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## Connecting the Learning: 4-H Extension and Graduation Standards

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# Connecting *the* Learning:

## **4-H EXTENSION & GRADUATION STANDARDS**

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*A School/Community/University  
Learning Project sponsored by the  
University of Minnesota  
Extension Service  
in collaboration with the  
College of Education and  
Human Development  
and the  
Center for 4-H  
Youth Development*



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# Connecting *the* Learning:

**O V E R V I E W**

# Connecting the Learning

## OVERVIEW

### Background

The 1998 Minnesota Graduation Rule defines what students should master during their school years. Going beyond paper-and-pencil tests, the rule requires students to demonstrate what they can do as well as what they know. As the rule has been developed, teachers and school districts have been scrambling to adjust their programs to address the individualized learning requirements that emphasize experiential, project-based learning.

In 1997 in rural west central Minnesota, the discussion turned toward Graduation Standards during a school "youth service" meeting. An administrator asked the Lac qui Parle County Extension Educator, "How can 4-H help youh meet the Graduation Standards?" The remark spurred the creation of a statewide pilot project called "Connecting the Learning: 4-H and the Graduation Standards."

Community-based, experiential learning is familiar territory for 4-H Youth Development. Community clubs and other 4-H activities encourage community service through individual and group projects that are validated through personal record keeping. Extension Educators studied the Graduation Standards and saw how 4-H and other youth organizations could be valued partners with teachers and schools in educating children for the 21st century.

A team of 4-H Extension Educators and U of MN faculty mounted an effort to create, pilot, and revise performance learning projects that would demonstrate student achievement across the learning areas of the High Standards. The team secured funding from the U of MN Extension Service and sent out a statewide request for team proposals from local school/communities. From the proposals that were received, a dozen were selected that were representative of all grade levels, regions of the state, and seven of the ten learning areas in the High Standards. Dr. James Mitchell, a U of MN faculty instructor experienced in working with teachers on the Graduation Standards, was hired on a part-time basis to provide technical assistance and coordinate the effort.

Two years after the first workshops were held, the results from the initiative are documented in this report. Each local learning project was a team effort, developed by classroom teachers working with County Extension Educators, guided by research from

U of MN faculty. The projects include: helping students make informed economic decisions in a Money Camp where they are given one hundred theoretical dollars to spend; helping students decide what diet and exercise vegetarians need; considering climate factors while designing a work shed for science experiments; and creating and participating in a Quiz Bowl on banking services. In another project, students interviewed community members and used the information to write reports describing and assessing school and community needs.

Five of the 12 learning projects address environmental issues, including integrating science and technology to address actual environmental issues; assessing climate factors, investigating living plants, and using nature to tell stories and learn about science. Other projects such as Super Shopper and Money Camp have an economic impact. Active citizenship and service learning focus their impact on the quality of community life, both now and in future years. All of the hands-on projects encourage students to continue to learn about a subject. Each project was rigorous in its expectations for high standards of performance.

### **Purpose**

The purpose of this portfolio of performance learning projects is to demonstrate to other youth workers, schoolteachers and administrators, and state and local elected officials how 4-H and other youth organizations can become valued partners in educating children.

The report will be shared with other U of MN Extension Educators and campus faculty to demonstrate the contributions they can bring to the table as they become increasingly involved in school-university-community partnerships. It will also be shared with the national 4-H organizations, with leaders from other youth-serving organizations and with key national leaders in standards-based education reform.

The results of the Connecting the Learning project should communicate the following benefits:

- 1) the utility of partnerships between school districts and youth organizations to support the achievement by all students of high learning standards;
- 2) the value of 4-H Youth Development programs in promoting the achievement of learning standards while cultivating the lifework interests of children and youth;
- 3) the value of interdisciplinary collaboration and of collaboration between field educators and campus faculty in the process of promoting outcome-based education reform; and

4) the value of the Extension Service as the outreach arm for the University to expand its positive impact on K-12 student learning achievement.

A major purpose of the effort has been to offer assistance to local teachers who have expressed concern about a perceived lack of available time and/or community outreach to fulfill the requirements of the Graduation Standards. Sites that developed and implemented learning projects clearly indicated how the collaboration between the Extension Educator and classroom teacher both supplemented and fortified instruction in order to alleviate time management constraints within the classroom.

Comments will be welcomed on this report, the individual learning projects and the overall effort. There will be a continuing effort to build local partnerships between 4-H Extension and the schools to support student learning achievement.

### **Minnesota's Graduation Standards**

In the past, high school graduation has been based largely upon how many hours a student has spent in class, expressed as class credits. Developed over the last decade, Minnesota's new Graduation Standards express high and consistent expectations for all schools and students throughout the state. The standards require that students pass specific tests and demonstrate what they know and are able to do in a variety of academic subject areas before they receive a high school diploma.

There are two parts to the Graduation Standards: Basic and High. All students will need to demonstrate their knowledge and skills in both before they graduate. In order to encourage students who excel, there are other Standards of Distinction which are not required but guide individual learning projects with mentors.

**Basic Standards.** The Basic Standards guarantee that all high school graduates have the basic reading, writing and math skills they need to live and work in today's society. Students achieve the Basic Standards by passing reading, writing and math basic skills tests. The results from these tests are reported by school and district to assure statewide accountability.

**High Standards.** The High Standards are rigorous academic goals in broad learning areas. The subject of ongoing discussion and revision, the current list of standards is shown in the Appendix. Achievement in the High Standards is measured by local schools and requires that students complete a series of projects and exercises that demonstrate what they know, understand and are able to do. The standards have been organized in two groups, by primary/intermediate/middle school and high school grade levels.



The ten learning areas in the High Standards include:

- 1) Read, view and listen to complex information in the English language.
- 2) Write and speak effectively in the English language.
- 3) Use and interpret the arts.
- 4) Solve problems by applying mathematics.
- 5) Conduct research and communicate findings.
- 6) Understand and apply scientific concepts.
- 7) Understand interactions between people and cultures.
- 8) Use information to make decisions.
- 9) Manage resources for a household, community or government.
- 10) Communicate in another language.

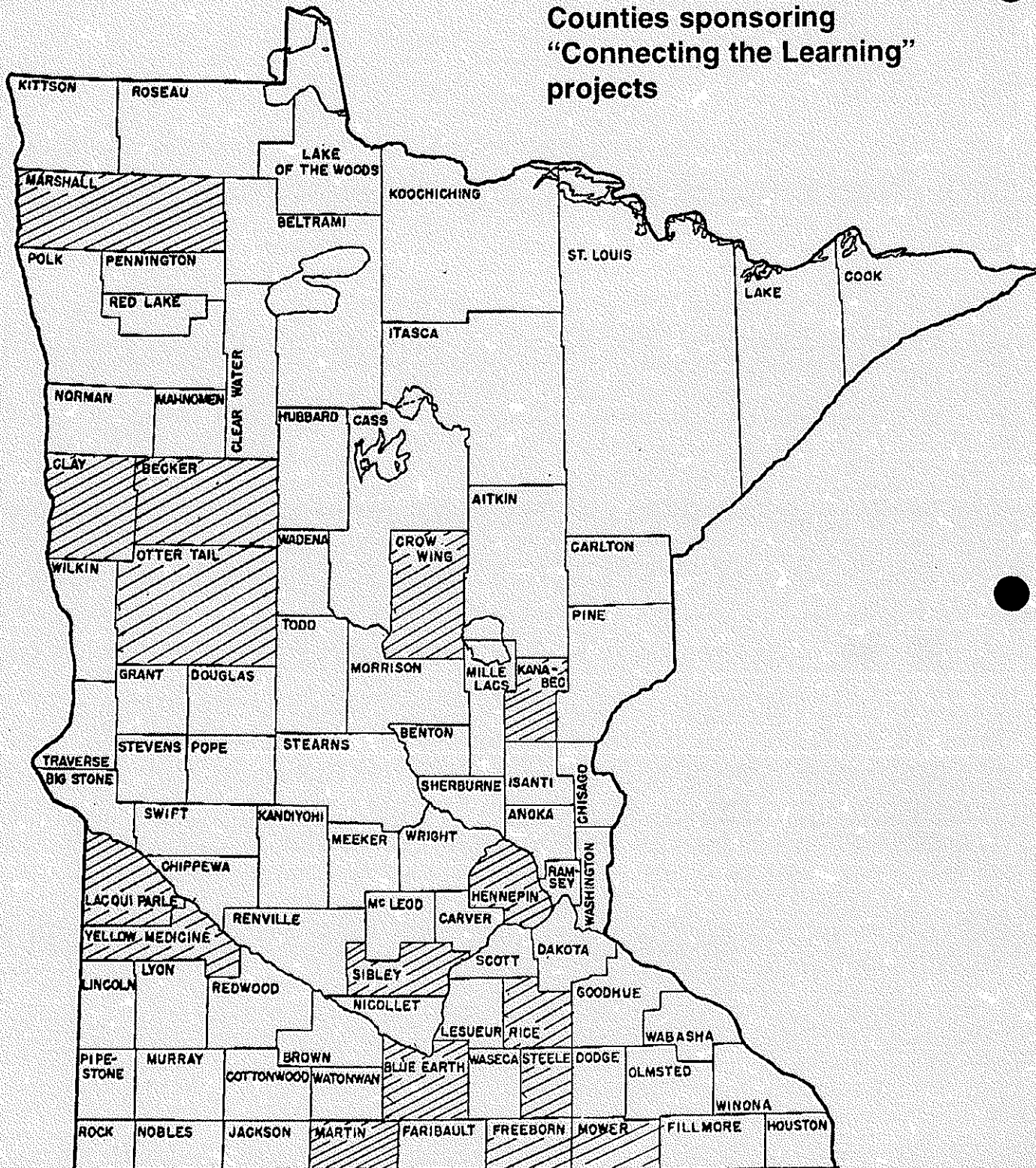
The task of Extension's Graduation Standards project was to develop a teaching model true to the spirit of 4-H while mixing the academic standards and hands-on learning inherent in the design of the High Standards. James Mitchell, the U of MN instructor who coordinated the Connecting the Learning project, has emphasized developing learning performance projects that engage every student in conceiving, designing, producing and delivering ideas/products. The 4-H Extension Educators, in turn, have emphasized the importance of personal reflection and record-keeping that are essential elements of community club work as well as of the Graduation Standards. The projects contain both of these influences while also addressing the needs and interests of the classroom teacher.

# Connecting *the* Learning:

**LEARNING  
PERFORMANCE  
PROJECTS**



Counties sponsoring  
"Connecting the Learning"  
projects



# **Connecting the Learning**

## **LEARNING PERFORMANCE PROJECTS**

### **Introduction**

This report describes the 12 learning 4-H Extension performance projects in two different ways to address the interests of different groups of readers:

- List of projects with contact information for follow-up
- Key elements of each of the dozen projects

Please call the Extension Educator whose phone number is listed to inquire about the actual performance packages developed by each local team for classroom use. Project development followed guidelines from the MN Department of Children, Families and Learning.

### **High School Learning Performance Projects**

**Inquiry**  
**Grade 10**  
**Martin County**

Sharon Query – Extension Educator (507) 235-3341  
Shirley Britt – Curriculum Coordinator  
Shelly Abitz – Teacher/Facilitator  
Teresa Davison – Teacher/ Facilitator  
Fairmont Middle School

This learning program focuses on applying service learning methods to issues involving relationships among the individual, society, economy, and the environment. Students learn how working in the community can benefit their educational experiences as they interview community members and apply research skills to their projects.

**Write and Speak/ Decision Making**  
**Blue Earth County**  
**Grade 9**

Shirley Doering – Extension Educator (507) 389-8335  
John Stolting – Teacher/Facilitator  
Sharon Walker – Teacher/Facilitator  
Central HS  
Mankato MN

This learning program implements a service learning model which focuses on environmental issues, societal concerns, community health, and agricultural education in relation to wetlands. Students learn decision-making skills as well as how to communicate effectively.

**Decision Making**  
**Grades 9 and 10**  
**Kanabec County**

Karen Schafer – Extension Educator (320) 679-6340  
Marla Reicks- Campus Faculty Liaison –FACS (612) 624-4735  
Robyn Wallace-Teacher/ Facilitator  
Mora HS

This learning program focuses on nutrition-based education, teaching appropriate decision -making strategies around diet and exercise. Decision-making skills are the focus of students who research proper nutritional programs through interviews and field-based activities.

**Managing Resources/Science Applications**  
**Grades 9-12**  
**Crow Wing County**

Dan Clabo-Teacher/Facilitator (218) 828-5255  
Joe Courneya- Extension Educator  
Robert Seavey- Campus Faculty/Wood and Paper Science (612) 624-3028  
Brainerd HS

This learning program teaches students to assess climate factors as related to constructing a weather shed in order to house several weather-related experiments.

Students decide what materials to buy according to gathered data on climate factors and materials management. They build their weather shed according to plans they develop around program need and structure.

**Decision Making**  
**Grades 9-12**  
**Sibley County**

Julie Knobloch – Extension Educator (507) 665-4033  
Dee Thomas- Teacher/Facilitator  
Minnesota New Country Day School  
LeSueur MN

This learning program expands on an existing 4-H curriculum involving health-related issues that impact the individual and the surrounding community. Students develop interviewing and decision-making strategies around AIDS, alcohol abuse, and tobacco education. Students learn about the importance of reflection as a part of these issues as they develop group processes centered around their field-based research.

**Middle School Learning Performance Programs**

**Managing Resources/Decision Making**  
**Grade 8**  
**Marshall County**

Cindy Christopherson-Extension Educator (218) 739-7130  
Heather Olson-8<sup>th</sup> Grade Teacher/Facilitator  
Middle River School  
Middle River MN

This learning program involves a community project that asks students to interview school personnel and town community members. The objective is to teach students what makes a good societal issue and how it should be managed. Students gather and manage data related to the community around and within the school. As a part of their program students deliver a final presentation on the issues to school administrators, parents, teachers, and fellow students who discuss each issue and potential changes that would result from their recommendations.

**Managing Resources/Decision Making/Math  
Grades 7-8  
Steele/Rice/Freeborn/Mower Counties**

Mary Laeger-Hagemeister (507) 444-7690  
Pat Stumme (507) 377-5660  
Marianne Anderson (507) 334-0209  
Marilyn Grantham-Extension Program Leader (612) 625-4252  
Lin Finholdt-Teacher/Facilitator  
Wilson Elementary  
Owatonna MN

With this MONEY CAMP learning program, students effectively identify and manage personal and financial resources to meet goals and solve problems by participating in exercises during an experiential field trip surrounded by pre and post classroom discussion and activities. Activities are presented so that they can be represented as parts of a whole, or may stand on their own as “pull-out” sessions.

**Decision Making/Managing Resources  
Grade 7  
Otter Tail County**

Steve Handegaard-Extension Educator (218) 739-7130  
Anne Stenoien- Grad Standards Technician  
Sue Will – Teacher/Facilitator  
Underwood School  
Underwood MN

This learning program involves teaching students methods and concepts necessary to be a SUPER SHOPPER. Students learn how to conceive and design a budget and how to shop effectively while demonstrating a knowledge of social norms and perceptions.

**Inquiry/Decision Making  
Grade 6  
Lac qui Parle County**

Tamie Bremseth –Extension Educator (320) 598 3325  
LeeAnn Sandven-6<sup>th</sup> Grade Teacher/Facilitator  
Appleton-Milan School  
Milan MN

This learning program teaches students how to interview community members in order to gain a sense of community history. Students then write a class play and demonstrate what they learn at a Community Day celebration.

**Science**  
**Grade 7-8**  
**Becker and Clay Counties**

Jim Onerheim –Extension Educator (218) 847-3141  
Brenda Crume-Extension Educator (218) 847-4418  
Sharon Lockhard- Teacher/Facilitator  
Moorhead Middle School  
Moorhead MN

This learning program focuses on teaching students how to integrate science and technology as related to real-world issues and societal problems. Students develop an interview assessment plan and then form teams to construct synthesized evaluations/decisions.

**Primary Grades Learning Performance Projects**

**Science and Inquiry**  
**Grade 1,2,3 (multi-age)**  
**Hennepin County**

Bill Svendsgaard-Extension Educator (612) 374-8400  
Sara Miele-Teacher/Facilitator  
Parkview Montessori School  
Minneapolis MN

This learning program involves an inner-city horticulture project that teaches students how to investigate the value of plant life while they observe the life cycle process from seedling to flowering plant. Using a cooperative method of inquiry, students use investigation and exploration to demonstrate each task and understand the unifying concepts and processes of a living organism (plant).



**Read/View/ Listen and Science**  
**Grade 3**  
**Yellow Medicine County**

Amy Rager – Extension Educator (320) 669-4471

Bethany Davison- Campus Liaison-Center for Alternative Plant and Animal Products  
(612) 625-5747

Pam Bertheldson-Teacher/Facilitator

Bert Raney Elementary

Granite Falls MN

Through the study of frogs, this learning program uses nature to teach storytelling, investigation, and product delivery to its students. Students research the history and etymological origins of frogs, then visit surrounding sites to study frogs in their environments.

**Inquiry**  
**High School**  
**Learning Performance Project**

**Martin County**  
**Grade 9**  
**Fairmont Middle School**

**Standard**

*Gather information to answer scientific or social science questions, access information and use a variety of sources to answer a question or support a position, design and conduct a controlled experiment or investigation and interpret the results*

**Project**

This learning project focuses on applying service learning methods to issues involving relationships among the individual, society, economy, and the environment. Students learn how working in the community can benefit their educational experiences as they interview community members and apply research skills to their projects. Each group writes and presents posters and questionnaires to accomplish the tasks. Each finished proposal incorporates technology as each oral presentation is supplemented with a Power Point enhancement for visual demonstration. Written reports are submitted to demonstrate completion of the literature review.

**Tasks**

Students complete the following tasks:

- Develop leadership skills and analyze community needs, organizations, and agencies
- Compile a list of community needs and resolutions
- Design, participate, and serve in a community improvement/service project
- Demonstrate leadership skills by facilitating groups of younger children for six months
- Interview community members

Prior to undertaking these tasks, students reflect on what each is necessary in order to form ideas and opinions. Students then conduct internet research on the related topics.

## **Role of the Extension Educator**

The extension educator works with the classroom teacher in the planning and development of the project, and spends one day per week for ten weeks in the school working with students. The educator also acts as guide/facilitator for the field trips.

## **Student Reflections**

Reflections in the form of journals are the primary product piece of this project. Students keep an ongoing log of observations related to field trips, team assignments, and individual progress.

## **Scoring/Evaluation**

The teacher, in collaboration with the extension educator, provides feedback on the quality of the oral presentations and literature reviews. Students respond and a score is mutually agreed upon. The criteria included the relevance of the title to the proposal, logic of presentation, appropriate use of visuals, timeliness and accuracy of information presented.

This year, 14 4-H leaders from two ninth grades participated in this project. Plans call for total-class involvement next year.

## Appreciating POWER: Whom to Involve

### What do I need to know first?

#### Stakeholder analysis

Stakeholder analysis is a formal term used by organizations when they do strategic planning. It means finding who should be involved in your planning or project. Many good ideas never happen because the person who thought of them never knew who to involve to get the project to come to life. The following quote tells it better: *"The most basic, fundamental, and often overlooked rule about successfully managing project is, You can't do it alone!"* W. Alan Rudolph & Barry Z. Posner

The key to getting other involved is identifying who should be interested in your project. That is the purpose of the stakeholder analysis.

### What should I do?

#### Create a stakeholder map

Draw a stakeholder map for any project on which you are now working or would like to work. In the space below, write the name of your project in a circle and draw spokes radiating from it. On each spoke, write the name of a person who has any interest in your project, no matter what the reason for their interest.

### What happened?

What project did you use?

Who were your most important stakeholders?

### How did I feel about it?

What questions did you have when you did this activity?

Were you surprised how many stakeholders you found?

## What does it mean?

Now that you have identified the stakeholders for your project, how will you try to involve them?

How many stakeholders could you find for a very large project?

Do some kinds of projects have more stakeholders than others? Why?

## So What?

How can leaders identify their stakeholders?

How should leaders involve their stakeholders?

## Want to know more?

Randolph, W.A. & Posner, B.Z. (1988). *Effective project planning management*. Englewood Cliffs, NJ: Prentice-Hall.

## What did I learn?

- \* Successful leaders involve other in their projects.
- \* A good way to know whom to involve in your project is to map your stakeholders.
- \* Most projects have a large number of stakeholders who might help.
- \* And, \_\_\_\_\_

**Write and Speak/ Decision Making**  
High School  
Learning Performance Project

**Blue Earth County**  
**Grade 9**  
**Faribault HS**

**Standard**

*Write and speak effectively in the English language; use information to make informed decisions related to community*

**Project**

This learning program implements a service learning model which focuses on developing decision-making skills and effective communication relating to environmental issues, specifically the history and benefits of Minnesota wetlands.

**Tasks**

Students complete the following tasks:

- Participate in a wetlands field exploration exercise
- Conduct an extensive literature review
- Interview resource people and agencies
- Assess their personal involvement and contributions as team members.

As an additional step, each student interviews community members in order to improve interviewing skills and gain further information about community needs. As a group, students vote to decide on which issues should be addressed.



## **Product**

Each group writes and delivers a formal proposal incorporating technology as each is supplemented by a Power Point enhancement for visual demonstration. Written reports are submitted to demonstrate completion of the literature review.

## **Roles**

The extension educator works with the classroom teacher on project planning and development and then spends one day per week for several weeks in the classroom working with students. The educator helps with team teaching coaching for the student-centered projects. Relationship building between the students and the extension educator is also a focus.

## **Student reflections**

Journalized reflections are the primary assessment piece. Students keep an ongoing log of observations related to field trips, team assignments, and individual progress.

## **Scoring/Evaluation**

The teacher provides feedback on the quality of the oral presentations and literature reviews. Students respond and both sides mutually agree to a score. The criteria included the relevance of the title to the proposal, presenter engagement (eye contact, tone, and clarity), logic of presentation, appropriate use of visuals, timeliness and accuracy of information presented.

## **Plans for Follow-up**

This year, this project served 23 classroom students. Plans are to expand this program into three more classrooms, serving 60 students.

**Decision Making**  
**High School**  
**Learning Performance Project**

**Kanabec County**  
**Grade 9**  
**Mora HS**

**Standard**

*Use information to make decisions.*

**Project**

Students address nutrition-related issues. In teams, they formulated questions and research answers. Computer technology helps access, organize, and present information and produce products. Each group writes and delivered a formal proposal to address the specific nutritional need. In collaboration with the classroom teacher and the extension educator, students work through the decision making process by stating the problem, looking at alternatives, determining the advantages and disadvantages of each option, then making a decision. The entire class then votes. Each finished report incorporates technology with a Power Point enhancement

**Tasks**

Students complete the following tasks:

- Research general definitions related to nutrition
- Sample and react to a variety of vegetarian foods
- Prepare a three-day vegetarian menu
- Conduct an internet analysis of the prepared menu
- Prepare and present overhead presentations

**Role of the Extension Educator**

The extension educator spent two days per week in the classroom over a 10 week period, working with students, and bringing in materials from the Extension Service which dealt with the topic of Nutritional Enhancement for Daily Living. She assisted in

teaching about how one's own environment can be self-sustaining, that is one can grow food, make soy-based dishes, etc. The educator participated first in the team teaching and later as a coach for the student-centered, constructivist projects. Relationship building between the students and the extension educator was also a focus.

## **Learning Outcomes**

Students learned:

- that there are several types of vegetarianism, from strict to semi-vegetarian
- that some forms of vegetarian diets are better recommended than others, for instance, some vegetarian diets may risk malnutrition
- the eight food guide pyramid diagrams
- how to prepare a variety of vegetarian foods and how to evaluate vegetarian dishes for their taste and nutritional value
- How much one can accomplish when one puts his/her mind to it
- How to manage your time and be responsible

One of the groups even came up with a new term: "two faced vegetarian." They explained this as someone who claims to be a vegetarian but eats meat secretly. The students then used all the notes they had taken from research and discussion and prepared four – paragraph oral reports to be delivered to other members of the school community.

## **Scoring/Evaluation**

The teacher provides feedback on the quality of the oral presentations and written menus. Students responded and a score is agreed upon. The criteria include the relevance of the title to the proposal, presenter engagement (eye contact, tone, and clarity), logic of presentation, appropriate use of visuals, timeliness and accuracy of information presented (written and oral).

## Exhibit 1:

### Paraphrase of teen magazine article on vegetarianism

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#### The Cutting Veg

Think being a vegetarian means peeling the pepperoni off your pizza? There's a little more to it than that. Read on to find out how to eat right - without eating meat. By Melissa Thorino.

My so-called vegetarian life

I don't know why I thought that my becoming a vegetarian should be my decision. Maybe because I was the one choosing not to eat meat. So I was the only one who had a say in the matter, right? Wrong.

My mom flipped. She stared at me in disbelief as I delivered my heartfelt reasons for no longer wanting to belong the meat-eating majority. I'd never liked steak to begin with--and definitely not after the time I was fooled into thinking that a piece of venison was a nice juicy sirloin (ha, ha). Furthermore, I didn't think I could take it if I had to cut into one more snapping vein in a chicken cutlet. After listening to what I considered a persuasive argument, Mom flashed me her you-must-be-joking-but-this-is-only-a-phase face. Then she took a deep breath and said she'd let me go veggie--but only after I'd written a 10-page paper about vegetarian nutrition and had my 16th birthday (I had six months to go).

Though my mother wasn't thrilled, she didn't stop me from taking my first step toward an herbivorous diet. I planned to eat only chicken, turkey and fish until my birthday--then turn total veg. Actually, it was easy giving up pot roast and all that. But there was one thing I couldn't imagine life without--pepperoni. I loved piling those spicy circles on crackers. Yup, the scariest,

most unidentifiable meat product of all was the one thing I couldn't let go. Still, I knew I had to stop munching my fave crackeroni snacks when my family started doubting my cause.

And doubt they did. My dad and step-mother began to dread taking me out to dinner, because now I was checking menus even before we got past the hostess station. As if that wasn't compulsive enough, once my supposedly meatless meal was served, I'd inspect it up close, lifting the plate to eye level to search for meat particles. Everyone but me laughed why my dad cracked, "Uh-oh, sweetie, I think that broccoli is still breathing." But I let them scoff and roll their eyes. That *was* how I discovered (aha!) that Szechuan tofu contains chopped-up *beef*.

With only a month to go before starting my life as a vegetarian, I could put off my research paper no longer. I headed to the library, hoping to get the whole thing (2,500 words!) over with ASAP. Funny thing was, what I expected to be boring busywork, turned out to be informative and helpful (my mom's probably grinning as she reads this).

I couldn't wait to inform my annoying family that, contrary to popular belief, vegetarians are not usually in dire need of protein--finding a day's work would be as easy as opening a can of lentil soup. I also learned that the vegetarian vitamins I was taking, which contained absolutely no animal derivatives, supplied me with plenty of B-12 (usually found only in animal products) and a good amount of iron (I could fill the gap with leafy green veggies like broccoli and spinach).

Finally, I found an answer for my cafeteria mates, who kept asking, "How can you be a veg if you're going to eat eggs and milk?" I couldn't wait to explain to them that this is called "Lacto-ovo" vegetarianism, not veganism.

Writing my paper wasn't exactly my idea of a good time, but it did help me see that a good lunch does not consist of a bag of Smartfood and a giant iced tea (which was a shame, if you asked me, but good to know). It also helped my mom see that I was serious about being a vegetarian.

Then my birthday came. I started experimenting with recipes from the vegetarian cookbooks I got as gifts--most notably, my now-famous veggie cannelloni; most regrettably, an eggplant casserole that turned into a bitter, brownish mush. My loved ones became, suddenly, surprisingly open-minded, though perhaps my mom was just relieved that she didn't have to cook two meals each night. Of course they turned on me occasionally--like the time I made barbecued teriyaki tofu kabobs, which tasted great but compelled my dad to create a strict no-tofu-on-the-grill rule.

Eventually my family learned to accept, if not embrace, my vegetarian ways. Sure, my grandma still offers me shrimp cocktail--"it's fish, not meat!"--and my brother waves the gristle from his prime rib in my face. But I just ignore them and keep eating my vegetable pitas, and ordering my plain cheese pizza. So they may never see the appeal of a tofu dog on a bun. I'm happy, not at all unhealthy--and I'm eating exactly the way I want.

## Substitutes for favorite foods

### **Try: tofu**

A.K.A.: soybean milk solidified into bricks

Nutrition lowdown: chock-a-block with protein, iron and B-vitamins

Use it: in a grilled veggie kabob with green peppers and mushrooms. Or toss it into a tempura stir-fry and dish over brown rice.

### **Try: tempeh (tem-PAY)**

A.K.A.: Indonesian soybean-grain mix formed into blocks

Nutrition lowdown: lots of protein, iron and zinc

Use it: in a curried vegetable stew for a meaty texture, or barbecue thick slabs of it in hot sauce for an alternative to meat patties.

### **Try: seitan (SAY-tan)**

A.K.A.: chew wheat gluten--or "wheat meat"--shaped into cubes

Nutrition lowdown: the protein queen of the meat subs

Use it: as a beef substitute in veggie chili or fold slices (along with lettuce, tomato, sprouts) into a spicy pita pocket.

### **Try: veggie burgers**

The best kind: spicy bean patties. Or go for the less organic but equally satisfying fake-meat taste-alikes.

Nutrition lowdown: less fat and cholesterol than the real deal, plus a small percentage of your protein RDA.

Use it: Grill 'em up and serve with lettuce, tomato and your own special sauce. Just don't expect 'em to actually taste like Big Macs.

### **Try: veggie dogs**

A.K.A.: tofu "sausages" that could fool even Oscar Mayer.

Nutrition lowdown: free of fat...as well as vitamins (kind of like, uh, real hot dogs).

Use it: Nuke and slip into a toasted bun, then slather with ketchup or mustard and pile on onions or relish for a superyummy snack.

## Four Degrees of Vegism

A **semi-vegetarian** eats no red meat but chows on chicken or seafood.

A **lacto-ovo vegetarian** eats no meat or fish, but will consume eggs and dairy products. A **lacto-vegetarian** won't eat meat or eggs, but will eat dairy.

A **vegan** won't eat any food that contains an animal product.



### Analysis Chart

Influencing factors	Advantages	Disadvantages

# **Managing Resources/ Science and Math Applications**

**High School  
Learning Performance Project**

**Crow Wing County  
Grades 9-12  
Brainerd High School**

## **Standard**

*Apply concepts of shape and space to describe and measure the physical world to solve problems, use number concepts, relationships and computational procedures to communicate, solve problems, and evaluate results; recognize concepts and evaluate interactions of earth/space systems and the impact upon human life, manage resources as team to produce a product or service*

## **Project**

This learning project teaches students to assess climate factors by constructing a weather shed which houses several experiments. Students gather climate data and decide what materials to buy. They develop plans and build their weather shed.

## **Tasks**

Students complete the following tasks:

- Demonstrate understanding of ordinate systems, reflective of precise mathematical expertise
- Recognize and describe shape, space, size, and position of two- and three-dimensional objects and images of the objects under transformations
- Measure dimensions of the proposed weather shed
- Describe how changes in the dimensions affect the perimeter, area, and volume
- Create a real-world communication that demonstrates the ability to use a variety of numbers in context
- Complete diagrams on graph paper
- Purchase materials for the shed within a prescribed budget
- Understand how the climate of Central Minnesota affects construction-related decisions.

## **Role of the Extension Educator**

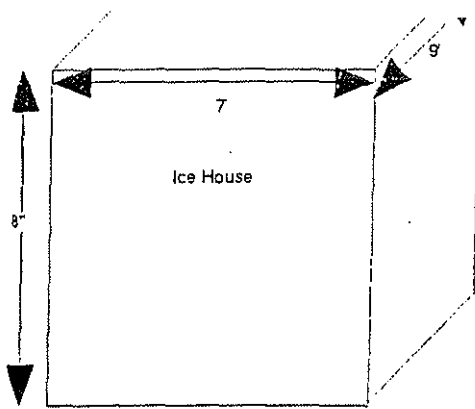
The extension educator spent one day per week for ten weeks in the school working with students, after working with the classroom teacher in the planning and development of the project, completing scoring guidelines, etc, and then served as guide/facilitator for the field trips. The extension educator served as coach for the student-centered projects.

## **Student reflections**

Journals were the primary piece of this project. Students kept an ongoing log of observations related to field trips, team assignments, and individual progress.

## **Scoring/ Evaluation**

The teacher gave students feedback on the quality of the oral presentations and literature reviews. Students then responded and agreed or disagreed with the teacher's assessment. The teacher and student then provided a collaborative assessment score. The criteria included the relevance of the title to the proposal, presenter engagement (eye contact, tone, and clarity), logic of presentation, appropriate use of visuals, timeliness and accuracy of information presented.



## Calculations of Dimensions and Heat Loss

The dimensions of this ice house are 8' x 9' x 7'. We are out on a lake in January. The temperature outside is  $-10^{\circ}\text{F}$  and the temperature inside is  $50^{\circ}\text{F}$ .

What is the volume of the house?  $V = L \times W \times H$

What is the surface area of the top of the house?

What is the surface area of each of the sides of the house? - How many sides are there?  
(Excluding the floor)

What is the combined surface area of the top and sides?

We will assume that the ice house does not lose heat from the floor.

The formula for heat loss is:  $\text{Heat Loss} = U \times A \times \Delta T \times \text{Time}$

Heat loss is measured in BTUs. Area is measured in square feet. Time is measured in hours. The U-value describes the effectiveness of the insulation. We are more familiar with the R-value of insulation, where a new house will have walls with R-19 insulation and ceilings with R-38 insulation. The U-value is the inverse of the R-value:  $U = 1/R$ . Therefore in a new house the U-value of the wall is 0.0526. The units for U-value are:

$\frac{\text{BTUs}}{\text{Hr} \times \text{Ft}^2 \times \Delta\text{F}^{\circ}}$	Where:	Hr - is hours
		Ft <sup>2</sup> - is square feet
		$\Delta\text{F}^{\circ}$ - is change in temperature from inside to outside

We have built our ice house with R 15 walls and ceiling. What will be our heat loss if we stay in the stay in the ice house for 6 hours. Assume heat loss from walls and ceiling only. Assume outside temperature to be  $-10^{\circ}\text{F}$  and inside temperature to be  $50^{\circ}\text{F}$ .

If our heater produces 5,000 BTUs per Hour, and if this is our only source of heat, will we be able to keep the inside temperature at  $50^{\circ}\text{F}$ ?

What size heater (BTUs per Hour) would we need to heat a garage measuring 20' x 30' x 7'; assuming the same insulation and  $\Delta T$ ?



**Decision Making**  
**High School**  
**Learning Performance Project**

**Sibley County**  
**Grade 9**  
**New Country Day School**

**Standard**

*Make informed decisions that enhance individual family and community health in the priority areas of healthful nutrition and dietary practices as well as physical fitness.*

**Project**

This learning program expands on an existing 4-H curriculum involving health-related issues that impact the individual and the surrounding community. Students develop interviewing and decision-making strategies around AIDS, alcohol abuse, and tobacco education. Students learn about the importance of reflection as a part of these issues as they develop group processes centered on their field-based research.

**Tasks**

Students complete the following tasks:

- Determine how smoke affects your lungs
- Educate others on HIV and AIDS
- Determine the effects of alcohol
- Use evidence and reasoning to design an anti-smoking poster using some technique to convince peers not to smoke
- Develop a questionnaire and educate others about HIV
- Experiment with a simulation of alcohol and its effects on reaction time and •
- Record findings

## **Role of the Extension Educator**

The extension educator spent one day per week for ten weeks in the school working with students, after working with the classroom teacher in the planning and development of the project, completing scoring guidelines, etc, and then served as guide/facilitator for the field trips. The educator participated first in the team teaching and later as a coach for the student-centered, constructivist projects. Relationship building between the students and the extension educator was also a focus.

## **Student reflections**

Reflections in the form of journals were the primary piece of this project. Students kept an ongoing log of observations related to field trips, team assignments, and individual progress.

## **Scoring/Evaluation**

The teacher gave students feedback on the quality of the oral presentations and literature reviews. Students then responded and agreed or disagreed with the teacher's assessment. The teacher and student then provided a collaborative assessment score. The criteria included the relevance of the title to the proposal, presenter engagement (eye contact, tone, and clarity), logic of presentation, appropriate use of visuals, timeliness and accuracy of information presented.

**Resource Management**  
Middle School  
Learning Performance Project

**Marshall County**  
**Greenbush/Middle River School District**  
**Grade 8**

**Standard**

*Effectively manage personal resources to meet a goal or solve a problem. Manage resources as a team to produce a product or service*

**Project**

Students work together and learn to effectively manage personal resources. As a team, they produce a product or service, and they use technology to access, organize, and present information and produce products.

**Tasks**

Students complete the following tasks:

- Conduct a community needs assessment
- Identify a community need to address
- Identify individual strengths to match team members
- Assign different teams to investigate different needs
- Assess effectiveness of their personal involvement

As an additional step, each student interviews two community members of different ages in order to improve their interviewing skills and gain further clarification of community needs. As a group, they then decided on which issues should be addressed by using democratic voting and decision making.



## **Role of the Extension Educator**

After working with the classroom teacher in the planning and development of the project, the extension educator spends three weeks in the classroom. Relationship building between the students and the extension educator is also a focus as the educator participates first in the team teaching and later as a coach for the student-centered projects.

## **Student Reflections**

After the proposals were presented, students reflected on the effort and offered evaluations of the performance learning project. Here is a selection of comments from the project just completed

I learned:

- How to talk to people I don't know and ask them questions
- That you can't leave all your work until the end and that everyone has to do things
- How much you can accomplish when you put your mind to it
- To use all the time you were given because you will wish you would had in the end
- That this is a goal and on goals you have to try your hardest
- To work on a community project and to talk on the phone to businesses
- How to manage your time and be responsible
- It takes a lot of hard work and effort to get what you want. If you are in a group, you have to work together.

Students also responded to questions which related to self-involvement within the group project, how the group could have been improved, and what teachers could do to improve the experience next time.

## **Scoring/ Evaluation**

The teacher provides feedback on the quality of the oral presentations. Students then responded and a score is agreed upon. The criteria included the relevance of the title to the proposal, presenter engagement (eye contact, tone, and clarity), logic of presentation, appropriate use of visuals, timeliness and accuracy of information presented.

## **Participation / Administration Support**

For the project just completed, 91 students from one teacher's three class periods participated. The school administration had the following testimonial to offer about the role of the Extension Service in the project:

"The Extension Educator - Graduation Standards project has been very successful in Marshall County. Extension Educator Cindy Christopherson worked with Greenbush-Middle River English teacher Heather Olson to develop and implement a performance package for 8th graders. Students assessed community and school needs, researched the feasibility of improvements and funding, then presented their information to community stakeholders.

"Over a period of 2 months, Cindy spent 15 days in the classroom with students. Her activities included: team teaching to work directly with student instruction; familiarity with details of the standard, package content and scoring rubrics; engaging in the teacher's role as coach in a student-centered, constructivist project; planning and implementing the project from beginning to end; and going out of her way to develop relationships with the students.

"I hope this model helps to ensure consistency in further training about the High Standards. Extension educators, 4-H programs and other community organizations have the potential to be excellent partners in High Standard achievement."

"Teachers have invested a great deal of time and energy in the positive statewide reform effort of performance assessment. If people outside the school setting are not thoroughly trained in standard alignment and scoring, the High Standards will not be successful."

Sharon Schultz  
Principal

# Weight Rooms Improvements

We feel that the Middle River weight room should be improved. There is graffiti on the walls and there is junk cluttering the room. There should be more pins and we need new or greatly improved weights. We think that people would use the weight room if there was a CD player in there and if the room was open before school, at noon, and after school.

# **Resource Management/ Decision Making**

**Middle School**

**Learning Performance Project**

**Rice, Steele, and Freeborn Counties**

**Grade 6**

**Four County Schools**

## **Standard**

*Effectively manage personal resources to meet a goal or solve a problem. Manage resources as a team to produce a product or service and learn how to make decisions effectively.*

## **Project**

With this learning project, students from four different middle schools effectively identify and manage personal and financial resources to meet goals. They participate in a field trip, which is preceded and followed by classroom discussion and activities. Students are divided into groups of four. Each group writes and delivers a formal proposal to address the specific issues around money. They keep “pretend bank accounts” which allow them to save and spend money. In the course of keeping the accounts, “destiny” (a real life situation) is delivered to them, which forces them to make decisions about money. Students investigated the difference between ‘saving to spend” and “saving to invest.” Students then catalogue their findings as a result of their decisions. At the end, they develop written and oral reports/proposals that incorporated technology with a Power Point enhancement for visual demonstration.

## **Tasks**

Students complete the following tasks:

- Recognize banking services they may want to access
- Know introductory steps for arranging financial services
- Explain key-banking term in general, every day language
- Apply decision-making skills to money management concepts as they relate to 6<sup>th</sup> grade students

- Practice addition and subtraction computational skills
- Experience obtaining and spending money
- Identify resources and criteria that influence decision making
- Articulate reasons for why decisions are made
- Develop an ability to reason when it comes to handling money

### **Roles of the Extension Educators**

The extension educators, one from each county, supplied the MONEY CAMP curriculum and train teachers. They also acted as communication liaisons among students, teachers, parents, and administrators via in-person communication, letters home, bulletin board postings, and electronic messaging.

### **Student Reflections**

After the students go on the field trip and the reports are developed and presented, they reflect on the effort and offer evaluations. Students respond to questions, related to investment, spending, and overall money management.

### **Scoring/Evaluation**

The teacher provides feedback on the quality of the oral presentations. Students agree or disagree and a score is decided upon. The criteria include the relevance of the title to the proposal, presenter engagement (eye contact, tone, and clarity), logic of presentation, appropriate use of visuals, timeliness and accuracy of information presented.

# Learning money lessons

## Extension offers camp with financial learning

By RANDY PETERSEN  
Tribune Staff Writer

Local sixth-graders learned lessons that made cents Friday.

During what could be the first annual Money Camp, Brookside Middle School students learned to make a budget, handle money and use a bank.

Freeborn County Extension Educator Pat Stumme said it's all about making the best decisions.

"Most of us don't take the time to think about these things," she said of the basics of money-handling.

The camp, which is put together through cooperation of four county Extension agencies, teaches kids the basics. Stumme said they are needed lessons.

The camp was born out of collaboration between school districts in the four county region and Extension. Stumme said teachers and families said there was a need for money lessons.

The one-day camp fits in with math curriculums and provides lessons for the changing face of education.

"This is designed so it supports schools' graduation requirement standards," Stumme said.



Tribune photo by Randy Petersen

**BUDGETING** — Tiffany Register creates a budget to spend \$100 during the Extension Math Camp Friday at the Albert Lea National Guard Armory.

See MONEY, Page 2A

## Money

• From Page 1A

The lessons provided hands-on, practical lessons in math and finance.

From playing games on budgeting to learning the value of a dollar, the students are put to the test along the way. They filled out budgets listing both needs and wants; they discovered new ways to earn and receive money.

"It gets them talking about options," said Stumme, adding that discussions help the students understand how to best spend and save money.

The camp is a pilot project, but Stumme said success could mean it becomes an annual project for students.

While funding plans haven't been made for an annual camp, this year's program was funded through an extension service grant and Norwest Bank. The National Guard Our Youth project provided the space for the camp and several other regional banks and organizations helped with contributions.

Source:

Albert Lea Tribune

Sunday, Nov. 8, 1998

November 9, 1998

Ms. Stumme,

My name is Tom Sheehan and I teach sixth grade in the Glenville-Emmons Schools.

I read with interest the article in the Albert Lea Tribune on Learning Money Lessons. It sure sounds like a wonderful experience for sixth grade students.

My concern is that this camp is not available to all sixth graders in Freeborn County.

I am interested in being able to involve my students in whatever the extension has to offer.

Please inform me as to what I need to do to become involved in these educational offerings.

Sincerely,

A handwritten signature in cursive script that reads "Tom Sheehan".

Tom Sheehan

# **Resource Management/ Decision Making**

**Middle School**

**Learning Performance Project**

**Otter Tail County**

**Grade 7**

**Underwood School**

## **Standard**

*Effectively manage personal resources to meet a goal or solve a problem. Manage resources as a team to produce a product or service and learn how to make decisions effectively.*

## **Content**

Students from four different middle schools effectively identify and manage personal and financial resources to meet goals and solve problems by participating in the SUPER SHOPPER game. Each group writes and delivers a formal proposal to address the specific issues around money. They keep “pretend bank accounts” which allow them to save and spend money. Students act as shoppers who spend an imaginary cash account. As they learned more about money, and how to manage it, they became aware of the important role money plays in the functioning of society.

## **Tasks**

Student complete the following tasks:

- Understand the concept of money management
- Know introductory steps for prioritizing purchases
- Explain money management terms in general, every day language
- Apply decision-making skills to money management concepts as they relate to 7<sup>th</sup> grade students
- Practice addition and subtraction computational skills
- Experience obtaining and spending money
- Articulate reasons for why decisions are made
- Develop an ability to reason when it comes to handling money



## **Role of the Extension Educator**

The extension educator acts as a communication liaison between students, teachers, parents, and administrators via in-person communication, letters home, bulletin board postings, and electronic messaging.

## **Student reflections**

After the students finish the project, and the reports are developed and presented, students reflect on individual and group effort. Students respond to questions, which relate to investment, spending, and overall money management.

## **Scoring/Evaluation**

The teacher provides feedback on the quality of the oral presentations. Students and teacher mutually agree on an assessment score. The criteria included the relevance of the title to the proposal, presenter engagement (eye contact, tone, and clarity), logic of presentation, appropriate use of visuals, timeliness and accuracy of information presented.

This past year, 37 seventh graders participated two different classes. Next year, plans call for an expansion to four classes.

# **Inquiry/ Decision Making/ Write and Speak**

**Middle School**

**Learning Performance Project**

**LacQui Parle County**

**Grade 6**

**Milan School**

## **Standard**

*Conduct research and communicate findings, use information to make decisions, write and speak effectively in the English language*

## **Project**

This learning program teaches students how to interview community members in order to gain a sense of community history. Students then write a class play and demonstrate what they learn at a Community Day celebration. Through interviews, students observe the historical changes that have occurred within their community. Students then vote on which events should be included in their play.

## **Tasks**

Students complete the following tasks:

- Conduct in-person interviews
- Write a narrative of their interview experiences
- Participate in the writing and delivering of a class play as part of Community day celebration
- Assess personal involvement and contributions as team members.

## **Role of the Extension Educator**

The extension educator works with in the planning and development of the project, completing scoring guidelines, etc. The educator also facilitates the final celebration

event (the school play) by arranging facility accommodations, slides, overheads, and other logistical support.

### **Student Reflections**

Students respond to questions, which related to self-involvement within the group project, how their participation could have been improved, and what teachers and students could do to improve the experience next time.

### **Scoring/Evaluation**

The teacher provides feedback on the quality of the presentations, both at the play and on the written interview reports. A mutually agreed upon (between teacher and student) score is given. The criteria included the relevance of the title to the proposal, presenter engagement (eye contact with the audience during the play, tone, and clarity), and logic of presentation. Community members who were interviewed also respond to a post-interview survey which measure satisfaction and enjoyment with the process.

47 sixth-graders from two classes participated in this project. Plans call for it to be repeated next year.

# Bernice Halvorson

By: Bekki Jorgenson

Have you ever lost your shoes? Bernice has. She was about 5 years old when it happened. Bernice was bringing lunch out to her dad in the field and decided to take a shortcut through a swampy area. Well, Bernice sunk deep into the mud and when she tried to take her foot out her shoes stayed in. Her dad must of saw her because he came over to help her look. They looked and looked but, couldn't find them. Bernice had to walk home barefoot. She didn't have any other shoes at home. This was during the depression time so she didn't have any shoes for awhile.

Bernice was born during the depression in 1932. Her husband is Harold Halvorson. Her mother came to the United States at age 19. Bernice's father was born in the U.S.A, but his parents came from Norway. Bernice has lived in Madison her whole life. She lived in the country until 2nd grade. Then her family moved to town.

In town Bernice would play with the neighbors. They would play Roli-Poli, Hopscotch, Pig in the Hole, and ball. Bernice also liked to play church and school. She would line her dolls up on the stairs and pretend to teach a choir. For school Bernice would make out papers and pretend to have her dolls fill them out. If they were wrong she would scold them.

Bernice use to read a lot. Some of her favorite books were Heidi, Hansberg and the Silver Skates, Dutch Twins, Bobbsy Twins, and Silver Chief books.

Bernice's friend was Blanche. They always walked to school together. One day Bernice decided to go over to Blanche's house. They played until super time. When Bernice got home her family was picking potatoes and her sisters were out looking for her. Bernice had forgotten to tell her parents where she was

going. They were furious with her.

Education was very important to Bernice's nice's family. She went to both country and town school. In the country Bernice had only 4 kids in her class. She went to country school until the 2nd grade. The sports they had were pretty much the same as today. The sports were tumbling, football, basketball, track, and wrestling.

In college Bernice thought that the hardest thing to do was write her Masters Thesis. She wrote about the history of Madison's education. It was 400 pages long!

One day there was an awful storm. It hailed and thundered. There wasn't any forecast warnings, so they didn't know about it until the clouds drew over like a black blanket. Her dad went out to put the livestock away in the barn and then it hit. Her family was sitting in the kitchen. All of a sudden they heard a crash. The window upstairs had a broke. Bernice's mom said they had to keep the rain out. They decided to put a mattress over the window. Her dad (in the barn) was so nervous that he puked. Afterwards they when driving in their Model T they saw houses and trees ripped out of the ground. It had been a tornado.

When President Kennedy was shot Bernice was teaching school. All the kids had gone home for lunch. When they came back a boy had said President Kennedy was shot. Nobody believed him. Later an anouncement came over the intercom saying President Kennedy was shot. It was a sad day for the nation.

In 1962 Bernice got her first T.V. It cost \$400. She got that money when someone slammed door on her finger. The whole finger isn't off. Only the top part.

Some inventions that were made in Bernice's time were the refrigerator, dish washer, and radio. There was others too. Bernice liked the airplanes. Every time one would fly over head she would look.

Bernice's life is like the "Three Little Kittens." She lost her shoes and finger. In return Bernice got \$400 for a T.V.

**Science**  
**Middle School**  
**Learning Performance Project**

**Becker and Clay Counties**  
**Grade 7-8**  
**Moorhead Middle School**

**Standard**

*Apply scientific methods to issues involving relationships among the individual, society, the economy, and the environment.*

**Project**

This learning project focuses on teaching students how to integrate science and technology. Students analyze an environmental problem and promote a solution. They form teams and develop an assessment plan to make decisions.

**Tasks**

Students work together to address community environmental needs as they complete the following tasks:

- Research and analyze an environmental topic
- Design and conduct an experiment to investigate a question
- Develop and evaluate a personal and team action plan to promote a specific solution

**Role of the Extension Educator**

The extension educator helps with the field activities associated with the environmental investigations. The extension educator also acts as a communication liaison among students, teachers, parents, and administrators communicating through in-person visits, letters home, bulletin board postings, and electronic messaging.

## **Student Reflections**

After the students complete their investigative reports/portfolios , they reflect on their efforts and offer self-evaluations. They then construct visual representations of their findings and present them to school community members (students, teachers, parents, and administrators).

## **Scoring/Evaluation**

The teacher provides feedback and scores the oral presentations and investigative methods. Students agree or disagree with the teacher's assessment, and a mutually agreed upon score is given. The criteria included the relevance of the title to the proposal, presenter engagement (eye contact, tone, and clarity), logic of presentation, appropriate use of visuals, timeliness and accuracy of information presented.

## **Plans for follow-up**

This year, 11 students from one class participated in the program. Plans for next year include implementing the program in three more classes so that 30 students will be involved.

**Science**  
**Primary**  
**Learning Performance Project**

**Hennepin County**  
**Grade 1,2,3 (multi-age)**  
**Parkview Montessori School**

**Standard**

*Apply scientific methods to issues involving relationships among the individual, society, the economy, and the environment.*

**Project**

This learning project involves an inner-city horticultural project that teaches students how to investigate the value of plant life while they observe the life cycle process from seedling to flowering plant. Using a cooperative method of inquiry, students use investigation and exploration to demonstrate each task and understand the unifying concepts and processes of a living organism (plant).

**Tasks**

Students complete the following tasks:

- Demonstrate knowledge of and define: living and non-living
- Demonstrate knowledge of how to identify a variety and uses of plants
- Experience the plant cell, identify and define its parts and reconstruct the plant cell
- Identify, define, label parts, and experiment on root, stem, and leaf
- Develop and evaluate a personal action plan to promote a method of evaluation

Each group writes and delivers a formal portfolio to address the specific issues around plants and the environment. Students research the stages of plant development via resource materials, which the extension educator provides. They investigate how plants interact with and impact the environment. Students seek to



understand why the how plants develop and survive. As they learn more about plants and the environment, they become aware of the important role plants play in the functioning of human society.

### **Role of the Extension Educator**

The extension educator, a master gardener, taught most of the lessons on plant development. He also acted as a communication liaison among students, teachers, parents, and administrators by in-person communication, letters home, bulletin board postings, and electronic messaging.

### **Student Reflections**

The portfolio consisted of notes and reflections taken during the classroom research. At the project's conclusion, students developed written and oral reports/proposals through the creation of a portfolio, which incorporated technology with a Power Point enhancement for visual demonstration. They then constructed visual representations of their findings and presented them to school community members (students, teachers, parents, and administrators).

### **Scoring/Evaluation**

The teacher gave students feedback on the quality of the oral presentations as well as investigative methods. Students then responded and a mutually agreed upon score was given. The criteria included the relevance of the title to the proposal, presenter engagement (eye contact, tone, and clarity), logic of presentation, appropriate use of visuals, timeliness and accuracy of information presented.

traps  
water

stores lots  
of water

has big  
pores

has branching  
veins

have

gives off  
oxygen

has straight  
veins unconnected

takes plants  
food

Draw a line from your leaf to each circle that describes  
about your leaf.

Briana November 16, 1998

Summary of Botany unit

I Learned how to trick a plant.  
We Learned If I cut a plant we will still get nutrients and water.

For the potato it is growing root hair. If we want a plant to grow we will need to water it every day and the plant will need lots of air and water.

If I cut a flower the water will go to the stem.  
We can classify by size  
color by speed by name  
by man & woman



Plant

**Science**  
**Primary**  
**Performance Learning Project**

**Yellow Medicine County**  
**Grade 3**  
**Bert Raney Elementary School**

**Standard**

*Apply scientific methods to issues involving relationships among the individual, society, the economy, and the environment.*

**Project**

This learning program uses nature to teach storytelling, investigation, and product delivery to its students. Through the study of frogs students learn that frogs are bio-indicators of the earth's quality. Students research the history and etymological origins of frogs, then visit surrounding sites to study frogs in their environments. They became aware of the important role the frogs play in the functioning of human society and why the changes which are taking place with frogs from some of Minnesota lakes are so important to all who live in the state. Each group writes and delivers a formal portfolio to address the specific issues around frogs and the environment. The portfolio consists of notes taken during internet and field research. Students choose a frog-related topic from a list provided by the teacher and the extension educator. As a team they gather information while on their field trip and correlated it to the internet research. Students then investigate scientific concepts.

**Tasks**

Students complete the following tasks:

- Analyze what a frog is through internet research
- Design and conduct an investigative method for the upcoming field trip
- Design criteria to look for when searching for frogs
- Develop and evaluate a personal action plan to promote a specific method

## **Role of the Extension Educator**

The extension educator helped with the field activities associated with the environmental investigations. The extension educator also acted as a communication liaison among students, teachers, parents, and administrators by in-person communication, letters home, bulletin board postings, and electronic messaging, as well as assisted the teacher with the “real-world” aspect of curriculum development.

## **Student Reflections**

After the students completed their investigative reports/portfolios, they reflected on their efforts and offered evaluations. Students responded to questions that related to frogs (scientific concepts, social factors, social vs. natural systems, and local, regional, and global implications of environmental stages). They then constructed visual representations of their findings and presented them to school community members (students, teachers, parents, and administrators).

## **Scoring/Evaluation**

The teacher provides feedback on the quality of the oral presentations. Students agree or disagree and a score is decided upon. The criteria includes the relevance of the title to the proposal, presenter engagement (eye contact, tone, and clarity), logic of presentation, appropriate use of visuals, timeliness and accuracy of information presented.

# GREEN AND HOPPING AT BERT RANEY



Staff photos by Linda Larson



Kids from Pam Berthelsen's third grade class went on a safari in search of frogs at Prairie Smoke Nature Center in Granite Falls last Friday. There were no frogs to be found that day, but they did find some salamanders. At left, some students examine their catch. Above, the salamanders take a swim in their temporary home.

By FAITH KAMMERDIENER  
News Writer

A crew of Yellow Medicine East third graders and five Bridges students searched under every rock and log and in every puddle last Friday looking for a slimy green beast that usually inhabits the Prairie Smoke Nature Center, but couldn't find a thing.

A frog hunt is just one of the many adventures third graders will be going on this year as they learn about frogs as part of a pilot project designed to get University of Minnesota Extension involved in creating performance assessments for the Minnesota Graduation Standards.

"The kids are really excited," teacher Pam Berthelsen said. "The first day of school started at 8:15 a.m., and by 9:15 a.m., we had a frog."

Berthelsen's third graders weren't all that disappointed Friday in not finding a frog. That same day several young tadpoles arrived swimming in a bag of water from NASCO.

Berthelsen first got involved in creating performance assessments while cruising the Internet two years ago.

She stopped at a web site called the River of Life and another site called 1,000 Friends for Frogs, which is related to the deformed frogs found by school children near Henderson, Minn. a few years ago.

The site is now keeping track of how many deformed frogs are found all over the United States.

The Bert Raney Third Grade then applied to the Center for Alternative Plant and Animal Use

for grant money and received \$1,000 for supplies.

Berthelsen said she spent many summer hours working on the project with the help of University of Minnesota Extension Educator Amy Rager.

"This is going to be a learning experience for teachers as well as Extension Educators," Rager said.

According to Rager, Extension is providing the resources and the links to the University of Minnesota for information and research.

So far, Berthelsen has introduced her class to the characteristics of frogs. She said there are 14 different varieties of frogs living in Minnesota.

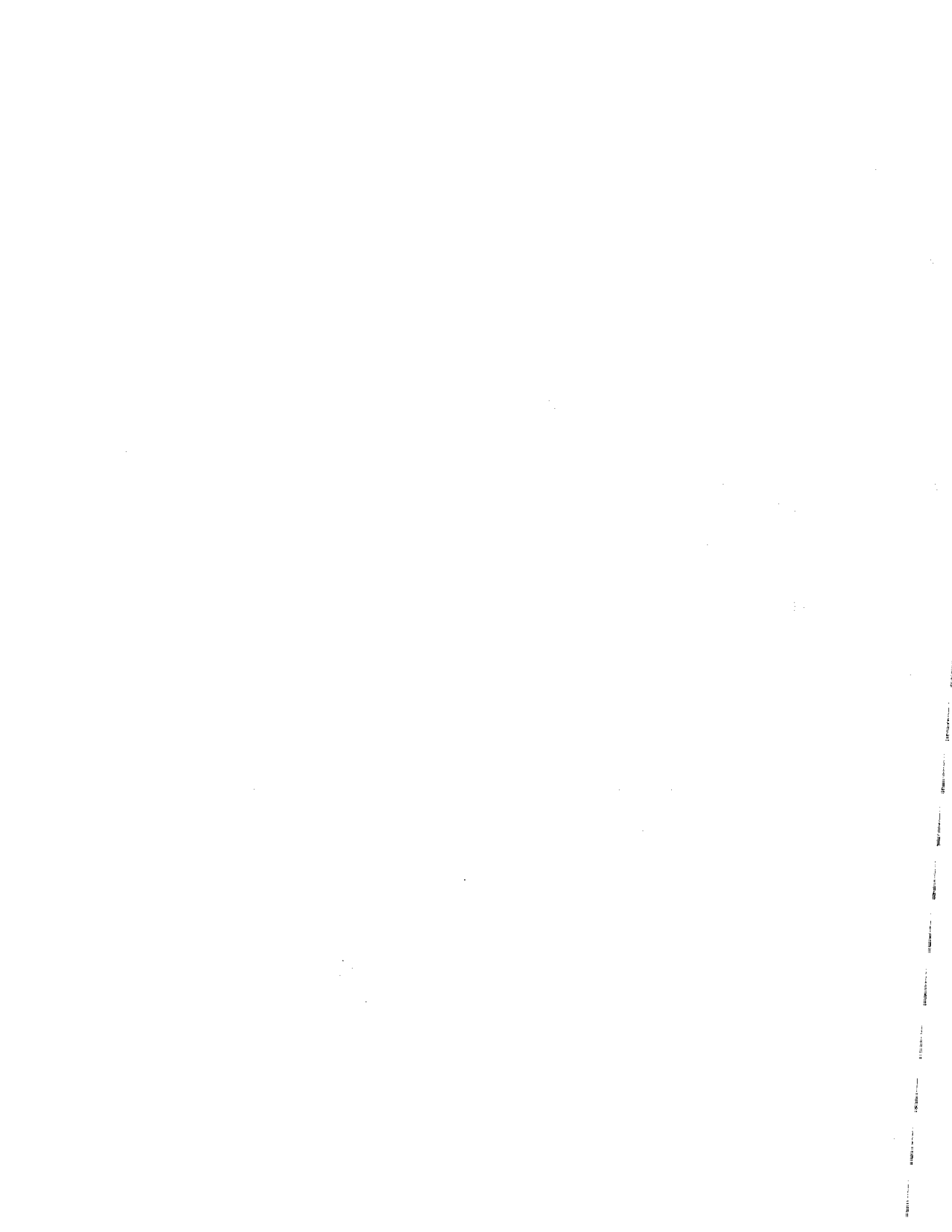
Later on, third graders will learn all about the life cycle of the amphibian by watching the young tadpoles grow into mature jumping African frogs.

When the frogs are mature, some lucky students may have the opportunity to adopt them. The frogs can't survive in Minnesota's harsh climate.

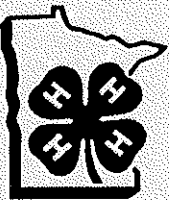
Through the use of living organisms, Berthelsen said, she hopes her performance assessment will teach her students about patterns, measuring, perseverance and resource management skills that are necessary requirements for completing the Minnesota Graduation Standards.

Once the project has been tested and tried, it will be added to a web site designed by the Minnesota Department of Children, Families and Learning so other teachers throughout Minnesota can access the information, adapt it and use it in their own classrooms to comply with graduation standards.










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