

Expanding the Learning Circle

by Mary Hoff

An innovative program boosts math and science knowledge while connecting youth with their Ojibwe heritage. Heading into its fourth season, the White Earth Reservation Science and Math Summer Program has received national awards and local praise.

Identifying birds by their songs... testing soil and water quality... building a compost pile from straw and cow “you-know”... visiting a college campus... These are some of the memories Lacey Littlewolf and Robert Butcher have from last summer’s vacation.

Lacey and Robert are among 22 Ojibwe youth who participated in the 2001 White Earth Reservation Science and Math Summer Program. For six weeks the students explored how science and math tie into everyday life in a fun, beyond-the-school-walls setting. They gained an appreciation for natural resources and for their Native American culture. They developed confidence in their ability to create a positive future for themselves, their community, and their world. And, said Littlewolf, “It was fun!”

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Living Classroom

The idea for the award-winning summer program emerged three years ago when University of Minnesota representatives visited the White Earth Reservation as part of Visions for Change, a Kellogg Foundation–sponsored effort to connect land-grant universities with the people they serve. When asked how the University might contribute to the reservation’s goals, tribal historian Andy Favorite (a former teacher) had the answer. With half of the reservation residents on public assistance and only 40 percent of adults holding high school diplomas, young people spent their out-of-school time in an environment that gave them little confidence or interest in academic success—particularly in seemingly irrelevant subject areas such as science and math. Yet all around them were fields and forests offering an incredible opportunity to link learning with life.

“I said, ‘Let’s try the idea of a math and science summer program outdoors, integrating

native culture with math and science concepts,'” Favorite recalled.

College of Natural Resources forestry Extension specialist Charlie Blinn and Deb Zak, Extension northwest district director, joined the task. Working with the Circle of Life School, White Earth Reservation Tribal Council, White Earth Tribal and Community College, and Rural Minnesota Concentrated Employment Program, Inc., they put together a program to give youth in grades 8 through 12 a fun, outdoors-oriented opportunity to gain new skills and develop new interests.

“We Believe in You”

The first session of the White Earth Reservation Science and Math Summer Program opened with a traditional pipe ceremony on June 14, 1999. Over the next six weeks, 22 Circle of Life School students walked a life-enriching path, guided by members of the local community as well as more than a dozen University of Minnesota educators.

The students studied soils, tested water quality, and investigated how fish hatcheries work. They made pots with native clay and planted a garden. They learned to identify birds and bugs, harvest wild rice, and plant a tree. They explored and interwove Native and Western perspectives on nature. At the end of the session, they prepared a community feast with wild rice, venison stew, and other traditional foods.

The benefits were abundant. Standardized test scores for the 10 students who completed both pre- and post-tests the first year went up an average of 1.2 grade levels in math and 0.2 grade levels in science.

The reservation also benefited—not only from the birdhouses, composting facilities, and gardens the youth built—but also in improved intergenerational relationships.



“Basically we told them, ‘We believe in you,’” Favorite said. “The fresh air, the sun, the birds, the air, the water, all have a healing, soothing effect. . . . Something happened [that was] good.”

Integrating Information

Buoyed by the positive results, program planners put together another six-week session for 29 youth the following summer.

Participants in the second session learned about tribal history, geology, nutrition, and more. They banded geese, surveyed dragonflies, and studied the relationship between forest types and wildlife habitat. They designed a traditional Ojibwe village, built wigwams, sewed moccasins, and learned traditional methods of food preparation.

Reservation biologist Doug McArthur, a University of Minnesota alumnus, introduced the students to various aspects of wildlife management. Two dozen of the youths visited the University of Minnesota—Twin Cities campus to explore educational options.

Last summer, the program’s third, a capstone project was added: designing an environmental learning center (ELC) for the reservation.

“We gave them information on the area, the soils, vegetation, and so on,” said Blinn. “Then we asked them to use that information, plus everything else they had learned, to design their ELC. They had to rethink, do some integrating of their knowledge of science, math, and Native American traditions.”

Caring Adults

College of Natural Resources undergraduate student Kellie-rae Marine taught students about medicinal herbs during the 2001 session. She was struck by the commitment of program leaders to the youth.

“The White Earth Reservation and the University of Minnesota having come together—it’s going to sound corny, but there was such a loving relationship, a mutual respect focusing on the mission of preparing these kids for the future,” she said.



before there were textbooks,” or experienced the nurturing interactions in transferring history and heritage from one generation to the next.

“We are using community members all the time in that program to give the Native perspective on math and science and to teach history and culture,” he said.

Bountiful Benefits

The value of the summer program has been recognized throughout the United States. The program was filmed for Dragonfly TV, a national children’s science television program. It received the 2001 USDA Secretary’s Honor Award “for brightening the future of American Indian youth by teaching math and science skills while nurturing environmental and cultural appreciation.” Vogt and Circle of Life School science teacher Steve Furueth were named 2001 principal of the year and 2001 secondary teacher of the year, respectively, by the Bureau of Indian Affairs.

But awards pale next to the tangible benefits to the students, the community, and the

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—Steve Furueth,
Circle of Life School science teacher

Circle of Life School principal Mitch Vogt said participation by caring adults from within the community has been vital to the program’s success.

“If it hadn’t been for the involvement of these adults,” Vogt said, “students would not have gained the much-valued perspective of how Indians dealt with math and science

school. Tests show consistent gains in science and math skills. Vogt reports that students are more attentive and value school more after participating in the summer program. Discipline problems have dropped and graduation rates have risen.

Participants also developed a positive approach to work commitments.

“We make the program job oriented—students are paid to participate,” Vogt said. “But they must participate, be in class on time, complete the work assigned. So we teach work ethics as well. . . . That is a very valuable skill.”

Furuseh says he’s seen a difference in attitude. “We became more like a family, more like a team,” he said. “It feels to me more like a coaching experience than a teaching experience.”

The program has also expanded students’ horizons.

“Just the fact that it developed a collaborative with the University of Minnesota has impacted us in a number of different ways,” Vogt said. The link has given students a chance to get to know University faculty and students and to visit campus. It also helped Circle of Life connect with the University-based “Reach for the Sky” aerospace program directed by Stephan Carlson of the College of Natural Resources and Center for 4-H Youth Development.

“Prior to this (Circle of Life), the opportunity for our kids to get connected with students and instructors outside of the reservation was nil,” Vogt said. “The likelihood of college was a rarity. Now I think it’s more likely. And we hope to build even more on that in the future.”

New Plans, Same Goals

Planners are now trying to raise \$20,000 to continue the program in 2002. Building on the experiences of previous years, Zak hopes to see participants design and develop a nature area

in the woodland behind the Circle of Life school building. Other activities may include creating a traditional Native American garden with medicinal plants and reestablishing a stand of northern white cedars, which are important for traditional ceremonies.

Whatever shape the 2002 program takes, one thing is clear: The goals will be for young men and women to use out-of-school time productively, to expand their view of their world, and to use lessons learned in the forests and fields around them to enrich their lives in a way that contributes to the creation of a more positive future for themselves and their community. ☘



A B O U T

the Author

Mary Hoff, M.A., is a science writer and editor living in Grant, Minnesota. She particularly enjoys writing about natural resources, biology, and the environment.