

2+2+2 Collaboration Adds Up to Success for American Indians in Agriculture

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Abstract

A collaborative 2+2+2 project between South Dakota's reservation high schools, tribal colleges and South Dakota State University's (SDSU) colleges of Agriculture and Biological Sciences and Family and Consumer Sciences represents an innovative approach to increasing the numbers of American Indian baccalaureate graduates in agriculture. Program completers will be prepared to work toward solutions of some of the most pressing challenges facing tribal people today, including land and resource management, economic development, and family and community well-being. Articulation agreements, faculty immersion, curriculum review and revision, developing student support systems, and collaborative and experiential learning programs, are integral components of the project. Early efforts have resulted in small enrollment gains and laid the foundation for future program success. Implications for the broader agricultural education community are discussed.

Introduction

In South Dakota, contemporary realities for American Indians and higher education in agriculture are wrought with irony. Though the American Indian population is young and growing at a rapid rate (Baer, Arwood and Spencer, 1994; Davis, 1996; Stuart, 1997; U.S. Department of Health and Human Services, 1991), only a small number attend college, and very few of these major in agriculture. While nine reservations occupy almost 20 percent of the land in South Dakota, much of this land is leased to non-Indians, and most tribes struggle to attract, retain and develop the resident expertise needed to effectively manage their natural resources (Baird, 1996).

Fledgling agriculture programs at tribal high schools and 1994 land grant colleges offer promising, culturally relevant educational options for interested American Indian students (Baird, 1996). However, challenges facing American Indian communities will require baccalaureate-educated professionals, and tribal

college programs currently offer only associate degrees in agriculture (Nichols and Nichols, 1998). Nationally, retention rates for American Indian students who enroll in four-year colleges directly out of high school are estimated at between five and 30 percent (Huffman, 1999). Common barriers to American Indian student success include poor academic preparation, low achievement motivation, irrelevant educational practices, insufficient parental support, social psychological frustrations with low self esteem and inadequate financial support (Huffman, 1999). Boyer (1997) and others have called for a model which fosters collaboration between agriculture programs at state universities and tribal high schools and colleges to help American Indian student overcome these barriers. South Dakota's 2+2+2 program provides such a model (Nichols and Nichols, 1998). While the 2+2+2 program has been constructed to fit the unique context of American Indian students in South Dakota, its potential implications are far reaching.

Project Overview

The 2+2+2 project is a collaborative effort to help more American Indians complete baccalaureate degrees in the agricultural, biological, family and consumer sciences. Each "two" of the 2+2+2 represents two years. The first two years are spent at a reservation high school, the second two years at a tribal college, and the last two years at SDSU. The long-range goal for the program is to develop resident expertise in these subject matter areas among American Indians on South Dakota reservations. The 2+2+2 combines a number of methods to achieve these objectives in a holistic manner, while providing American Indian students interested in agriculture with a complete, seamless educational experience.

Articulation

Students moving between reservation high schools, tribal colleges and SDSU need assurance that their credits will receive fair evaluation at each level. Catalogs have been exchanged and course-by-course equivalencies have been negotiated between participating

tribal colleges and SDSU. Discipline faculty are working to develop transfer guides or "maps" for students which will prescribe a schedule of study at each level. These maps will help students plan for their future in a more informed, purposeful manner, and further contribute to easing their transitions. As a result, the educational process will be coordinated to optimize each student's time and resources.

Experiential Learning

Like many high school students in South Dakota, most American Indians do not have a clear picture of the career opportunities available to them in agriculture and the biological sciences (Nichols and Nichols, 1998). An integral component of the 2+2+2 project is to provide these students with hands on learning opportunities that will motivate them to pursue a career in agriculture.

This objective is achieved through a variety of methods. A research apprenticeship program brings approximately 12 high school and tribal college students to SDSU each summer for several weeks of research with faculty scientists. Students rate the apprenticeship program high in areas such as "learning the ropes of campus," and "learning what it's really like to be involved in agricultural research."

A three-day 2+2+2 Summer Institute offers approximately 30 students a brief but still meaningful dose of experiential learning. An action-oriented approach has proven most successful for engaging institute participants. Sample workshops have included aquatic biology, tissue culture and geographic information systems. The program also includes sessions on college and career planning, environmental education, panel discussions with current American Indian SDSU students and alumni, and keynote addresses by prominent tribal leaders. Reservation high school and tribal college agriculture and science teachers help plan, organize and staff the Summer Institute; they also serve as local promoters and recruiters for the program.

The 2+2+2 experiential learning programs are designed to foster agricultural career awareness and interest in a culturally relevant context. Participants are repeatedly informed of how an education and career in agriculture can lead to employment on reservations. This perspective is in keeping with what Garrod and Larimore (1997) describe as American Indian peoples' desire to "complete the circle" and give something back to their tribes.

Student Support System

A primary aim of the 2+2+2 is to provide support for students as they move among institutions. For many American Indians, these transitions can be equated to culture shock (Garrod and Larimore, 1997). While the

2+2+2 is designed to ease this transition, it remains difficult for American Indian students to leave their reservation homes and extended families. Transitions are further complicated because many American Indian students graduate from high school under-prepared for the academic rigors of college life (Huffman, 1999). The tribal colleges' noble efforts to accommodate students' needs should be applauded, though extra effort is needed on all fronts to help students transition to the more academically competitive state university environment. Close connections to academic advisors and campus resource people have proven critical to student success.

Because of high levels of poverty on South Dakota reservations, financial support is also necessary (Baer, Arwood and Spencer, 1994). In addition to large-scale scholarship program, students are paid for their involvement in undergraduate research projects in their areas of interest. The 2+2+2 program also assists students with families by waiving their children's tuition at the SDSU Laboratory Pre-School (Nichols and Nichols, 1998).

Garrod and Larimore (1997) describe the importance of American Indians finding a sense of community with fellow students. To help facilitate this network, 2+2+2 students participate in visit programs and interact with current SDSU American Indian students and staff. SDSU's Native American Club and Advising Office help to host visiting students, provide free tutoring once students enroll on campus, and invite them to participate in activities such as the annual SDSU American Indian History and Culture Conference and Wacipi (pow wow). In addition, 2+2+2 students are encouraged to get involved with organizations related to their academic field of study. Culturally sensitive orientation activities are also being developed.

Curriculum, Distance Education and Short Courses

With 2+2+2 support, three courses have been taught at state tribal colleges via interactive television from SDSU. Additional courses are being developed for delivery via satellite and the Internet. Efforts in distance education have met with limited success due to incompatibility of electronic systems, limited faculty training, and lack of technical support at the tribal colleges. Cultural implications on the use of technology are also somewhat unclear. Results of early efforts indicate that American Indians, who highly value personal contact with their instructors, are less receptive to televised courses than their mainstream student counterparts (Nichols and Nichols, 1998). However, considering the place-bound nature of tribal college students, distance education efforts will continue to play some role in the overall collaborative effort. Still, more

faculty development is needed to help students and teachers bridge both technical and cultural dimensions of distance education.

As a supplement to technology-based distance education efforts, the 2+2+2 sponsors short courses on reservations designed to enhance collaborative activity between SDSU and tribal college faculty, to strengthen the project's presence in tribal communities and to build relations with interested American Indian students. In these instances, tribal participants consistently express appreciation that the 2+2+2 project assists with sponsoring programs located in their communities.

Because it is important for American Indian students to see their culture reflected in their curriculum (Huffman, 1999), small grants are provided for SDSU faculty to integrate Native American perspectives into their course offerings. To date, agriculture courses that have been revised include Aborigiculture, Crop Production, Range Management and Soil Science.

Several faculty are also revising their courses to include collaborative learning experiences for students. For example, forestry instructors at SDSU and Sinte Gleska University take their students on a joint field trip to the Black Hills where they engage in hands on forestry, and hold campfire discussions around topics such as the ethics of clear cutting and the spiritual significance of the Black Hills to the Lakota people. SDSU and OLC horticulture students have teamed with high schools on the Pine Ridge reservation for design and installation of landscaping projects for local elementary schools. Agribusiness students in SDSU's Small Business Management class have worked with tribal college counterparts on the Rosebud reservation as consultants for economic feasibility studies of proposed tribal agricultural enterprises. While being valuable experiences for tribal participants, these programs also serve to raise the sensitivity, awareness and cultural competency of SDSU students and faculty as well.

Faculty Immersion

To encourage broad based faculty involvement, the 2+2+2 project sponsors a program that releases faculty for up to 25 percent of their workload for one semester to be immersed in American Indian culture. The immersion experience enables faculty to spend time on reservations developing close relationships with counterparts at high schools and tribal colleges. Faculty counterparts can submit mini-grants for collaborative efforts contributing to the goals of the 2+2+2. Relationships developed between faculty on immersion have and will continue to help to form the foundation for project sustainability.

Funding

Support for the 2+2+2 project comes through the U.S. Department of Education, and two grants from the USDA's Higher Education Challenge program. Resources from two other grants—USDA's Research Apprenticeship for Minority High School Students and Multicultural Scholars programs, have also been targeted to Native American students in the 2+2+2. The USDA's Natural Resources Conservation Service has supported several 2+2+2 students in their cooperative education program, and a grant from the DuPont Corporation's Minority Fellowship program has further contributed to student scholarships and research experiences.

Lessons Learned

Much of the effort in the early stages of the 2+2+2 has been devoted to developing positive, trusting relationships with contacts at the reservation high schools and tribal colleges (Nichols and Nichols, 1998). This trust is integral to long-term project success. Trust is also hard-earned, given the mainstream culture's legacy of broken promises and exploitation of tribal natural and human resources. Before 'buying into' the program, teachers, parents and tribal leaders need to feel comfortable with university contacts, and be confident that their young people will be treated well at SDSU. Persistence has been another key factor to these efforts. It has been important for the university to keep the long-term perspective in mind, and not expect to see large enrollment gains instantaneously.

Implications and Future Directions

American Indians from South Dakota reservations have self-identified several educational needs which align with the mission of the College of Agriculture and Biological Sciences. These include range management, horticulture, wildlife and fisheries sciences, forestry, animal science and agribusiness. Since these fields fall within the realm of the profession, mainstream agriculture faculty should be collaborating with tribal people to address their educational and workforce needs. One of the goals of American Indian leaders in South Dakota is to employ more tribal members in reservation jobs ranging from wildlife biologists to range managers and economic development specialists. As such, colleges with agricultural programs—in the contexts of their institutional land grant missions—can be instrumental leaders in educating future tribal professionals.

The importance of multi-level educational collaboration in the agricultural and biological sciences is another key project implication. Attention to the often difficult transition phases between high school, tribal college and baccalaureate institutions is paramount. The greater the community involvement, and the earlier Indian students begin thinking about colleges and careers, the more likely they will be to become engaged and persist in their education. These realities may also be true for institutions hoping to educate more African American, Hispanic and Asian American students in agriculture.

A final implication is the project's holistic approach. Those involved in the 2+2+2 have rejected the view of the project as merely a targeted recruitment effort to increase SDSU's minority student numbers. Rather, the program is constructed as a systemic approach to supply an American Indian workforce in the agricultural and biological sciences for the reservation communities of the state. Realizing this objective has multiple barriers has required a multi-faceted approach. Thus, the project integrates career awareness, experiential and collaborative learning, curriculum diversification, articulation, distance education, faculty development, scholarships, and student support. This makes the 2+2+2 project difficult to manage, staff and evaluate; none-the-less, now in its fourth year, interest and participation in the program is on the rise. Currently, SDSU is hoping to adopt the model, successful in the Colleges of Agriculture and Biological Sciences and Family and Consumer Sciences, university-wide.

Project partners hope the 2+2+2 will continue to grow and evolve to meet the changing needs of contemporary tribal people. Working more closely with reservation-based employers is one goal. Faculty and student development programming on cultural sensitivity will continue, and the student orientation program will be strengthened. Lessons learned and relationships built may help enhance cross-cultural understanding among faculty and students beyond those directly participating in the project. Discussions have begun on integrating the project's collaborative approach into the agricultural research and cooperative extension missions of participating institutions. Project leaders are also exploring expanding the 2+2+2 model to neighboring states, particularly those with strong networks of tribal colleges such as North Dakota, Minnesota, Nebraska and Montana.

Literature Cited

Baer, L., D. Arwood, and V. Spencer. 1994. Reservations: basis for development. *South Dakota Farm and Home Research* 39(1), 14-16.

- Baird, P. 1996. What is a tribal land grant college? Rosebud, SD: W.K. Kellogg Foundation, Sinte Gleska University.
- Boyer, P. 1997. *Native American colleges: progress and prospects*. Princeton, New Jersey: The Carnegie Foundation for the Advancement of Teaching.
- Davis, M. (ed.). 1996. *Native Americans in the twentieth century*. New York: Garland Publishing.
- Garrod, A. and C. Larimore (eds.). 1997 *First person, first peoples: Native American college students tell their life stories*. Ithaca, NY: Cornell University Press.
- Huffman, T. 1999. *Cultural masks: ethnic identity and American Indian higher education*. Buckhannon, WV: Stone Creek Press.
- Nichols, L. and T. Nichols. 1998. 2+2+2: collaborating to enhance opportunities for Native Americans. *Journal of Family and Consumer Sciences* 90 (1), 38-41.
- Stuart, P. 1987. *Nations within a nation: historical statistics of American Indians*. Westport, CT: Greenwood Press.
- U.S. Department of Health and Human Services. 1991. *Indian Health Service: regional differences in Indian health*. Washington, DC: U.S. Government Printing Office.

