UW CES strategic planning: A step toward the future

by Glen Whipple
UW CES Director

When I became director 18 months ago, it did not occur to me that strategic planning and restructuring might be necessary for UW Cooperative Extension (UW CES). I expected the most important challenges over the next few years to be external. The former director, Edna McBreen, had just implemented a new administrative organization, and committees were finishing work on the evaluation and extended term and promotion processes. The College of Agriculture’s strategic plan was complete, and UW CES was filling vacant positions. The outreach council presented a voluminous report on university outreach to President Dubois, the college was in the process of a 10-year review, the Business Council had been implemented, and the university was beginning to discuss academic planning. It seemed UW CES was on a positive trajectory internally, but we faced great opportunities and challenges within the university and state.

When I began to prepare the 1998-99 operations budget, I realized we might have a problem. Projected expenditures exceeded projected appropriations by a significant margin. Though solvent in the short run, it appeared we were overcommitted in the long run.

The CES budget is complex with its federal, county, and university components. Speaking honestly, I was hopeful we had missed something, that our mistake would be discovered, and all would be well. But by the fall of 1998, it was clear that UW CES had both financial and related program problems. We lacked the resources to fill about a dozen positions critical to a successful statewide program. Each of these positions had clientele and colleagues who were dependent on them.

Looking back, some of the causes of our budget woes are apparent. This is my view of how we got here.

• UW CES has had a flat or declining budget (except for salary increases) for 13 years. All expenses have increased from the cost of travel to communication and supplies.
• UW CES has taken several modest, but cumulatively significant, budget cuts over the past 15 years. During years when no funds were appropriated for salary increases, promotions have been absorbed by the UW CES budget.
• In response to budget pressures, the administration reduced staffing both on and off campus. On campus, specialist positions shifted from full or majority FTEs to partial Extension assignments. Many specialist and county educator positions were lost, and other positions remained vacant for extended periods.
• Fewer FTEs and more split appointments increased the tension between county educators and specialists. County educators need more specialist support, but less has been available.
• The current organizational structure does not facilitate delivering education in a program area that has a vacant county or specialist position because programs are organized on a county basis. Crossing county lines to deliver programming has never been formalized within UW CES.

Over time, these problems have created a system with inadequate support to both county educators and program areas. I became concerned that our system would become less irrelevant unless something was done.

Under our current organizational structure, specialists must support county educator activities or the educational program content will suffer. Without specialists, educational programs would become dated, unless each county educator took the time to develop expertise in a specific program area. At the other extreme, a system with only specialists would lose contact with local residents, and educational programs would become less acceptable.

UW CES never reached either extreme, but it appeared funding was inadequate to maintain the necessary corps of specialists and county educators to make the organization effective. Although the need for strategic planning was stimulated by the cumulative effects (continued on page 2)
Strategic planning  
(continued from page 1)  
of flat or declining budgets over a decade or more, the planning itself has been motivated by program quality and efficacy. In other words, we are planning because we are concerned about program quality given our resources and environment—not because we are short of funding.

The models and strategies of the past have served UW CES well, guiding significant impact for Wyoming residents. However, changing individual and community needs and historically eroding funding have forced us to look to the future, assess the organization, and plan for the renewal of UW CES.

Last summer, a 16-member team was challenged to develop a plan to strategically position UW CES for greater impact and success. The team was asked to consider any alternatives to enhance the organization’s effectiveness, including reorganization at county and state levels. Responding to this charge, the planning team proposed a draft plan that was shared internally in early January.

By design, the plan focuses the organization’s mission areas and provides a strategy for educational delivery within Wyoming. After the team reviews all employee suggestions, they will revise the plan and share it with UW CES partners and stakeholders in early March. Another revision, based on partner and stakeholder input, will take place before the final document is released. Educators and faculty will devise implementation strategies at the annual Extension Professional Improvement Conference (EPIC) in April 2000.

Looking ahead for the year, it seems like a long arduous path for UW CES. Even so, I am convinced this is a path that will ensure our future success. I would be pleased to visit with you or take your input on any aspect of the planning process, the plan, or the future of UW CES. If you would like to talk, you can contact me by phone, (307) 766-5124, or e-mail, Glen@uwyo.edu.

YAP offers agricultural education to Uinta County at-risk youth

by Dawn Sanchez
University Extension Educator

With only 6 percent of the Evanston population having a direct connection to agriculture, many young people lack an opportunity to learn about and participate in the industry. When several Uinta County agencies realized this, they established a Youth Agriculture Program (YAP).

With the assistance of a University of Wyoming special needs grant and space from the Uinta County Fair Board, the Uinta County Youth Shelter started a small business: renting livestock housing and equipment to kids outside of 4-H who wanted to raise an animal and participate in YAP. These kids are short-term participants who are disconnected from their families. They raise Boer goats, which they care for by exercising, feeding, and cleaning pens.

Members of the Uinta County Group Home also participate in the Uinta County YAP program. These at-risk youth are removed from their families for a longer period of time while they work on solving their problems. They purchase lambs and join the traditional 4-H program, raising their animals, showing them at the county fair, and selling them at the Junior Livestock Sale. They rent space and equipment from the youth shelter.

Other YAP participants reside in housing where they cannot raise an animal. These kids take on goats, market steers, and lambs. They rent space and equipment from the youth shelter and the majority join the traditional 4-H program, where they complete a livestock project.

YAP enables youth to connect with agriculture and develop animal management and group entrepreneurship skills, patience, self-worth, motivation, self-esteem, and a sense of humor. With supervision and mentoring from area volunteers, these kids receive project guidance instead of blindly working through a topic they know nothing about. Youth are given an opportunity to connect with agriculture, to develop a bond with another living creature, and to feel needed on a daily basis.

One group home participant said, “I’ve kissed my lamb more than my own mother.” She admitted she was on the verge of suicide when she decided her lamb gave her a reason to live. Another resident admitted he wanted to stay out of trouble with the law so he could complete his animal project.

Although most people involved with YAP cite responsibility as the overall lesson learned, the program also gives many at-risk youth some stability in their lives. It gives them something to look forward to each day, something that depends on them, something to love and get love back from, and a sense of self-pride and accomplishment.
Understanding youth anger

by Ben Silliman
Family Life Specialist

While not all young people are at risk for violent explosions, numerous events over the past two years are renewing concern for how kids are growing up and dealing with their anger.

Today’s youth are probably more aware of violence and danger than any generation in recent history. Although kids are sensitized to violence and intimidation through personal experiences, visual images of crime and hostility pulsed through news media, the Internet, and video games desensitize. Conflicting emotions and a consistent sense of vulnerability may produce depression and feelings of alienation or rage. Because teenagers do not have the emotional tools or past experiences to sort through every situation logically, each insult or stress seems more dramatic.

Teenagers may be able to act “normal” or perform well in school, sports, and other extracurricular activities for awhile by compartmentalizing feelings of alienation or anger. Typically, negative feelings are balanced by positive relationships and activities. But when emotional support is lacking, cruelty may seem like the perfect way to gain control or exercise power. Youth feeling little connection to or caring from others may become obsessed with violent fantasies or gang activities. Personal feelings of anger and powerlessness, reinforced by rationalizations and group hatred, can spiral into violent actions on unsuspecting targets.

Family support and guidance, in addition to a sense of community acceptance, play critical roles in a youth’s ability to adjust to various situations. When teens are “playing cool,” acting disrespectfully, or getting into trouble, it is especially important for adults to show sensitivity and patience. A persistent adult who maintains a line of honest and respectful communication, seasoned with humor, can have a powerful impact on an adolescent’s life.

The RETHINK anger management program is available to all Wyoming county offices through the College of Agriculture Department of Family and Consumer Sciences. Two versions of the program are available (one for parents and one for teens).

Also, the Resilience to Violence research project is well underway. Researchers are exploring how kids under stress avoid anger and acting out patterns. Although the first year of the three-year study has been completed, researchers are still open to school participation sites.

For more information on obtaining RETHINK or participating in the Resilience to Violence project, contact Ben Silliman at (307) 766-5689 or Silliman@uwyo.edu.

Helping children cope with violence

by Ben Silliman
Family Life Specialist

Adults can help kids cope with school violence by understanding their own reactions and their children’s perspectives. Fear, anger, and hatred are embarrassing feelings—emotions we prefer not to see in others or ourselves. Adults who take stock of their own reactions can avoid extreme responses that may further confuse a child. Overreacting by expressing anger at perpetrators and schools or underreacting by avoiding the topic often increases children’s anxiety and decreases trust in an adult’s ability to protect and guide.

Adults who admit their own sadness, fear, or confusion help to form an honest dialogue with children. Kids don’t expect adults to have all the answers, yet they take their cue from how a parent handles the issues.

There is no single, best approach for helping a child cope with news of violence; however, understanding the child’s personality, past experiences, and emotional level serves to shape a personalized response. Young children may comprehend only that a terrible event has occurred and fear for themselves. Older children may grasp some of the details and express their fears more clearly. Teens may follow events and even discuss feelings without divulging their deepest fears.

Listening to children’s ideas and feelings is a simple and basic first step in supporting them. Reassurance is important for kids who feel vulnerable. Parents cannot guarantee safety, but they can tell their children what the school or community is doing to protect them. Children also feel less vulnerable when they take action: sending a card to the school, writing a letter to the editor of a local newspaper, donating to a victim’s fund, or holding their own memorial service for the victim. Positive actions help kids and adults face fears and develop courage and caring attitudes.
UW CES shares grass-roots approach with producers

by Summer Alger
Office of Communications and Technology Intern

As large corporations and agribusinesses change the economic structure of agriculture, it becomes increasingly difficult for small farm or ranch operators to compete. A vertically coordinated economic system (when producers control the product from planting to packaging) requires agriculturalists operating small farms or ranches to look for new ways to market their products. One way producers can improve their position in the new agricultural marketing structure is through cooperatives, which ultimately give them more control and possible higher economic returns.

A successful cooperative requires farmers or ranchers to identify a product that will work well in this type of structure. For some Wyoming and Nebraska agriculturalists, dry beans fit the bill. A legume, dry beans work well in crop rotations and in conjunction with corn and sugar beets. Dry beans generally bring high returns. Producers in the Wyoming and Nebraska area characterize their beans as a better quality product than those produced in North Dakota and other regions that receive higher amounts of moisture. The great northern beans produced in the Wyo-Braska area have characteristics, such as light color and hard seed coats, which are very desirable from a canning and processing standpoint.

Farrah Andrews’ family produces dry beans in Goshen County, and she completed her senior seminar project on the dry-bean industry. After graduation, Andrews, an agribusiness master’s candidate, continued her industry career experience working with dry-bean growers as an intern under the direction of Jack Cecil, superintendent of the Torrington Research and Extension Center. “The producers in the Wyo-Braska area want a grower-owned company that initially will process and market their own great northern and pinto beans. They want a business where they can control their own destiny and have a say in what the business does, while gaining a larger holding of the market share,” said Andrews. “Currently, each of the four major dry-bean processors in the Wyo-Braska area holds at least 15 percent of the market share, with the largest processor holding nearly 55 percent.”

The Wyo-Braska dry-bean producers asked the University of Wyoming Cooperative Extension Service (UW CES) to help them put their plans into action. “Historically, producers have not had the opportunity or experience to manage a group of people toward a common goal, which is why getting help from experts is vital to the success of agriculturists forming cooperatives,” said Chris Bastian, UW CES agricultural marketing specialist.

The major goals of the Wyo-Braska cooperative are to produce high-quality, consumer-accepted products that will increase members’ returns by purchasing, processing, and marketing regionally grown products through member-owned facilities. With this mission in mind, Andrews, Bastian, and Professor Dale Menkhaus, with the UW College of Agriculture’s Department of Agricultural and Applied Economics, investigated and analyzed issues and alternatives these producers will face while establishing a dry-bean cooperative. Their study also evaluated other options the producers may consider such as strategic alliances, marketing pools, and building and leasing facilities.

“This information should help producers understand the alternatives they are investigating. We hope this will ultimately give them the opportunity to make an informed decision that will result in a successful future,” Bastian said.

Andrews’ overall recommendation, as lead investigator of this project, is that the Wyo-Braska dry-bean growers form their own cooperative and search for one or more partners with whom they could form a strategic alliance.

Andrews noted the cooperative also should find a value-added product to produce and market such as bean flour and/or ready-to-eat products. An alliance of this nature would decrease costs and increase returns to the producers. She recommended that the cooperative build or lease its own processing (cleaning and bagging) facility, giving producers more control. Receiving stations or help with transporting the beans also should be included in the development plans. Andrews expects the Wyo-Braska cooperative to form a strategic alliance and be operating in three to five years.

“This sort of project is important because it allows students, like Andrews, to get involved and work on real world problems, and it shows a need for the services of UW CES,” said Menkhaus. “We are involved with a group of producers in Goshen County facing an important issue, and we are able to provide information—which is exactly the business we’re in around here.”

Dry beans are a value-added commodity for Goshen County producers.
UW Teton County CES finds room to grow

by Tonya Talbert
Senior Editor

UW Teton County CES is expanding its territory. The Teton County 4-H Council recently entered into a five-year lease with the Jackson Hole Land Trust for a section of the Hardeman Meadows property, in Wilson, Wyoming. The lease includes four acres of land and a 10,000 square-foot barn that will be the centerpiece of the 4-H program, housing animal market projects for kids who don’t have a place to keep their animals.

Right now the barn doesn’t have running water or electricity, but 4-H clubs will still be able to use it this summer, just not at full capacity. Local fundraisers will take place throughout the next several months to start raising money for the remodel, so the barn can be used year round.

CES landscaping and horticulture programs also will be an active part of the Hardeman property. Plans are to create a community garden space where everyone can experiment with high-altitude gardening and classes can be taught on gardening, horticulture, and related topics. Eventually, the Teton County Master Gardeners would like to use the area as a base demonstration site.

“This is an exciting opportunity for us,” said Mary Martin, UW CES Teton County chairperson. “In my 25 years with Extension, I’ve been part of many new things, but this is a different challenge. It’s a lovely site—a landmark—and essentially, we’ll be reaching a whole new community.”

Directly across the road from Hardeman Barns is the Wilson School. And the Hardeman Meadows housing community is expanding with many young families. “Our new location gives us a chance to explore many new 4-H curriculums,” Martin said. “Already, we are looking into a composting program and starting a Recycling 4-H Club with the Wilson fifth graders. I’m hoping we can grow into something that fills this community with pride.”

Today, general nutrition information can be found any number of places, but much of it is misleading or inaccurate. Because UW CES is in a position to provide Wyoming residents unbiased nutrition and food safety information, family and consumer sciences specialists and educators have developed a number of programs that reach a diverse audience.

In 1999, general nutrition trainings challenged more than 5,100 individuals to change their behaviors and develop new skills. Workshop topics included eating well to reduce the risks of cancer, osteoporosis, and heart disease. Team Nutrition projects in Wyoming schools influenced lunch programs and brought nutrition into the classroom.

Wellness in Wyoming (WIN) continually educates people to respect body size diversity, to enjoy the benefits of active living, pleasurable and healthful eating, and to develop a positive self-image. Last year, WIN educators reached nearly 2,800 Wyoming residents who reported exercising more, an increased sensitivity and acceptance of all people, and changes in attitudes and health habits.

In 1999, Wyoming Food Safety Coalition educational programming reached more than 4,500 individuals, including many food service managers and supervisors who took part in a National Restaurant Association food safety course. Twenty teams alerted communities to the threat of foodborne illnesses and taught people how to avoid food-related sickness.

Cent$ible Nutrition Program educators enjoyed a second successful year with the Extension Family Nutrition Education Program and the Food Stamp Nutrition Education Program. (Both are designed to help people eat better for less money.) In 12 Wyoming counties, 913 families enrolled in this program, and 70 percent of these people completed training. The average monthly food savings per family was almost $42. Because of the program’s success rate, matching and federal funds will allow six new counties to participate in these programs next year.

For more information, visit the UW CES food and nutrition Web site at http://west.uwyo.edu/food.
Built-in genetic resistance may help alfalfa flourish in face of brown root rot

by Robin Groose
Associate Professor,
Department of Plant Sciences

In the spring of 1996, alfalfa growers near Farson and Eden, Wyoming, reported unprecedented winter mortality in well-established alfalfa stands. UW Extension Educator Tom Heald alerted researchers to the problem, and Professor Fred Gray, with the Department of Plant Sciences, and graduate student Charla Hollingsworth identified the disease as brown root rot. This fatal plant disease is caused by a soilborne fungus that infects the roots, which then turn brown and rot.

Alfalfa contributes more than $100 million to Wyoming’s annual economy. Because it naturally fertilizes soil with nitrogen and provides protein-rich forage for livestock and wildlife, producers statewide devote more acreage to alfalfa than any other crop.

Gray and Hollingsworth’s identification of brown root rot was the first in the continental United States outside Alaska. Over the next few years, they documented widespread occurrences of brown root rot throughout high-elevation areas in Wyoming. Gray, Hollingsworth, and Professor Dave Koch, also with the Department of Plant Sciences, knew that certain Canadian alfalfa varieties may be sufficiently resistant to brown root rot, although they are more fall-dormant and less productive than alfalfa varieties grown in the United States. With this in mind, researchers established potentially resistant variety trials.

Four years before Gray and Hollingsworth discovered brown root rot in the Farson and Eden area, Alan Gray, who was then the UW CES forage specialist for Fremont County, had established alfalfa variety trials in Eden. Gray seeded 15 varieties within a 45-acre alfalfa field established the same year under center-pivot irrigation. Most varieties within the trials exhibited severe stand decline, while a few fared well against brown root rot. Genetic differences both within and among varieties were discovered.

In October 1998, College of Agriculture Associate Professor Robin Groose and the research team selected 20 surviving plants from each of 6 varieties that represented a broad cross section of the original 15 varieties. These genotypes were transplanted to the UW College of Agriculture greenhouse. In 1999, Groose and his colleagues hand-hybridized these plants to produce seed for genetics and breeding studies.

Researchers will compare the original alfalfa varieties with plant progenies that survived six years in the presence of intense disease pressure. Also, the research team will test genetic heritability and responses to selection for brown root rot resistance. Field experiments in Farson and Laramie already have been established.

Currently, the research team is working to develop a brown root rot resistant cultivar. One goal is to produce an alfalfa variety that is both disease resistant and has high yield potential, unlike Canadian varieties. A half-acre foundation seed field was established at the Powell Research and Extension Center using one half-pound of hand-hybridized breeder’s seed produced in the greenhouse. Researchers hope to have sufficient seed for large scale testing on Wyoming farms and ranches beginning in 2001.

Researchers also hope to develop a standard test to characterize brown root rot resistance or susceptibility in alfalfa varieties and to investigate different isolates of the causal organism. Identifying the most virulent forms of the pathogen can help make breeding for resistance more effective.

For more information about brown root rot identification and related research, contact Groose, at (307)766-3151, or Groose@uwyo.edu.

Steve Schafer joins state 4-H team

December 1, 1999, Steve Schafer, 4-H and youth specialist in livestock and equine programs, joined the Wyoming State 4-H Office in Laramie.

Originally from Illinois, Schafer worked for the Louisiana Extension Service for 20 years, moving from assistant county agent for Beaufort Parish to parish chair. He received many awards during his tenure at LSU, including the Mid-Career Award from Epsilon Sigma Phi, the Distinguished Service Award from the Louisiana Association of 4-H Agents and the National Association of 4-H Agents, the Team Award from the Louisiana County Agents Association, and the Arton Award for his work with special needs children.

So far, Schafer’s Wyoming experience has been a positive one. “I really like it here,” he said. “Everyone at the university and throughout the state, from agents to leaders and parents, has been very kind. I am excited to be a part of such a successful statewide 4-H program, and I welcome any suggestions for future improvements.”

Schafer can be reached by phone, at (307) 766-5170, or e-mail, at Schafer@uwyo.edu.
UW CES strengthens 4-H Natural Resource Education Program

by Laura Dalles
Office Associate Senior/Interim Natural Resources Educator

The Wyoming landscape offers sanctuary to those who appreciate its beauty, tranquility, and numerous outdoor opportunities. Having recognized this, the Wyoming State 4-H Office offers many natural resource programs that challenge youth across the state to become environmental stewards. Two popular natural resource programs are the Wildlife Habitat Evaluation Project and Sportfishing.

The philosophy behind 4-H is experiential learning. Youth participate in hands-on learning activities in all project areas. The Wildlife Habitat Evaluation Project gives kids an attitude—an attitude that says, “I can make a difference in my world.” Through educational contests and outdoor activities, kids learn to understand the value of land and management techniques that benefit various livestock, wildlife, and fish species. They identify wild plants and the animals that eat them, interpret and rank wildlife habitat from aerial photographs, prescribe best management practices for a given area, and develop urban and rural wildlife management plans.

Fishing is an art acquired through countless hours of trial and error. Inches of gratification measure success and entice the angler back to the one that got away. The 4-H Sportfishing program allows participants to enjoy the game with projects in several areas, including angling ethics, people and fish, angling skills, tackle crafting and maintenance, and aquatic ecology. Each area teaches and encourages 4-Hers to become stewards of the waters.

All 4-H natural resource programs deal with complex scientific interactions. After exploring the environment at their own pace, with guidance and encouragement from the adults around them, most youth want to continue learning about the art of land stewardship. And then, 4-H claims success.

Range Beef Cow Symposium continues successful tradition

by Doug Hixon
Beef Cattle Specialist

Last December, the 16th semiannual Range Beef Cow Symposium (RBCS) was held at Island Grove Park in Greeley, Colorado. Approximately 850 producers and agribusiness representatives from 19 states and Canada took the opportunity to gather the most up-to-date information from regional specialists and guest Ron Micheli, director of the Wyoming Department of Agriculture. Eighty-eight commercial exhibitors participated in the associated Trade Show, and for the first time, seedstock producers from throughout the region displayed 80 of their top bulls along “Bull Alley.”

The RBCS is a cooperative effort among the University of Wyoming, Colorado State University, University of Nebraska, and South Dakota State University Animal Science Departments and Cooperative Extension Services. The University of Wyoming will host the next RBCS in December 2001.

An Industry Issues session kicked off the symposium with a discussion of food safety, value-added products as a means of recapturing beef’s market share, and NCBA’s structure. Over the three-day symposium, participants also learned about meat science and international markets; range, forage, and nutritional management; genetic cattle selection; reproduction management; and human resources.

Other topics included electronic technology and its uses, using large round hay bales as winter windbreaks, and techniques for low-stress cattle handling. During the Bull Pen sessions, speakers and participants gathered in breakout rooms for an informal question and answer session, allowing for a more personal dialogue. The RBCS concluded with an optimistic market outlook by Randy Blach of Cattle Fax.

A 300-page published proceedings contains the majority of the papers presented at the RBCS. A limited supply of the second printing is still available for $20 and can be obtained by contacting Animal Science or Extension personnel at any of the four cooperating universities.

“As a Wyoming producer, I appreciated the excellent speakers and cutting-edge information,” said Dave Whitman, manager of the Flying Y Cattle Company. “After experiencing the symposium, my outlook heading into the new millennium is a positive one.”

As a Wyoming producer, I appreciated the excellent speakers and cutting-edge information.

– Dave Whitman, Manager, Flying Y Cattle Company
Couples find relationship assistance through UW CES

by Ben Silliman
Family Life Specialist

The “Couple Relationships” menu on the College of Agriculture’s Dreamcatcher Web site, found at www.uwyo.edu/ag/ces/dream.htm, drastically expanded this past year, with help from a Fund for Rural America grant. A five-state initiative, Integrating WWW Technology into Extension Teaching and Learning, developed innovative tools for individuals with limited access to local information and services. Expertise in the couples education field and concern about Wyoming’s exceptionally high divorce and domestic violence rates led UW CES Family Life Specialist Ben Silliman to target couple relationships. Online, people can explore and interact anonymously, without the fear of someone judging their knowledge, experience, or relationship.

The Marriage and Couples site features several exercises that focus on money, communication, and parenting. These learning games allow individuals or partners to click through a series of decisions, reflecting on options and consequences that might come too “fast and furious” in a face-to-face discussion. While still largely untested outside a game scenario, similar simulations have been shown to increase critical thinking and decision-making skills by emphasizing personal reflection and choice.

In the Cooperative Extension tradition, the Marriage and Couples site is an educational tool. The site offers articles, statistics on marriage and divorce, research on relationship development and prevention programs, and public policy initiatives. Visitors can find practical fact sheets on commitment, complementarity, communication, connectedness, and creativity. Silliman’s research indicates that these five C’s describe the components of a resilient marriage or relationship. At all stages, partners with these qualities are apt to avoid break-ups and violence, building stronger unions that benefit all whose lives they touch.

Sites for couples and counselors are linked to a variety of national professional help sites, so users can surf for additional information. Chat rooms and on-line surveys (soon to be added) are designed to increase user interaction and feedback. These features will enable educators to facilitate virtual learning communities, dramatically increasing teaching potential.