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Teaching and Learning: Outside the Box

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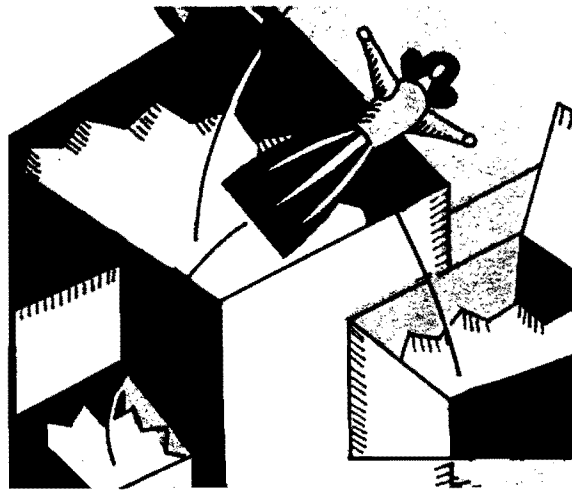
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Teaching and Learning Outside the Box



PEER TEACHING. COOPERATIVE LEARNING. Context-based instruction. Service learning. These effective techniques aren't new teaching methods. Rather, they represent a rediscovery—or renaming—of ways of teaching and learning whose popularity and use in the United States has ebbed and flowed throughout most of this century. This issue of *The Link* explores four diverse contexts in which this kind of teaching and learning are taking place.

Programs in which youth teach each other acknowledge not only that students of all ages tend to view teachers as role models, but also that in certain affective areas, teen teachers can have a greater impact than adult classroom teachers.

The growth of service learning programs reflects a critical community need for volunteers and the effort to foster personal growth and civic responsibility by connecting academic learning with community service experiences.

An off-site learning environment—the University's St. Paul campus—and participation in agricultural research enables students at the Chiron middle school in Minneapolis to discover science and biology in the field and in the lab, which helps them see its practical applications.

Programs that teach both academics and workplace skills have been available for years. But changes in manufacturing and the global economy have created a heightened sense of urgency to create a well-organized, even national, apprenticeship system—one that would offer non-college-bound students training in academics and valuable workplace skills, with the promise of good jobs when they graduate.

STUDENTS AS TEACHERS

The role-playing session has everyone's attention. Janelle wants her new and younger "boyfriend" to be more sexual with her than he wants to be. "Look, Janelle, I really like you, too, but I'm just not ready for this yet," says Sean, responding to Janelle's pressure. Led by a team of two high school seniors, Sean and 19 other middle school students in Minnesota's Blue Earth County are learning about positive relationships, pregnancy prevention, and

how to make wise choices about sexual health through a Center for 4-H Youth Development program called Project 4 Teens.

The 4-H model always has recognized the power of teen leadership. "Youth Teaching Youth programs, like Project 4 Teens, build on the 4-H model of promoting positive youth development by having youth teach other youth," says Marie Lee-Rude of the University of Minnesota Extension Service. "Throughout the state, adolescents, coached by adult advisers, teach lessons to younger children or to their peers within the context of a formal prevention education curriculum." Teaching in pairs or in larger teams, these teens work with groups of students in school classrooms and community settings.

"Research shows unequivocally," says Lee-Rude, "that teen teachers not only act as role models for younger students but also have a greater impact than classroom teachers in the affective areas of prevention education, such as refusal skills, decision-making, chemical health, sexual health, food choices, managing conflicts, and preparing for parenting." Lee-Rude, who works in Rock and Pipestone Counties and has been an extension educator for 28 years, points to the findings of two large-scale research projects that evaluated over 200 substance abuse prevention programs. "They concluded that peer programs are the single most effective school-based approach for reducing alcohol and other drug use among youth."

In Youth Teaching Youth programs, high school students present factual information, help younger students practice refusal skills, and teach ways to deal with peer pressure. Teaching techniques include videos, games, discussion, and role-playing. "This last tech-

nique is very effective for demonstrating behavior and for practicing new skills," says Lee-Rude. "Kids are great actors, and they know how to put on very realistic role-plays."

Being role models also influences teen teachers' decisions and behaviors in positive ways. "Since 1989, when I first became involved with Project 4 Teens, our research on this project shows, for example, that none of our 'teachers' have become pregnant in high school," says Lee-Rude. "In an average population of 600 to 700 teens, the pregnancy rate is generally 6 to 8 percent."

Involvement in Youth Teaching Youth programs also helps kids develop the skills they need to thrive and become competent adults. "Peer programs give every youth the opportunity to help and be helped," says Lee-Rude. The "helper" has a feeling of "social usefulness" and a sense of control—which some researchers consider to be the most important protective factor in preventing substance abuse, teen pregnancy, and delinquency.

Lee-Rude and other adult advisers don't rule anyone out when they're recruiting new peer teachers. "We're looking for kids who have the potential to be good leaders—kids who may be leading in a less than positive direction—as well as those already in school leadership roles. And we've seen phenomenal changes. Kids can turn their lives around very quickly when they're given the chance to lead in a positive direction in an area they can see is important."

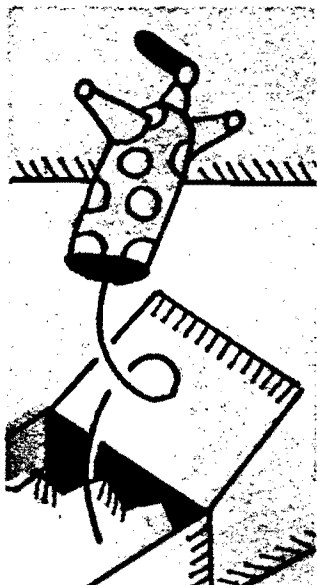
Other Youth Teaching Youth programs—such as Alcohol and Tobacco Decisions, Chances and Choices with Food, Think Smart—Farm Safe, Self-Care for Kids, and Think Earth—involve communities and youth throughout the state. An estimated one-third of Minnesota counties offered at least one peer teaching program in 1995, when extension educators taught nearly 2,000 teen teachers, and the program reached almost 21,000 young Minnesotans.

LEARNING BY DOING

Elementary students develop and maintain a community bird sanctuary while they study geography and biology. High school students learn geometry and construction skills as they build planters for seniors in a high-rise apartment building.

At-risk students throughout a school district are identified as "valued youth" and trained to tutor youngsters at nearby elementary schools. Drop-out rates for at-risk participants drop dramatically.

"Research shows unequivocally that teen teachers not only act as role models for younger students but also have a greater impact than classroom teachers."



Given the critical community need for volunteers and the recognition that classrooms aren't the only places where kids learn, it shouldn't be surprising that service learning programs—which connect community service with academic learning, personal growth, and civic responsibility—continue to grow in popularity throughout the country.

Three and a half years ago, local interest in this alternative educational model hit a new high when the Minnesota-based National Youth Leadership Council, along with the University of Minnesota and 13 other organizations, received a three-year, \$2 million grant from the federal government to establish the nation's first clearinghouse of information on service learning—now housed in the college's Department of Work, Community, and Family Education.

The National Service Learning Cooperative is a hub of information, training, and technical help, says Rob Shumer, its director. "We collect information about service learning programs throughout the country and then recycle it back out to the field. Our goal in establishing the clearinghouse was to create a centralized information system for the service learning field—and today it includes a database; information about programs, people, and organizations; a calendar of events; and publications." Professionals too busy to do much research often contact the clearinghouse wanting to "see service learning in action." "They want technical information face to face," says Shumer. "That need has been the reason behind another clearinghouse goal—easy access and a decentralized operation."

With practical information at their fingertips, more educators are experimenting with service learning programs. A recent report on community service and volunteerism from the U.S. Department of Education stated that 86 percent of all students attend schools that encourage community service, that nearly half of the nation's youth do community service, that half of those who participate do so regularly, and that about half of the students say that their community service was incorporated into the school curriculum.

Increased interest in service learning has brought research to determine its efficacy. According to Shumer, the results are mixed. "But in good programs we see an increase in self-esteem, connectedness, and a concern for civic issues, including academic success

"In good programs we see an increase in self-esteem, connectedness, and a concern for civic issues, including academic success and improvement."



and improvement," he says. "The research on service learning reinforces the research on work-based learning—the better programs tend to be those in which students have choice over activities, where they have real responsibility, where there's a perception that the activities are fun, and where there is a reflective component."

The most common form of service learning is cross-age tutoring—"in large part because it's easy to do within a school," Shumer says. "To go outside the building requires transportation, teacher planning time, supervision, and working around the seven-period day. These are substantial obstacles to the growth of service learning programs."

A service learning program currently under way at Highland Park Junior High School in St. Paul demonstrates how far a good program can push participating youth. "A group of students decided to examine the issue of child labor," Shumer explains. "They identified companies that employ kids to make soccer balls and, over time, the students tried to stop local recreation departments from buying these brands [of balls]. In the process, they also learned that the issue of child labor is complex. The students discovered that, while the working conditions and pay were bad, many families might starve without the income earned by their children. Suddenly the issue wasn't clear cut."

Soon students decided to talk with seniors who worked as children here in this country. "They also are beginning to think about migrant workers in the state and how children in these families are affected by working," says Shumer. "They've discovered that child labor problems are close to home, too."

A recent report from Public Agenda, a

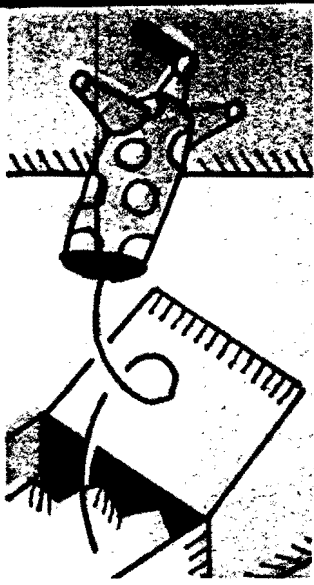
national research firm that surveys attitudes toward public education, indicates that adults are concerned about the values and the moral development of children and teens. Public Agenda recommended school- and community-based initiatives to help youth develop more community values. "Perhaps a program that treats youth respectfully, connects them with other youth and adults to provide meaningful service to others, and provides opportunities for them to act responsibly and improve the quality of life in their schools and communities would be a suitable antidote to the perceived decline in values of youth," says Shumer.

"That is what service learning can do... and does. If ever there was a call for service-learning programs to meet the needs of both youth and the public, this is it. Academic achievement has long been one of the important outcomes expected of service programs; this report reinforces the notion that personal growth, character, and values development also are critical agendas of any good educational program. Let the service-learning initiatives continue to grow!"

For more information on service learning and the National Service Learning Cooperative Clearinghouse, call (800) 808-SERV, or see the group's Web site at <http://www.nicsl.coled.umn.edu>.

SCIENCE IN THE WORLD

More than a decade ago, a group of Minneapolis businesspeople had a dream: to organize a school in which students spend the majority of their time learning not from textbooks in a school building, but in the community at large under the direction of mentors who are professionals in their respective fields. That dream became the Chiron School, a public



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middle school near downtown Minneapolis.

Although the school’s structure has evolved over its ten-year existence, Chiron’s curriculum still is organized around three primary themes of study: social studies, science, and art. And students do spend a great deal of time in off-site learning environments, one of which is on the University’s St. Paul campus.

“The Chiron staff wanted students to learn science by working with real scientists,” says Roland Peterson, a professor of agricultural education in the Department of Work, Community, and Family Education. “They approached us to see if their students could work with University researchers. We realized that researchers simply couldn’t spend hours each day with middle school students and still progress with their own work, so I had the idea of linking these young people with our agricultural education majors. It seemed like a perfect match: acting as mentors, the ag-ed majors could involve the Chiron students in actual agricultural science projects and have an opportunity to work with them in a student teaching role. We’re still doing this ten years later, so I guess it was a good idea!”

Peterson, Chiron science teachers, and the agricultural education students plan each semester’s course together. Last fall they focused on reproduction, genetics, and growth and development. “Chiron students come to the St. Paul campus four days a week for 90 minutes each day,” Peterson explains. “Half of the students are paired with agricultural education students and become involved in wide-ranging agricultural education projects—growing plants under particular conditions, using control groups, exposing different horticultural or grain plant varieties to frost at various stages of growth, and so on.” Students plan their

projects with their mentors, conduct experiments, analyze the results, build displays describing their projects, and present oral and written reports at a special session to which their parents are invited.

The other half of the Chiron students spend time in lab sessions each day, learning laboratory techniques from the agricultural education majors. Again, the emphasis is on “science in the world,” as Peterson describes it. “During a segment on animal reproduction, for example, our ag-ed students arranged a laboratory exercise with Dr. Allan Hunter, an animal science professor. Professor Hunter dissected a cow’s uterus containing a calf. The students were able to see how the placenta is attached to the uterine wall and the water surrounding the unborn calf. Needless to say, they were absolutely fascinated.”

The following week, these students turned their attention to plant reproduction and conducted experiments on variability. “We took them out to some demonstration plots to show them the results of various experiments,” says Peterson. “Again, we are using real-life agricultural settings and activities to show how and why we use science.” In a subsequent section on growth and development, other students discovered the relationship between the amount of food a cow ate over a 24-hour period and the amount of milk she produced.

Peterson and Chiron principal Lynn Iverson concur that this is a win-win situation for all involved. “Our agricultural education students get a firsthand look at how to integrate curriculum and work with students,” says Peterson, “as well as the challenges that arise in teaching. Many of our graduates tell us how valuable this experience was for them—particularly the opportunity to work with students from

urban settings. Most universities preparing agricultural teachers can’t give their students such an opportunity.”

For the Chiron students, the program provides a first exposure to agriculture. “In addition to science, we teach them how the food system works and give them a general overview of how agriculture fits into everyone’s lives,” says Peterson. “There really are kids who don’t know that milk comes from cows, not from a carton in a store, or that corn comes from the ear on a stalk. The students love to be taken to the barns, and once in a while, they’re lucky enough to see a calf being born. When this happens, they’re in awe because it’s often the first time they’ve ever seen the miracle of birth.”

Peterson’s “good idea” has been good for more than its success at teaching science. “This is a wonderful relationship,” says Iverson. “Our students have access to excellent lab facilities, of course, and the science they do with Roland’s students is at a real-world level that we could never offer at Chiron. More than that, the kids want to participate. They talk about getting to ‘go to mentoring.’ We have a very diverse student population, and many of these kids would never experience a university setting or visit a farm. They are very excited about learning, and the glimpse into university life is one they can include in their repertoire of future school or work options.”

LEARNING ON THE JOB

Slowly but surely, says Gaty Leske, associate professor of work, community, and family education, we are entering a new educational era. While policy makers and educators have long recognized that schools inadequately teach children from lower socioeconomic backgrounds, there’s a growing realization that they illserve at least half of their students. *The Forgotten Half*, a report by the William T. Grant Foundation Commission, clearly documents “an unmistakable pattern of under-investment in the nation’s youth, particularly in those who do not choose college.” The United States remains one of the few major industrial countries that lacks a national system for helping youth make the transition from school to employment.

Now a consensus is building that “recognizes that youth apprenticeship is worth trying, that we ought to look at what we’re doing correctly in the United States in this field, and that we can learn from other nations that have comprehensive school-

to-work programs," says Leske.

Much of the impetus behind the rekindled interest in youth apprenticeship comes as a reaction to changes in manufacturing and the growth of the global economy. In the past, traditional systems of education worked because products, production systems, and technologies changed slowly.

"Up until now, employers traded off workers' low-skill levels with capitalization in equipment and technology, close supervision, and managerial effort," Leske explains. "But in just the last decade, production processes have changed in ways that greatly increase the need for more skilled workers." This new economic environment encourages a flexible production system that depends on contributions from workers who need such critical skills as the ability to connect practice and theory, identify problems, and analyze, test, and trouble-shoot.

While any program that combines school and work can be considered apprenticeship, most proponents agree that the following principles are essential for effective school-work initiatives:

- Programs should use work-based learning methods that build on school learning and are connected to classrooms.
- School-based programs should build on work experiences.
- Experience-based teaching in classrooms should develop cognitive as well as practical skills.
- School-work links should reward school learning and effort with good jobs.
- Credentialing procedures should identify clear standards and certify attainment.

While most visions of youth apprenticeship in this country combine school with work experiences, few models specify what school curricula and teaching methods should be used, what kinds of jobs to include, who should oversee the instruction, what instructional roles they should perform, or how to prepare supervisors to fill those roles. "Another challenge we face," says Leske, "is convincing employers to provide enough positions and to invest sufficient time and effort in these programs. One of the ten largest employers in the metro area, for example, has opened slots for only 20 students."

To be effective, apprenticeship programs require of employers both a strong commit-

ment and a capability to provide instruction. "Schools and businesses must develop stronger partnerships," says Leske. "By working together, we can monitor curriculum and modify what students learn based on the demands of the workplace. Good programs put the students into an actual work environment, where their need for guidance is recognized, where the program is formalized, and where students have on-site support and supervision. In addition, students are given real responsibilities when they are ready for them as a way to build confidence and to develop talents."

Good programs also include opportunities for self-assessment, self-exploration, and reflection as well as the more common skill development and career counseling services. "Students who can see the connection between what they're doing in school and what's happening on the job are more successful," Leske says.

What motivates Leske and others is not merely concern about America's declining economic competitiveness and skills. "We need to think in terms of helping young people find life work," says Leske. "We can't just continue our throw-away mentality—one that in effect says that kids who aren't going to college don't really matter. They will grow up, leave school, and begin to live their adult lives"—whether we help them with the transition or not. Leske and others are working to ensure that these young people acquire the adult knowledge, skills, and values they need not only to earn money, but also to participate effectively in society as parents, neighbors, and citizens.

WHAT'S AHEAD

Many youth in modern American society feel increasingly disconnected from their communities

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and the environment. Programs such as Youth Teaching Youth, youth apprenticeship, service learning, and the Chiron project address the need for education to help develop and enhance these critical connections.

"In the past, we've defined the subject matter of schools too narrowly by limiting it to certain 'disciplines,'" says Marie Lee-Rude. "By making the community a learning laboratory, programs like these help youth not only see but also experience the connection between what they learn in school and the application and usefulness of that knowledge in the adult world and the community at large. They help ease the transition between school and the world beyond it, too."

Perhaps never before has the need for peer teaching, cooperative learning, youth apprenticeship, and service learning programs been greater—or their effectiveness more apparent. "When youth and adults participate together in meaningful service opportunities," says Tami Bremseth, who works with Lee-Rude in the University of Minnesota Extension Service, "this action connects youth to the community, fosters a service ethic, enhances decision-making skills, empowers youth to make positive change, makes adults aware of the vital role and insight youth can bring to issues, and enriches the lives of all community members."

Perhaps, too, the cyclical nature of such teaching methods' and programs' popularity is being transformed to a more permanent role for them in our educational system and communities.

