to find out what they have planned for this celebration.

Arbor Day, April 28 marks the annual planting, care, and stewardship of trees that has been the focus of Arbor Day for over 125 years.

American Wetlands Month is held in May as an observance of the effort to conserve and rehabilitate wetlands in our community. Many educational resources are available through the web site to facilitate awareness and action in your school and community.

International School Grounds Day is an annual event sponsored by Learning Through Landscapes; a school ground organization based in Great Britain. School Grounds Day celebrates the wide range of benefits gained from developing and using the outdoor classroom. For more information contact the National Wildlife Federation.
NWF, 8925 Leesburg Pike, Vienna, VA 22184-0001 (703)790-4582

Environmental Education Committee.
Meeting Minutes for Thursday April 6th, '00

Members Present: Paul Roemer, Annette Jasiacki, Barb Millar, Donna Palmow, Terri Logar

1. Information from the EE Network
   Barb shared materials received. There are many upcoming dates to celebrate (see below).

2. Aluminum Can Drive - Paul gave update. It will be held April 24th-25th. Discussion on how little involvement there has been. Playground can drive is successful because of S. Uptow has family bringing in. More reminders needed as well as announcements.

3. Earth Day - Discussion on Ideas for classrooms to participate in. Annette will send a reminder to staff in lighting in their plans for activities. The workroom will be where materials are. Potential sites: St. Mary's Garden and Beartry Garden. Etc. Another outside presenter is yet to confirm for assembly on Thursday April 27th. We need staff members to bring in. Committee will meet Tues. April 11 and 12th in the workroom to set up materials.

4. Old Business: Kris B. does not want the owls back in the MC. Barb has a temporary home. If anyone is interested please let us know.

   - Distraction
   - Distraction
   - Distraction
   - Distraction
   - Distraction
   - Distraction
   - Distraction
   - Distraction
   - Distraction
   - Distraction
Activities and Resources for the Classroom

International Migratory Bird Day (IMBD) (May 11): (E/M/S). Catch the Migration Sensation is the theme for International Migratory Bird Day, the annual hallmark event of Partners in Flight. This international coalition's mission is to reverse the decline of migratory birds. The IMBD 2000 sponsors have put together a wealth of information, materials, and products to help you celebrate this event with school children.

Water Action Volunteers
Paint the Town with Waves, Storm Drain Stenciling 2000: (E/M/S). Order your free stencils between March 13 and April 4. You can help people become more aware of storm water pollution by stenciling messages next to storm drains. See the enclosed flyer for the order form and for more information about becoming involved as Water Action Volunteers! Wisconsin Rivers Cleanup Month (May): (E/M/S). Water Action Volunteers of the Wisconsin DNR also sponsors Rivers Cleanup Month to improve the environment around rivers and streams by picking up garbage and taking it to a sanitary landfill. Complete the registration form in the enclosed yellow flyer to receive an information packet and get your students involved in Wisconsin Rivers Cleanup Week in their own community.

Wisconsin Energy Statistics 2000: (MIS). This 25-page book relies on graphs and charts rather than tables of numbers to present annual Wisconsin energy statistics. The most asked-for energy information is presented in this book, such as: Wisconsin energy consumption per capita, graphs showing use of individual fuels, and Wisconsin end use energy expenditures. This book is designed for students, and other peoples who may have an interest but not extensive background in energy.

Learning to Grow (E/M/S) is a colorful pamphlet that has many informative anecdotes about students, teachers, and communities working together through DNR programs to learn more about their environment. Many EE centers, curriculum ideas, and projects in action are listed with contact information. There's something for everyone in this booklet!

We've Help You Save MILLIONS: (E/M/S) is a program to raise funds to preserve tropical rainforests throughout the world. Money is raised through the sale of Newman's Own chocolate bars. This is a great way to bring a yummy organic treat to school and help save one of earth's disappearing resources.

Educ'Ade! (E/M/S) Quench your thirst for EE knowledge with this list of 100 activities, supplemental materials, and curricula.

Green Teacher (E/M/S) has compiled a listing of back issues and curricula that are valuable resources for the classroom. A subscription form and a form to get involved with reviewing new curricula are enclosed with the listings.

EE News (E/M/S) 24 pages of information from the Wisconsin DNR for you! Event listings, school programs, Wisconsin's changing landscapes and much more can be found in this publication.

Awards and Contests

Wisconsin Coastal Management Program (M/S) is soliciting a photo contest for 4 through 12th graders. Original photos accompanied by an essay are the judged materials. Winning photos will be published in a calendar that will be distributed throughout the state. This is a great opportunity for students to show pride in the lakes and show off their artistic side!

Arbor Day Poster Contest (M) “Trees are Terrific... in All Shapes and Sizes” is the 5th grade poster contest theme for 2000. The winning poster creator will receive a $1000 savings bond, a lifetime membership to the National Arbor Day Foundation, and a trip to the Arbor Day Awards ceremony in Nebraska. For more information visit the web site http://www.arborday.org/programs/postercontest.html

Forest Appreciation Week Writing Contest (E) A writing contest is held for 4th graders statewide. Packets were distributed to teachers in late January and early February. Contact the Wisconsin DNR for more information or visit their website.

2000 Wisconsin Envirothon: (S) The Envirothon is a multi-disciplinary, environmental problem-solving program culminating in an annual series of competitions. Teams of 5 high school students, under the guidance of a coach, train and compete in the areas of forestry, soils, wildlife, aquatics, and wetlands (this year's special topic). The winning team from Wisconsin will go on to compete at the national level. For more information see the enclosed flyer.
APPENDIX E

Memo

TO: All Elementary Staff Members
FROM: Barb Miller

RE: March Early Release Sign Up Sheet

Below is the description that I submitted to be included on your sign up form. I did not want you to have a wrong impression and hope this gives you a better understanding of this session. Any further questions please contact me. Thanks!!!

March Early Release Session
Environmental Education -

This session has been designated for elementary staff to discuss how they use the outdoor areas in their teaching. Additional resources to enrich these lessons will also be available. The goal is to get these activities and lessons written down during this work time. Teachers that would like to develop an outdoor lesson (Earth Day 2000 is coming up) should also consider signing up for this session.

Early Release March 15th
Please return form Today
es Mark Powers; ms Nancy Garrett; & hs Mike Goecks
No form, DLT assigns you!

Staff:

1. Standards MS. and HS: meet where necessary.
2. Engines OT-PT with Deb Moyer and Sandi Nelson: What’s the student’s energy level? How can we help the students recognize their activity level—high and fast or low and slow; then turn this level into cooperative work and begin an effective class? Teachers will leave with resources to use in the classroom.
3. Anger Management: Over the years, Kris Koffler joyfully worked with Steve McNeil on “Rock County Snowball” (Drug and Alcohol Awareness). She works with domestic violence (2 years) through Janesville Court House. Kris wants to help us understand behavior and the use of violence. Knowing our personal beliefs, she feels we can get a better handle on student tempers and behavior. Not being a teacher, Kris hopes her knowledge about violence will extend to the teachers, letting us create the modifications necessary to reduce violent activity.
4. Environmental Education Curriculum writing for Elementary: 1-3:30, How do we use the outdoor areas for education? You will leave with additional resources to enrich your lessons. We will work on them today and develop an outdoor lesson (Earth Day 2000 is on its way.
5. Senior Projects for Elementary Staff: Steve will give the background of how “Senior Projects” came about. A senior will present his project to the staff.

| Name: ____________________ | Building ____________________ |
| Name: ____________________ | Building ____________________ Approval ____________________ |
| Time | Activity | Place |
| 1:00-1:30 and 1:30-3:30 | Standards MS and HS | Meet where necessary |
| 1:00-2:10 | OT-PT | OT-PT Room |
| 2:20-3:30 | OT-PT | OT-PT Room |
| 1:00-2:10 | Anger Management | C-5 |
| 1:30 | Environmental Ed. | Art |
| 1:30 | Senior Projects | IMC |
| 2:20-3:30 | Senior Projects | IMC |
APPENDIX F

Inservice Discussion and Responses

1. “What are our school’s outdoor teaching sites?”
   - Log Cabin
   - Empty Field
   - Weather Station
   - Neighborhood
   - Arboretum
   - Retention Pond
   - Prairie Gardens
   - Butterfly Garden
   - Blacktop - Map
   - Playground

2. “How do we use these areas?”
   - Relaxation - Cloud Study
   - Orienteering
   - “Abstract Art of the Prairie Garden”
   - Bark and tree rubbings
   - Leaf collection
   - Insect hunt
   - Tree Identification
   - Poetry Unit
   - Photograph
   - “Oh Deer” activity
   - Storytelling
   - Read trade books
   - Look for root examples
   - Butterfly release
   - Picnic
   - Nature Collages
   - Seed Collection
   - Seasonal Changes

3. “What would you like to wish for? Dream.”
   - Build a swamp
   - Have more animals
   - Garden area to plant, bulbs
   - Waterfall, pond area
   - Swamp
   - Birdhouses
   - Bird feeders
   - Lights in the cabin
   - Archaeology or paleontology digging area
   - Composting
   - A green house built by Industrial Arts department
   - A rototiller
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**Brodhead School District**

Curriculum Unit

Subject/Course ___________________ Grade Level __________

Unit ________________________________

Topic ________________________________

Students in Wisconsin will:

**Wisconsin Content Standard**

**Environmental Education**

Students will:

**Wisconsin Performance Standard**

**Environmental Education**

(Subject/Course Standards)
# Brodhead School District Curriculum Unit

**Subject/Course:** Science / Environmental Education  
**Grade Level:** 1st - K. Johnson  
**Unit:** Butterflies  
**Topic:** The Migrating Monarchs

**Wisconsin Content Standard**

**Science** - F. Demonstrate an understanding of the characteristics and structures of living things, the processes of life, and how living things interact with one another and their environment.

**Environmental Education** - C. Identify, investigate, and evaluate environmental problems and issues.

**Wisconsin Performance Standard**

**Science** - F.4.3. Illustrate the different ways that organisms grow through life stages and survive to produce new members of their type.

**Environmental Education** - C.4.1. Identify environmental problems and issues. C.4.3. Identify people and groups of people that are involved in the issue. C.4.4. Identify some of the decisions and actions related to the issue.

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<tr>
<td>2. Write facts about butterflies.</td>
<td>2. Biophilla Video</td>
<td>2. Student participation.</td>
</tr>
<tr>
<td>3. High School Spanish Students translate facts into Spanish.</td>
<td>3. High school Spanish Classes.</td>
<td>3. Response from Mexico.</td>
</tr>
<tr>
<td>5. Tag butterflies and graph.</td>
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<tr>
<td>6. Collect Butterfly Milkweed seeds in Butterfly Garden school site.</td>
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</tbody>
</table>
### Brodhead School District
#### Curriculum Unit

**Subject/Course:** Science / Environmental Education  
**Grade Level:** 2nd - B. Stafeil

**Unit:** Plants  
**Topic:** Processes and Adaptations

#### Wisconsin Content Standard

**Students in Wisconsin will:**

Science - F. Demonstrate an understanding of the characteristics and structures of living things, the processes of life, and how living things interact with one another and their environment.

Environmental Education - A. Use credible research methods to investigate environmental questions, revise their personal understanding to accommodate new knowledge and perspectives, and be able to communicate this understanding to others.

#### Wisconsin Performance Standard

**Students will:**

Science - F.4.1. Discover how each organism meets its basic needs for water, nutrients, protection, and energy in order to survive.

Environmental Education - A.4.1. Make observations, ask questions and plan environmental investigations. A.4.2. Collect information, make predictions, and offer explanations about questions asked. A.4.4. Communicate their understanding to others in simple terms. B.4.6. Cite examples of how different organisms adapt to their habitat.

### Activities

1. Ambulatory activity to Arboretum.
2. Observe seasonal changes in trees.
3. Class discussion on natural process.

### Resources

1. Arboretum school site.
2. Polaroid or digital camera.

### Assessments

#### Products & Performances

1. Teacher observations.
2. Student participation.
3. Art projects showing changes.
4. Student writing about changes to trees during each season.
### Brodhead School District
### Curriculum Unit

**Subject/Course**: Science / Environmental Education  
**Grade Level**: 2nd - K. Matteson

#### Ecosystems

**Unit**: Ecosystems

**Topic**: Forests

### Wisconsin Content Standard

**Science** - E. Demonstrate an understanding of the structure and systems of the earth and other bodies in the universe and their interactions.  
F. Demonstrate an understanding of the characteristics and structures of living things, the processes of life, and how living things interact with one another and their environment.

**Environmental Education** - B. Demonstrate an understanding of the natural environment and the interrelationships among natural systems.

### Wisconsin Performance Standard

**Science** - E.4.7. Using the science themes, describe resources used in the home, community, and nation as a whole.  
F.4.3. Illustrate the different ways that organisms grow through life stages and survive to produce new members of their type.

**Environmental Education** - B.4.5. Describe natural and human-built ecosystems in Wisconsin.

### Assessments

**Activities**

1. Ambulatory Activity: Pass the object in line, last student run to the front and continue to pass a different object. (Objects from Arboretum)
2. Identify and discuss items passed.
3. Concept map student responses of words that relate to the natural environment of arboretum.
4. Create Alphabet Book of related words.

**Resources**

1. Arboretum school site.
2. ABC book examples.

**Assessments**

1. Teacher observations.
2. Student participation.
3. Student ABC Book.
### Brodhead School District 
**Curriculum Unit**

**Subject/Course:** Music / Environmental Education  
**Grade Level:** 1 and 2 - P. Roemer

<table>
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<tr>
<th>Topic</th>
<th>Improvisation</th>
<th>Pentatonic Melodies</th>
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#### Students in Wisconsin will:

**Music**
- A. sing, alone and with others, a varied repertoire of music.
- C. Will improvise music.

**Environmental Education**
- B. Demonstrate an understanding of the natural environment and the interrelationships among natural systems.

#### Wisconsin Content Standard

**Music**
- A. Sing, alone and with others, a varied repertoire of music.
- C. Will improvise music.

**Environmental Education**
- B. Demonstrate an understanding of the natural environment and the interrelationships among natural systems.

#### Wisconsin Performance Standard

**Music**
- A. 1. Sing independently on pitch and in rhythm with appropriate timbre, diction, and posture, and maintain a steady tempo.  
- C.3. Improvise simple rhythmic variations and melodic embellishments on given pentatonic melodies.

**Environmental Education**
- B.4.5. Describe natural and human-built ecosystems in Wisconsin.
- B.4.6. Cite examples of how different organisms adapt to their habitat.

### Activities

1. Ambulatory activity: "Charlie Over the Ocean"  
   Name things observed and have last 2 in double line run to front at end of song.

2. Find 2 different trees and use "Do Re Mi" pattern to sing about it; find insects and sing about them. Why are the animals here?

3. Discuss planting trees and do "Johnny Apple Seed" song.

4. Use pentatonic song about birds heard or seen, "Soon in the Morning".

### Resources

1. Arboretum school site.
2. MMYO and Holt Music
3. "Johnny Appleseed" and "Tall Tales Heroes"

### Assessments Products & Performances

1. Teacher observations.
2. Student participation.
# Brodhead School District
## Curriculum Unit

**Subject/Course**: Science / Environmental Education  
**Grade Level**: 2nd - K. Matteson

### Unit: Ecosystems  
**Topic**: Forests

**Students in Wisconsin will:**

**Wisconsin Content Standard**

**Science** - E. Demonstrate an understanding of the structure and systems of the earth and other bodies in the universe and their interactions.  
F. Demonstrate an understanding of the characteristics and structures of living things, the processes of life, and how living things interact with one another and their environment.  
**Environmental Education** - B. Demonstrate an understanding of the natural environment and the interrelationships among natural systems.

**Wisconsin Performance Standard**

**Science** - E.4.7. - Using the science themes, describe resources used in the home, community, and nation as a whole.  
F.4.3. - Illustrate the different ways that organisms grow through life stages and survive to produce new members of their type.  
**Environmental Education** - B.4.5. - Describe natural and human-built ecosystems in Wisconsin.

### Activities

1. Ambulatory Activity: Pass the object in line, last student run to the front and continue to pass a different object. (Objects from Arboretum)
2. Identify and discuss items passed.
3. Concept map student responses of words that relate to the natural environment of arboretum.
4. Create Alphabet Book of related words.

### Resources

1. Arboretum school site.
2. ABC book examples.

### Assessments

**Products & Performances**

1. Teacher observations.
2. Student participation.
3. Student ABC Book.
Brodhead School District
Curriculum Unit

Subject/Course: Art / Environmental Education
Grade Level: 3rd - B. Miller

Unit: Clay
Topic: Textures of Natural Materials

**Students will:**

**Wisconsin Content Standard**

**Visual Arts** - C.8. - Explore the natural characteristics of materials and their possibilities and limitations. K.3. - Use what they are learning about life, nature, the physical world, and people to create art.

**Environmental Education** - D.4.3. - Identify two or more ways to take positive environmental action. D.4.4. - Communicate with local, state, or national officials regarding an environmental topic. D.4.6. - Develop a plan, either individually or in a group, to preserve the local environment.

**Students in Wisconsin will**

**Wisconsin Performance Standard**

**Visual Arts** - C. Design and produce quality original images and objects, such as paintings, sculptures, designed objects, photographs, graphic designs, videos, and computer images. K. Make connections among the arts, other disciplines, other cultures, and the world of work.

**Environmental Education** - D. Use findings from environmental issue investigations to develop decision-making skills, and to gain experience in citizen action skills.

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<tbody>
<tr>
<td>1. Read “The Lorax” by Dr. Seuss</td>
<td>1. Arboretum or Log Cabin school site to read story.</td>
<td>1. Student Clay Prairie Plant Pot</td>
</tr>
<tr>
<td>2. Trip to Prairie Gardens</td>
<td>2. J.N. &quot;Ding&quot; Darling Conservation Cartoons.</td>
<td>2. Teacher observations.</td>
</tr>
<tr>
<td>4. Demonstration of slab clay construction method.</td>
<td>4. Clay and slab stick, rolling pins, canvas, kiln.</td>
<td>4. Student writing on local prairie restoration efforts</td>
</tr>
<tr>
<td>5. Student production of clay pot with textures of natural materials.</td>
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# Brodhead School District
## Curriculum Unit

**Subject/Course:** Science / Environmental Education  
**Grade Level:** 4th - M. Howard

### Unit
**Our Conifers**

#### Topic
**Trees**

**Students in Wisconsin will:**

**Wisconsin Content Standard**
- **Science** - B. Understand that science is ongoing and inventive, and that scientific understandings have changed over time as new evidence is found.  
- C. Investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.

**Environmental Education** - A. Use credible research methods to investigate environmental questions, revise their personal understanding to accommodate new knowledge and perspectives, and be able to communicate this understanding to others.

**Wisconsin Performance Standard**
- **Science** - B.4.1. Use encyclopedias, source books, texts, computers, teachers, parents, other adults, journals, popular press, and various other sources, to help answer science-related questions and plan investigations.  
- C.4.2. Use the science content being learned to ask questions, plan investigations, make observations, make predictions, and offer explanations.

**Environmental Education** - A.4.2. Collect information, make predictions, and offer explanations about questions asked.

### Activities
1. Read text pages 41-44.
2. List qualities and how to identify.
3. In small groups search arboretum and list on note pad the conifers they found.
4. Groups report to class to list conifers found. Check Blackford Arboretum book to see how many were found.

### Resources
1. Log Cabin for reading story.
2. Science textbooks.
3. Arboretum.
4. Note pad and pencils.

### Assessments
**Products & Performances**
1. Teacher observations.
2. Student participation.
3. Note pad grading.  
   - How many trees did they discover?  
   - How many trees written down are conifers?
### Brodhead School District
### Curriculum Unit

**Subject/Course**: Science / Environmental Education

**Grade Level**: 5th - A. Jasinski

**Unit**: Ecosystems

**Topic**: Habitat - Identify the 3 essential components of habitat and their importance. Analyze birthrate and death rate fluctuations.

**Wisconsin Content Standard**

**Science** - C. Investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others. F. Demonstrate an understanding of the characteristics and structures of living things, the processes of life, and how living things interact with one another and their environment.

**Environmental Education** - A. Will use credible research methods to investigate environmental questions, revise their personal understanding to accommodate new knowledge and perspectives, and be able to communicate this understanding to others.

**Wisconsin Performance Standard**

**Science** - C.4.5 - Use data they have collected to develop explanations and answer questions generated by investigations. F.4.1 - Discover how each organism meets its basic needs for water, nutrients, protection, and energy in order to survive. A.8.6 - Communicate the results of investigations by using a variety of media and logically defend their answers.

**Environmental Education** - A.8.3 - Use techniques such as modeling and simulating to organize information gathered in their investigations. A.8.4 - Use critical-thinking strategies to interpret and analyze gathered information.

### Activities

1. "Oh Deer!"
   - Project Wild - page 131
2. Create a bar graph using ClarisWorks spread sheet. Based on info from chart.

### Resources

1. Project Wild Text
2. Arboretum school site
3. Chart Paper
4. Marker
5. Computer Lab or Computer and Presentation TV

### Assessments Products & Performances

1. Student Writing Journal
2. Quiz
3. Teacher observation
APPENDIX I

Dear Fifth Grade Student,

Fun and exciting activities await you after school on 6 Thursdays during the months of February and March! These Thursdays will be the meetings of a newly formed ecology club called the BEST Club. BEST stands for “Brodhead Ecology Studies Team”. Are you interested in animals, the outdoors and games while learning more about ecology and the environment? If so, the BEST Club is for you!

What is the BEST? The BEST is “Brodhead Ecology Studies Team”.

Who may join the BEST? Brodhead fifth graders may join the BEST.

When does the BEST meet? The BEST meets on 6 Thursdays from 3:00-4:00 p.m.: February 1, 8, 15 and 22; March 1 and 8.

Where does the BEST meet? The BEST meets in Room 21 (music room) and we walk to the Brodhead Community Cabin (weather permitting). The cabin will be the BEST “clubhouse”.

How do the BEST members get home? Your parents will need to arrange for you to get home. If you are getting a ride, you will go to the front of school to get picked up at 4:00 p.m.

What are the BEST rules? The BEST rules are the same rules used during the regular school day. Anyone not following the rules will be out of the BEST.

What is the BEST goal? The BEST goal is to learn more about ecology and our environment through activities that involve YOU!

Who will coach the BEST? Mr. Roemer will coach the BEST along with several other Albrecht Elementary School staff members.

What is the cost to join the BEST? There is no cost to join the BEST. You will need to bring your good listening and learning skills.

What will the BEST do? The BEST staff will choose from the following activities:
* Seed stratification: preparing native prairie seeds for planting.
* Arboretum animal tracks; Winter signs; Predator-prey game.
* A class on the endangered species of Wisconsin; Deadly Links
* A winter survival class
* Nature sticks and Snow Bouquets
* Where's the Air?: Living lightly for clean air.
* Winter birds & Migration Headache
* Animal adaptations and Build a Fish
* Using renewable and non-renewable energy.

Will the BEST be fun? Yes. You will have a chance to play outdoor games (weather permitting) and spend time studying ecology in the arboretum and by the warm fireplace in the Brodhead Community Cabin.

How do I join the BEST? I join the BEST by having a parent or guardian fill out the form below and by returning it to Mr. Roemer by Wednesday, January 31, 2001!

When do we start the BEST? Thursday, February 1!

My child, ____________________________, would like to join the BEST.

Parent signature: ____________________________

I can be reached at this phone number on Thursdays from 3:00-4:00 p.m. ______

I will be picked up by ____________________________
(name of person)

Please return this note to Mr. Roemer by 1-31-01.

Our first meeti--'s Thursday, February 1.

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Prairie Days

Taken from: Albrecht Elementary Yearbook, 1997
Prairie Days

Taken from: Albrecht Elementary Yearbook, 1997
Albrecht Elementary students and staff watched a paper insect nest grow bigger and bigger for five weeks as students read a total of 29,687 books. Some people, including Mr. and Mrs. Wells, caught the “Jitterbug.” Everyone enjoyed lots of reading, weekly prizes, and learning about entomology.
Mr. Tony Gustin, entomologist from Madison, Wisconsin, presented his “Creepy Crawly Zoo.” Students and teachers heard entertaining stories and facts about buggy friends. We enjoyed his collection—especially handling the many LIVE creepy crawly arthropods!