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ABSTRACT

This document describes a curriculum model that aims to help students gain a sense of stewardship toward their community and an appreciation for their heritage. At the Sense of Place Symposium, Iowa teachers and administrators worked together to develop an interdisciplinary curriculum framework that would connect students to their communities. The general framework for the curriculum includes a purpose statement; objectives related to teachers, students, and community; areas for student study and growth, including development of a community perspective and awareness of one's importance to community well-being; and proposed outcomes related to teachers, students, and community. This framework is a guide for developing specific lessons reflective of the uniqueness of each school and its community. Included are four lesson plans based on the Sense of Place curriculum model and intended for grades 5-8. Lessons cover the history and significance of a local river, the history and conservation of a local wilderness area, a wetland study and development project, and a program that integrates science and agriculture in teaching exploratory agriculture. Each lesson plan includes name of teacher and school; grade level; time needed; goals, objectives, and student outcomes; background information; needed materials and resources; procedures; assessment of outcomes; extensions and adaptations; and resources. (LP)

SENSE OF PLACE CURRICULUM FRAMEWORK

North Central Regional Educational Laboratory
NCREL

SENSE OF PLACE CURRICULUM FRAMEWORK

Introduction

The Sense of Place Symposium called together teachers, administrators and intermediate agency personnel from all over the state of Iowa. The goal of this group was to develop a framework for the a Sense of Place curriculum. Decisions about the direction the project would take and needs that it would address were decided by the group. The participants are professionals who work on a daily basis with students who will eventually leave the state of Iowa in search of "the better life." Or these students can be the future of the state. As one participant said: "*We wanted to help the young people to base their decisions on the best possible information and also give them a connectedness with their community.*"

The essence of the Sense of Place curriculum framework, as developed at the symposium, is an interwoven partnership among school, community, and students to develop a sense of stewardship for their area, empowerment for their future and appreciation for their heritage. The discussion about the rationale for the curriculum was as varied as the communities represented. Some of the participants came from larger cities while others lived and worked in very small towns. Some of the towns were experiencing economic growth while others were fighting employment problems. Some teachers worked with children coping with emotional problems caused by their family situations, others felt this problem to a lesser degree. For all, this diversity gave the sense of place concept even more validity because it resonated with all the participants regardless of where they lived, what grade level they taught or what experience they brought to the symposium.

The common thread that emerged was that this curriculum could be a tool to enhance students' skills, values and self concept through an awareness, understanding and appreciation of their area. One of the teachers described it as the "*global diversity nested doll approach*": individual → family → school → community → world. A Sense of Place framework, as envisioned at this symposium, will be a multifaceted approach to learning acknowledging the value and distinctive characteristics and needs of each student and community.

With this in mind a general curriculum framework was developed by participants that is appropriate and meaningful to each possible site. It involves: a statement of purpose, objectives, general topics and proposed outcomes to be achieved by Sense of Place. The advantage of this structure is that it does not impose another activity on teachers but is to be imbedded in previously existing curriculum to enrich and expand it. At its best it would be interdisciplinary, on-going and constantly enhancing the learning environment by using students' own lives as a point of reference, thus making learning more meaningful.

The curriculum framework that follows is meant as a guide for developing specific lessons reflective of the uniqueness of each site. The form these lessons take will be based on: interests/needs of the learners, research resources available, community resources/needs and the educational environment. A valuable and exciting lesson in Sioux City may not be at all appropriate or doable in Eddyville.

It should be noted that through the discussions that took place at the symposium, three components to the Sense of Place project kept emerging in all phases. Those components are the educational staff, the students, and the community. Each group figured prominently in the goals, topics and outcomes. The teacher's role became that of catalyst with the responsibility for creating the environment for sharing to take place between the community and its young citizens.

Thus with these three components in mind the framework developed. The purpose statement is the lens that the curriculum should be viewed through. The audience for Sense of Place is larger than one class or school, it is the entire learning community of educators, students and the public.

The objectives of the curriculum were developed for each component of the learning community. These are followed by topic areas that will be the basis for lesson planning done on site. Lesson plans may include: historical research, community involvement activities, oral interviews, field trips, etc. The proposed outcomes of the curriculum again reflect the learning community. The individual lesson plans should subscribe to the general goals and outcomes outlined in this framework.

Sense of Place Reflection Questions

What is a sense of place?

Why do students need a sense of place?

What do we hope to gain by developing a sense of place curriculum?

What areas/topics are most important for students to understand?

What skills and abilities should students demonstrate upon completion of this project?

Based on the answers to the previous questions, what should be the goals of the curriculum?

SENSE OF PLACE - AN INTERDISCIPLINARY FRAMEWORK

PURPOSE STATEMENT

A Sense of Place for an individual is a connection between where you are and where you came from, which leads to where you will go. This connection, when explored through education involving communal dialogue and local resources, will result in the students, school staff, and community developing a sense of awareness, appreciation, and stewardship for their area.

AUDIENCE

The learning community of students, educational staff and community members

OBJECTIVES

TEACHERS:

- look both inward and outward to gain insights into how children learn
- create a classroom climate that fosters: safety/trust, risk-taking, stewardship, creativity
- develop interdisciplinary learning curriculum
- develop learning activities that are culturally sensitive

STUDENTS:

- understand and appreciate their heritage, culture and differences
- recognize their role in the community's present and future
- develop pride in actively being a steward of their community and its environment
- acquire skills necessary to contribute to the community
- understand and become involved in the process of community decision making
- develop confidence and skills necessary to be a life-long learner

COMMUNITY:

- gains ideas, energies and skills from a traditionally untapped resource (youngsters)
- accepts youth as partners
- develops a positive attitude in youth about their community/background
- enhances quality of life
- utilization of resources to a fuller extent
- gains a sense of renewal and sustainability

AREAS FOR STUDENT STUDY/GROWTH

STUDENT DEVELOPMENT

- having "roots" without being "root-bound"
- developing naturalistic research and inquiry methods while cultivate complex thinking and process skills
- developing leadership skills and a sense of stewardship that willencourage themto become involved in their community

STUDENT PERSPECTIVE

- understanding how the past directly influences the present and future
- gaining a personal richness through understanding our heritage
- developing a community perspective through literature, art, music, storytelling, etc. of the area
- understanding there is a connection between the different disciplines in building knowledge

STUDENT AWARENESS

- understanding democratic concepts: stewardship, individual accountability, citizenship, respect for cultural diversity
- realizing their importance, regardless of age, to the well-being of the community
- developing a sense of self in their family and the larger community
- developing an awareness of the economic and environmental needs of the community balanced with human needs

OUTCOMES

TEACHERS:

- create and use interdisciplinary curriculum
- foster a positive classroom environment
- personalize the learning process for their students
- allow for reflective learning and teaching

STUDENTS:

- use experiential learning to develop problem-solving skills necessary as a life long learner
- develop civility based on respect and acceptance of others
- develop a sense of personal pride while valuing and learning from diversity
- acquire skills necessary to contribute to the community
- develop an awareness and appreciation of their community, its environment, resources and opportunities

COMMUNITY:

- utilize the community's and state's natural, historical, and cultural resources
- build bridges between the communities and among community members
- develop partnerships between students and the community
- strengthen hometown images
- commitment to their "place"

IOWA STUDIES CURRICULUM PROJECT
SENSE OF PLACE

NAME OF TEACHER: Paula Countryman

SCHOOL: Van Buren Elementary School
R.R. 1 Box 30
Douds, Iowa 52551

___ Art
___ Family Living
___ Language Arts
___ Industrial Tech
___ Math
___ Music
___ Social Studies
___ Science
___ Other

TITLE: "No River Too Wide - Bridges"

GRADE LEVEL: 5th (Iowa History)

TIME NEEDED: 3-4 weeks (can and should be expanded if possible)

GOALS/OBJECTIVES/STUDENT OUTCOMES:

The objective of the lesson is to give the students of the community a sense of place, providing a "bridge" to the past. This project will be accomplished through the interaction of community members with the students and an interdisciplinary approach involving the Social Studies, Math, Science, Music, Art and Language Arts teachers. This will enable students to see how different disciplines relate to each other and give them a real life base for their lessons.

Students will:

- look at the Des Moines River and its importance to the settlement of our county
- examine settlers' ingenuity on river crossings and uses
- appreciate advances and advantages in "modern" architecture of bridges
- develop sense of ownership in the project by building their own model of the village
- use their creativity to write poetry and songs about their town
- share what they have learned with the community
- further develop research, writing, math, science, art and music skills through a community awareness project

BACKGROUND:

After general lessons of Iowa History, a more detailed selection will be presented on The Villages of Van Buren County. A detailed sketch of each village will be developed through students' research and interaction with community members. Each year the lessons will focus on another one of the nine villages in the county. The first village to be studied will be Douds where our school is located. The people in the community have a strong sense of pride in their town, even when the 1993 flood nearly devastated the entire town. There are many local storytellers willing to visit the classroom and provide the students with enough excitement about the area to whet their appetites for the project. The project will use the bridges and river as the focus for a study of the area.

The land on which Douds was settled was purchased from the Sac and Mesqwakie (Fox) Indians in the Second Black Hawk Purchase in 1837. When surveyors began their work, there were many settlers in the area. Portland (Leando) was already an existing town. The area was noted for the fertile land and its location to the river.

It was originally thought that transportation would be easier by making the Des Moines Rivers navigable at all times during the year. It worked for many years until the railroad made travel and transportation of goods easier and faster, and thus more reliable.

It was the railroad that gave the town of Douds its name. It was noted that before it was platted as a city, it was called "Alexandria", after Alexandria, Ohio, where the Douds family came from. The Doud men were very interested in the construction of the railroad. Eliab Doud even gave the railroad rights to cross his land in order to get it through the town. The railroad built a station at the intersection of the tracks and what is now main street. The town from then on was known as Douds Station. The postal department later shortened Douds Station to Douds.

Douds became a city in 1866 settled by the Doud Brothers, Eliab and David, Jr. They settled in the area in 1843 coming from Ohio. Lots were laid out on both sides of an old territorial road that connected Fairfield to the north and Memphis, Missouri to the south. The village was originally called Douds Station by officials of the railroad.

Leando, which is located directly across the Des Moines River to the south of Douds, was platted in 1834. This makes the city 32 years older than Douds. Leando was known at that time as Portland. In 1840, the post office name was Leando.

It is interesting to note that a ferry once operated between Douds and Leando until the bridge was completed in 1898. There was much opposition to the construction of the bridge. Community members of Leando figured the construction of the bridge would mean an end to the business community of Leando. (Unfortunately they were correct in their forecast, because present-day Leando does not house many businesses.)

The Civil War divided the people of the area -- with many of the founding fathers' sons fighting on the side of the North, and Leando more predominately siding with the South.

MATERIALS\RESOURCES:

- Support people -"storytellers"/volunteers from the community
- County engineer
- Parent chaperons
- Science, Math, Art, Music, Language Arts teachers
- Video camera to document project
- Map of river or aerial view of community from the assessor's office
- Materials to build replica of village
  - plywood, paint, brushes, paper mache, graph paper, pencils, glue, clay, etc.
- Piano

PROCEDURE:

- Several "old-timers" and resource people visit the class to share information/stories about the Des Moines River and the bridge and the importance of both to the area.
  - These guest speakers help the students develop a feel of community and a perspective of what their town was like.
  - The county engineer provides information regarding the importance of the bridge crossing as the class investigates the area for information on the original sites of the bridge.
- Students imaginatively go to the site of an "original" bridge with their new-found friends from the community (storytellers, county engineer). Due to the level of the river at the time of project it was a liability to take the students so the class was unable to go.
  - Science teacher works with students to examine the river itself.

- Students will work together to reconstruct the original settlement, with the river and bridge being the focal point.
  - Students are divided into 4 groups covering past Douds, present Douds, past Leando and present Leando. This allows them to actually see the changes in the area.
  - Students work with the Math teacher to develop a scale for the village and draw it out on graph paper and transfer their plans from the graph paper to the plywood.
  - Art teacher works with students to create the 4 villages from their plans.
- Students develop and present information gathered to the community folks (through speeches, songs, poems, artwork and the model of the settlement) maintaining a true sense of place.
  - Students will brainstorm ideas based on facts they learned about the community to develop poems.
  - Music teacher will work with students to put some of their poetry to music.
- The results will be recorded on video tape for reference to be shared with others.

ASSESSMENT OF OUTCOMES:

The project was successful in providing students with the opportunity to explore and learn more about their area. It also was a vehicle for interaction among teachers, and between the school and community.

The outcomes observed were:

- Students had the opportunity to share with "old timers" from the community in a way they would not normally have done.
- Students studied and became familiar with the history of their own area including early factories, feuds, skunk farms, crops, transportation, etc. This was accomplished in an exciting and innovative way giving students a more personalized history of the area.
- Educators and community members worked together to make the project a success.
- Students practiced skills in a number of disciplines allowing them to see how all of their classes fit together.
- Students presented their song at a school assembly.

EXTENSIONS AND ADAPTATIONS:

Due to time constraints this year the model was a paper and poster board replica of the villages, next year we hope to make 3-D models.

Next year the students will focus on another village and will video tape and document their findings. We will be creating a library of information on all nine villages in the county.

RESOURCES:

- History of Douds-Selma, The Van Buren County Historical Society, 1968
- Davis Pollock, local historian
- Clay Lanman, local historian and chairman for the Van Buren Chapter of the 1996 Iowa Sesquicentennial Celebration Committee
- Ralph Arnold, local historian
- Mary Muir, Director of the Villages of Van Buren

QUOTES FOR SENSE OF PLACE

"From the back porch of my parents' farmhouse, the house I left for college more than twenty years ago, you can look out past a brief yard bordered by a wooden fence which my father's fastidious maintenance keeps a white as fresh as hope, past a small vegetable garden just beyond the fence and then to the fields running south to a two-lane highway. And beyond the highway to the fields of another farm. And beyond those fields to a faint clean seam where they run into the sky at the edge of the earth."

Douglas Bauer
A Place of Sense: Essays in Search of the Midwest
edited by Michael Martone

"One place understood helps us to understand other places better. Sense of place gives equilibrium: extended, a sense of direction."

Southern Author, Eudora Welty

"How else can students become committed to the community in which they live? Learning about what is special, unique and worth saving in a town is the most basic step toward community survival. It is a vitally important factor in increasing community service among young people and making loyalty and a sense of place an attitude that is the norm rather than an exception."
G. Thomas Braglio, Building Communities from Within: Schools and Economic Development
(publication sponsored by Communicating for Agriculture, Inc.)

"Community-based programs in the schools... help to build a collective vision of what the community can become in the future...Communities without a vision for the future are communities that are likely to die."
Ron Eller, Director, Appalachian Center, University of Kentucky

"A by-product of student-community involvement is greater appreciation for the community - whether they intend to stay there or not. Learning rather than producing a community's history, researching its economic base, assessing its social or economic needs, inventorying its resources, etc. are all likely to make a contribution to the individual's identity while increasing social connections. And of course the other benefit is that the products produced can contribute to a community gaining a greater sense of what it is."

Daryl Hobbs, Director of Social and Economic Data Analysis
Professor, Rural Sociology, University of Missouri

"Students need to know their own history before state, national and world history becomes meaningful."

Jim Gay, Chair of the Social Studies Department, Worthington High School
Worthington, Minnesota

"... it is our sense of place that connects individuals to others and thus allows them to appreciate the relationship between the individual and the common good."

Ron Eller, Director, Appalachian Center, University of Kentucky

"Simply answering the question, 'What makes our town different?' as part of a planning process will often lead to the exploration of local history and heritage as well as arts and entertainment opportunities. These are aspects of the community life that make a town special."

Vicki Luther, author and co-director of Heartland Center for Leadership Development, Lincoln, Nebraska

"Those who understand their own roots find it easier to become global citizens."

Building Communities from Within: Schools and Economic Development

"Our fields provide food for the body, our churches provide food for the soul, and the humanities and the arts provide food for the mind and spirit. There can be no quality of life without all of these ingredients. A community well-fed in its own culture and in the cultures of the world is a community well-nourished. And a community well-nourished is an attractive place to live."

Rick Knupfer, Executive Director, Iowa Humanities Board

Survival, I know how this way.
This way, I know.
It rains.
Mountains and canyons and plants
grow.
We travelled this way,
gauged our distance by stories
and loved our children.
We taught them
to love their births.
We told ourselves over and over
again, "We shall survive
this way."

Acoma Pueblo poet Simon Ortiz

IOWA STUDIES CURRICULUM PROJECT
SENSE OF PLACE

NAME OF TEACHER: Tony Tremmel
Jim Zajicek
Lori Moore

SCHOOL: Crestwood Junior High School
1000 4th Avenue East
Cresco, Iowa 52136

TITLE: Interdisciplinary Wilderness Unit

X	Art
X	Family Living
X	Language Arts
	Industrial Tech
X	Math
	Music
X	Social Studies
X	Science
	Other

GRADE LEVEL: Middle School English, Heritage and Earth Science classes

TIME NEEDED: Ongoing

GOALS/OBJECTIVES/STUDENT OUTCOMES: Through an interdisciplinary focus the eighth grade teachers will work together to coordinate activities and give students a sense of their environment. By planning lessons based on the history, conservation and wilderness in the Cresco area, students will be encouraged to see the interaction not only between their classes, but between the past, present and future of their town. Students will be given the opportunity to explore these ideas through their research, studies, teamwork and hands-on learning. Another goal of the project is to involve the community in the educational process through sharing their expertise with the students.

A field trip is the culmination of in-class activities with wilderness areas, an old cemetery and other sites as part of the trip.

Specific subject area objectives follow.

English

Students will:

- value the study of their own community and recognize their possible place in the community's future
- appreciate the presence of wilderness/nature in their community and acquire skills to conserve nature for the future of their "place"
- see the connection between learning in the various disciplines in school and

between learning inside and outside of the school
- develop the communication skills of listening, observing, reading, speaking, visualizing and writing
- practice higher order thinking processes
- refine individual and cooperative learning strategies

Heritage

Students will:
- learn about prehistoric Indian life and sites in Iowa
- understand how the Indians used their environment for food, clothing and shelter
- recognize that a major problem in Indian-White relationships was the question of who should control land
- know that people from many countries emigrated to Iowa to improve their lives
- recognize that the immigrants blended into the general population even though they settled in certain parts of the state
- realize that museums and towns currently help preserve certain aspects of European heritage by holding festivals and celebrations
- know the location of public lands and the work of the DNR in Iowa
- develop an understanding of local government's history and goals

Earth Science

Students will:
- study soil, water and vegetation of the area

BACKGROUND:

Crosco, a city of 3,697, is located at the eastern edge of Howard County, a mainly agricultural area having a population of 9,967. This year's eighth grade class includes 165 students. The students are typical of Iowa's rural population, with few minority students. The district does have a diversity of ethnic groups, including many of German, Norwegian, Irish, Czech, and Welsh origin.

The English program emphasizes a whole language/writing, process/interactive approach to learning. The heritage program was recently expanded from one

semester to two and now emphasizes state and local history and an active approach to learning. The earth science curriculum is also student-centered with a great deal of student involvement. The staff in these three programs were the most instrumental in developing the "Wilderness" interdisciplinary unit, though most of the staff, the principal, and the support staff were active, helpful participants.

The three teachers involved in developing this project met at the very beginning of the school year to discuss the possibility of interdisciplinary collaboration. The science teacher was very positive and the heritage teacher had been part of the National Geographic summer program. The program focused on interdisciplinary study and local history as well as the five themes of geography, one of which is "place". They planned to center their interdisciplinary unit around a field trip. The trip would include a trip to Hayden Prairie, Lidtke Mill and Pleasant Hill Cemetery.

The eighth grade teachers were invited to a meeting to discuss the trip. Most of the teachers attended and shared ideas for involving their classes. The algebra teacher suggested giving his class of advanced math students an authentic problem-solving assignment - planning the itinerary for the field trip. In preparation for the field trip, the teachers planning the project took a tour of the sites in December. They were joined by the P.E./Health teacher who lives near the Hayden Prairie and a volunteer from the community with an expertise in science and conservation. They focused on anything relating to the environment, quarries, rock piles, groves, hi-lines, deserted farms, old school houses as well as milage and the time it took to reach each site. They went through the cemetery noting names, dates, designs and other items of note. The heritage teacher is planning a scavenger hunt speculating on causes of deaths, etc.

Planning for the "wilderness trip" continued throughout the school year. Speakers from the community were asked to come and talk to the students. Projects in all subject areas were ongoing and the teachers continued to coordinate their activities.

MATERIALS:

- Literature/resource material
  - articles focusing on ecological concerns
  - stories emphasizing Native American relationship with nature
  - environmental literature and stories
  - soil surveys
- videos of national parks, areas of Iowa, wilderness areas

- materials to build terrarium
  - plant cuttings
  - pop bottle
  - soil
  - container

PROCEDURE:
During the course of the year the field trip is planned by the Earth Science, Heritage and English teachers. All of the lessons that are shared below are designed to enrich that trip and prepare students to gain the maximum benefits.

English

- Students discussed the concept of "Wilderness" and why it is so important.
- Students built on a bulletin board display of recent articles dealing with ecological concerns, brainstormed a list of topics and chose one topic for researching and composing an essay.
- Class viewed parts of videos showing scenes of the beauty of national parks and Iowa and discussed the wilderness resources our area has.
- Students listened to speakers who come to the class to share the history of wilderness/natural resources in our area and ways to conserve/preserve them. A short summary/reflection of the speakers' messages was assigned.
- Students read and researched conservation topics. Videos of the speakers were available for students to view.
- Speakers shared information with the students as the topic of nature was expanded to include the Native American attitude toward nature and also the place of story- telling in their culture.
- Students were divided into groups of 3 and given stories emphasizing the Native American relationship with nature (e.g., the Lakota story "The White Buffalo Woman and the Sacred Pipe", the Cherokee story "The Coming of Corn", and the Mandan story "The First Basket") to read and prepare for oral telling as a group.
- Aldo Leopold, the father of conservation, was introduced as the theme is further expanded. His book, Sand County Almanac and his habit of sketch journaling are shared and discussed with students.
  - A video on the topic of Leopold and his ideas was viewed with the students.

- The class then focused on the essay, "The Good Oak". Students worked in groups to count rings and identify with stick pins 6 "important" dates and then report to the rest of the class on their choices as well as the age of the tree. (This can be either a diagram of a cross-section of oak or, if possible, an actual cross-section.)
- The art teacher came to the English class to work with the students on a lesson in sketch-drawing. Nature objects (grasses, twigs, cones, leaves, etc.) that might be encountered in the field trip were used.

o Students then use their developing knowledge of conservation to work on a project titled "The 400 Acre Wood" by Project Learning Tree. The county naturalist recommended the activity and came to the classroom to help the students with the project. The activity has students become resource managers as they determine uses for a 400 acre wood that has been donated to the community. In groups the students developed a plan, including a grid map, and presented their plans to the class.

Heritage

o After the study of Native Americans in the state, students turn to another component of Iowa History - Immigration to Iowa and the different ethnic groups. This is accomplished by having students focus on their own families and their background.
- Students researched their family history through interviews with family members and the development of a family tree. If possible students visited the town, city or farm where their parents or grandparents grew up.

o Students developed a stronger awareness of what is available in the state by acting as tour guides. They were asked to plan a two-week trip through Iowa for visitors from a foreign country. The objective is to learn as much about Iowa as possible in a short period of time. During the trip students had to--
- visit the birthplace or home of five historical persons, five state parks, five major industrial/manufacturing sites, and five celebrations or festivals.
- prepare a day-to-day itinerary showing major roads traveled, number of miles traveled, and section of the state visited (e.g., northeast, southwest).
- list at least 12 counties that they traveled through by putting down the name of the county seat, major towns or cities in the county, and where the name of the county originated.

- In preparation for the field trip and to learn more about their area and its history students will study the local cemeteries. A community member talks with students about his hobby of studying the cemeteries in the area and the "cemetery tree" he has developed.
- Students will learn about the local government through visits by community members.
  - The superintendent of schools talked with students about the evolution of school consolidation and presented his views of government in a school district.
  - The county treasurer talked about the history of the local court house and aspects of local government.

Earth Science

- Students kept an environmental journal during several units involving study of water, soil, and plant life. A rubric for evaluation included a listing of points given for each activity.
- The water study portion of their work included-
  - calculating the amount of water needed to prepare a holiday meal and also to prepare and consume the food for one day in their town.
  - analyzing a sample of their home tap water for ph, chlorine, iron, copper and hardness.
  - discussing household hazardous products (like drain cleaner and varnish) and the problems of flushing such materials down the drain.
  - studying the wetlands, looking at what has happened historically in Iowa and the value of the wetlands to the environment.
  - looking at the major study of water pollution, nitrates in particular, done at big Springs Basin, an area near Elkader.
- Many of the students live on farms and surveyed the soil where they live using Soil Survey of Howard County, Iowa, USDA, December 1974 and Soil Survey of Winneshiek County, Iowa, USDA. A discussion of soil erosion with emphasis on its effects on Iowa agriculture and recreation followed.
- The study of plant life included several components --
  - study of prairie plants using the new prairie planted on the school grounds and Wildflowers of the Tall Grass Prairie by Runkel and Roosa, Ames: ISU Press, 1989.
  - building a terrarium for study of the water cycle. The plant cuttings were from the high school horticulture class; students used a pop bottle as a container for rooting their plants in preparation for putting them in the terrarium.

- study of the life of Ada Hayden, for whom the Hayden Prairie is named. The prairie is located approximately 15 miles from the school and is one of the sites on the field trip.

- The last component was a visit from a archaeologist employed at a local company, Bear Creek Archaeology. He talked with students about his work and shared experiences/artifacts from digs.

ASSESSMENT OF OUTCOMES:

- For real interdisciplinary collaboration teachers need some common planning time and smaller classes. At this school in Cresco that may be possible next year.
- The guest speakers, with their first-hand knowledge and artifacts, were effective with the students. Other possible speakers for next year have been identified.

EXTENSIONS AND ADAPTATIONS:

RESOURCES:

- The Keepers series by Michael J. Caduto & Joseph Bruchac, Fulcrum Inc., Golden Colorado.
- Sand County Almanac, Aldo Leopold
- The video, A Prophet for all Seasons
- People, Animals and the Environment, American Animal Welfare Foundation, 1993
- "400 Acre Wood", Project Learning Tree
- The Iowa Heritage, IPT
- "Classroom Corner", Linda Perkins, The Iowa Conservationist, Jan/Feb 1995
- "Classroom Corner", Don Sievers, The Iowa Conservationist, May/June 1995
- Soil Survey of Howard County, Iowa, USDA, 1974
- Soil Survey of Winneshiek County, Iowa, USDA
- Wildflowers of the Tall Grass Prairie, Runkel and Roosa, Ames: ISU Press, 1989
- Speakers:
  - Al Baxter, Howard and Chickasaw County Conservation Officer
  - George Champlin, retired businessman who has spearheaded restoration projects like the opera house and the mill pond, and who is a proponent of community pride
  - Harold Chapman, Howard County Conservation Director
  - Don Conway, local funeral director and school board member who has done extensive study of local cemeteries
  - Chris Fran, Howard County SCS technician and sportsman-conservationist

- Scott Shaffer, archaeologist employed at Bear Creek Archaeology, a local company that does archaeological digs
- Harold Munkel, Lime Springs retired farmer and sportsman
- Dale Reis, Lime Springs barber and conservationist-sportsman

- Teachers/helpers on the field trip
  - Glenn Crossman, local resident knowledgeable about prairie and donor of Crossman Prairie to the state
  - Ana Mae Davis, director at Lidtke Mill
  - Pam Heidenreich, Howard County Naturalist
  - Connie Hvitved, community volunteer with background in science, ecology and rural life development
  - Roy Jones, sexton and member of Pleasant Hill Cemetery Board, to aid with learning projects at the cemetery
  - Tour guide at Lidtke Mill
  - Mary Stark, local resident knowledgeable about prairie
  - Dale Vagts, local insurance agent and former science teacher
  - Bob Vobora, regional soil scientist

IOWA STUDIES CURRICULUM PROJECT
SENSE OF PLACE

NAME OF TEACHER: Jeanette Hopkins
Rebecca Phipps
Amy Ahrends

SCHOOL: Roosevelt Middle School
929 N. Roosevelt
Cherokee, Iowa 51012
712-225-6760

TITLE: Red Tail Ridge Wetland Study/Development Project

GRADE LEVEL: 5

X	Art
	Family Living
X	Language Arts
	Industrial Tech
	Math
	Music
X	Social Studies
X	Science
	Other

TIME NEEDED: Ongoing. This project is yearlong and organized around an interdisciplinary theme. The project is outlined in this lesson design and actually encompasses over 30 individual lessons.

GOALS/OBJECTIVES/STUDENT OUTCOMES: Fifth grade science and language arts students will study the Redtail Wetland Area along the Little Sioux River.
Students will:

- gain an understanding of the interdependence of all nature, of the importance of healthy habitats, of the factors that cause changes in animal populations, and gain an appreciation for the diversity of all living things.
- develop research skills such as indexing, using resource materials and classification by collecting samples of plant and animal specimens found in the wetland region.
- develop communication skills that will include: speaking, listening, reading, writing and presenting information.
- use a "real life" situation to make observations, gather data, analyze data and make predictions concerning wetland preservation in the future.
- learn to embrace and understand immersion principals. The project is about real and meaningful work, interactive learning situations and cultural development. Students will demonstrate the ability to function in a philosophical classroom.

BACKGROUND:

During the 1994-95 school year, the fifth grade Science and Language Arts Classes, in partnership with the Cherokee County Conservation Service, developed a comprehensive study of the Cherokee County wetland area, Red Tail Ridge. The purpose of this study was to evaluate the present site and then consider options for additional restoration and development. This full-scale project included studies of the area's water quality, water pollution, and the amount and diversity of invertebrates, vertebrates, birds and plant life. We began immediate development by building bluebird boxes and wood duck boxes to be placed in the area for use. Long-term development and ongoing projects will be determined by the health of the habitat and the inclusion of technology-based research and authentic evaluation.

Wetland regions have decreased in Iowa at a deplorable rate. In recent years we have lost at least 90% of our original wetland regions. Drainage of these wetlands for agricultural and developmental purposes has depleted one of the most diverse ecological communities in our state. We are only beginning to realize the devastating consequences facing wildlife and Iowans due to the destruction of wetland habitats.

Cherokee County, where the school is located, has access to and maintains several wetland regions. One of particular interest to the Cherokee fifth Grade class has been the Redtail Ridge Area.

The students are learning about the environment through the use of community members and resources. The implementation of the project was based on environmental concerns and Sense of Place objectives. Utilizing local resources and developing a local wetland area increase the likelihood that the children will have a better understanding of stewardship and a commitment to the community. Historians, storytellers, artists and environmental groups donate services and time to help create a meaningful and interactive program for the students. The Science and Language Arts classes, in partnership with the Cherokee County Naturalist, propose that this project will continue to be a comprehensive study for educational and stewardship purposes. This project itself is completely centered around a "sense of place" philosophy. Children learn to respect and take care of their "place" when they establish a sense of belonging and begin to invest in an area. Central to this project's success is establishing lessons and rituals that allow the students opportunities to invest.

MATERIALS:

- Equipment
  - collecting nets
  - sorting pans
  - water collection devices
  - cameras
  - underwater viewers
  - microscopes
  - water quality test kits/ 1 per every 4 students
  - thermometers
  - waders and boots
  - trundle wheel

- Model
  - graphing paper
  - frame materials
  - plaster/or alternate materials for model
  - paints

- Literature
  - professional field guides
  - wetland resource materials/available from the DNR
  - nature journals
  - literature from 19th and 20th century naturalists
  - environmental literature/stories

- Other
  - materials to build wood duck and bluebird boxes

PROCEDURE: (Description of field trips)
During the course of the year, the 130 students in the fifth grade class participated in five field trips to Red Tail Ridge. Students were divided into groups of 30 members and separated for individual English and Science activities. Each group of 30 students was facilitated by 2-3 instructors/volunteers and lessons were presented to groups of 10-15 students. All lessons were interactive in nature and assessed using authentic measures.

Activities included:

- water sampling for quality indicators
- invertebrate/vertebrate classification
- pollution identifiers
- Native American studies/literature/constellation legends
- field identification of trees, grasses and wildflowers
- importance of natural ritual/environmental connections
- mapping, orienteering
- wetland models
- photo studies
- art projects, observations and poetry, Sense of Place activities

In addition to the five field trips, students visited the Sanford Museum display on Mill Creek Natives, built bluebird, wood duck and kestrel boxes, documented changes in local environments and developed a final presentation for the museum program board and community.

ASSESSMENT OF OUTCOMES:

Students had a variety of learning experiences in the course of this project. We were able to successfully incorporate the following activities:

English

- naturalist observations/recorded in journal
- journaling specific changes and cause/effect events
- field identification: sample collection and recording
- indexing
- presentation of research: speeches, written stories, simulations, demonstrations
- photography displays/seasonal changes
- team collaboration and processing of activities/reflective assessment
- Cherokee history and stories
- Native American studies and appreciation
- discussion activities of environmental issues

Science

- invertebrate classification
- vertebrate classification
- wetland dynamics/models, mapping
- stewardship/environmental connections

- scientific method/analysis in science journals
- pollution controls
- food chain
- indexing, cataloguing, data organization
- research/environmental posters, endangered species
- simulation exercise, public hearing/presentation of research
- research

EXTENSIONS AND ADAPTATIONS:

The entire fifth grade class developed a program and display presentation for the local Sanford Museum. Artwork, photography, poetry, field artifacts, and water samplings were among the featured presentations. In addition, the students demonstrated a city council/public hearing (simulation) concerning wetland endangerment.

COLLABORATORS INCLUDING OTHER EDUCATORS, AGENCIES OR ORGANIZATIONS:

- Cherokee County Conservation Board
- Pheasants Forever
- Ducks Unlimited
- DNR
- Sanford Museum staff
- Soil Conservation Services
- Master Birdbanding Association
- Cherokee County School Board
- Dr. Jerry Kjergaard, Superintendent
- Mr. Larry Weede, Principal
- KCHE Radio Station
- The Chronicle
- Duane Kent, Bruce Hopkins, AEA staff

RESOURCES:

o Keepers of the Earth	Joseph Bruchac
o Keepers of the Animals	Joseph Bruchac
o Thirteen Moons on a Turtle's Back	Joseph Bruchac
o On the Day You Were Born	Debra Frasier
o Brother Eagle, Sister Sky	Susan Jeffers
o The Lomax	Dr. Seuss
o One Leaf Fell	Toby Speed
o Just a Dream	Chris Van Allsburg
o Silent Spring	Rachel Carson
o Walden	Henry David Thoreau
o The Great Kapok Tree	Lynne Cherry
o The Giving Tree	Shel Silverstein
o Trees, A Celebration	Jill Fairchild
o Earthchild	Waldner et.al.
o The Ledgerbook or Thomas Blue Eagle	Gay Matthaei
o The First Forest	John Giles

Note: for the literature and environmental portion of all activities the following books written by Byrd Baylor provide excellent resource information.

- o My Own Best Secret Place
- o Hawk, You are My Brother
- o I Am in Charge of Celebrations
- o Everybody Needs a Rock

In addition, numerous selections and project books were used from environmental agencies. Project Wet and Wild activities were included in the study.

IOWA STUDIES CURRICULUM PROJECT
SENSE OF PLACE

NAME OF TEACHER: Jeff Foster
Neil Knobloch

SCHOOL: Mid-Prairie Junior High School
713 1st Avenue
Kalona, Iowa 52247

___ Art
___ Family Living
___ Language Arts
___ Industrial Tech
___ Math
___ Music
___ Social Studies
___ Science
___ Other

TITLE: Teaming Science and Agriculture: An Innovative Approach to Teaching Exploratory Agriculture

GRADE LEVEL: 7

TIME NEEDED: The entire project is 12, week-long units. This lesson plan will only cover one lesson that is team taught in the Agriculture-Life Science curriculum.

GOALS/OBJECTIVES/STUDENT OUTCOMES:

- Students will develop an understanding of soil conservation methods.
- Students will work together to solve problems involving using earthworms to till the soil.
  - Students will conduct experiments to answer the question.
  - Students will follow directions and lab procedures.
- Students will understand the connection between science and agriculture as related to modern agricultural situations.

BACKGROUND:

The idea of integrating life science and exploratory agriculture into one course was developed by the life science and the agriculture teacher. The 7th grade science curriculum includes three, 12-week courses on Earth, Life and Physical Sciences. We realized that the science concepts taught in the Life Science course could be very easily integrated with agriculture. The three basic parameters of the Life Science course are: Plants, Cold-Blooded Animals and Warm-Blooded Animals. On the agricultural side, there are 7 career areas of agriculture that need to be introduced as exploratory agriculture. These seven areas are: Agriculture Production, Agriculture Processing, Agriculture Mechanics, Agricultural Sales and Services, Horticulture, Forestry and Natural Resources and Conservation.

The challenge was to get both teachers to team teach the goals for both science and exploratory agriculture. We accomplished this by writing a course guide for the new Ag-Life Science course. This ensured that our goals could be achieved.

We feel that the Ag-Life Science has enriched our teaching and curricula. This new course has bolstered students' enthusiasm and community involvement. further, it has given the school a sense of place in the community that did not exist before this course was taught. Moreover, the class has brought the agriculture and science departments into a working relationship that gives teachers and students new avenues to explore and integrate agriculture and science in their lives.

MATERIALS:

- earthworms
- shoe box
- paper towels
- paper to draw the earthworm
- potting soil
- sand
- two cloth towels

PROCEDURE:

- Different types of tillage are discussed and the general topic of soil conservation is introduced by the agriculture teacher.

- Investigation project is set up for the students by asking, "What can farmers and agriculturalists do to make an environment that earthworms like so that the earthworms till the soil for the farmer?"
  - Students are divided into seven teams and rotate between the seven observation sites. The science teacher direct them on the use of the study guide which will serve as an evaluation for the lab. The guide has questions about the earthworm and its role in agriculture.
    - Light/dark station- earthworm is placed on shadow line. One-half of the earthworm is in the shadow under a box and the other half is in light. Students observe the direction it travels in.
    - Wet/dry station - earthworms are placed on a wet and dry paper towel. The students observe the direction the earthworm will travel and answer questions in the study guide.
    - Hot/cold station - earthworms are placed on a hot, damp cloth towel and a cold, damp cloth towel. Student observe response of earthworm.
    - Touch station - students lightly touch earthworms on the head, mid-section, and tail with a sharp pencil. Their observation is recorded.
    - I.D. station - students draw the earthworm and identify the external body parts.
    - Rollover station - students place earthworm on its back and observe and record the earthworm's reaction.
    - Sand & Soil station - students place earthworms on sand and potting soil. They observe the movement of the earthworms.
- After completing the studies students discuss their findings and how their discoveries relate to soil conservation.

ASSESSMENT OF OUTCOMES:

- A simple concept from one area of agriculture can be expanded and explored by the science teacher.
- Science concepts are applied to everyday life, since agriculture literally exists everywhere in everyone's life.
- Hands-on activities are easier to conduct.
- Grading and observation was easier, and there are more ways to evaluate the students.
- Students seem to retain the concepts better.

- While team teaching was beneficial, and instructors motivate each other, it was difficult for the teachers to find time to meet to plan lessons and develop a workable grading and evaluation plan agreeable to both instructors.

EXTENSIONS AND ADAPTATIONS:

RESOURCES:

- University of Iowa
- Iowa State University

Jeff Foster and Neil Knobloch article, *Teaming Science and Agriculture: An Innovative Approach to Teaching Exploratory Agriculture*, appeared in the October, 1994 issue of The Agricultural Education Magazine.