
LAKOTA UNDERGRADUATES AS PARTNERS IN AGING RESEARCH IN AMERICAN INDIAN COMMUNITIES

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Studies have established the beneficial role of engaging students in research at both the graduate and undergraduate level. Authentic research experiences serve as a tool for instruction where students are actively involved in the process of discovery, the scientific method, and advancing existing fields with scientific data. Further, students report that they enjoy such experiences, making them more likely to pursue and maintain active careers in the sciences. Engaging minority students as active partners in faculty research not only involves them in the scientific process, but also enables others to gain access to minority participants in a culturally-appropriate manner. This paper focuses on the mutually beneficial role of American Indian students as active partners in faculty research on aging, where they played a vital role in the development and completion of the project. The benefits for the students included high retention rates for a typically at-risk group of college students, a mentoring relationship with a faculty member, and opportunities to blend their cultural background with the college experience.

The value of undergraduate research experience has been a topic of numerous research studies and reports over the last 20 years. A report from the National Science Foundation (NSF) (1989), recognized

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engaging undergraduate students in meaningful research as one of the most powerful instructional tools. Research has indicated that the undergraduate years are a “filter point” in math, science, engineering, and technology, particularly for women and minorities (Kardash, 2000; Seymour & Hewitt, 1997).

Studies of current pedagogical techniques within the sciences underscore student dissatisfaction with traditional classroom lecture experiences, particularly large introductory lecture classes and labs (NSF, 1998; Seymour & Hewitt, 1994). Students’ criticisms centered on impersonal, lecture-style formats, which are thought to discourage participation and communicate indifference on the part of faculty toward the thoughts and opinions of students (Seymour & Hewitt, 1994). Lab courses in the sciences were criticized as being highly mechanical, “cookbook” exercises that appeared disconnected from the course material and meaningless overall (NSF, 1998).

Conversely, students have also identified elements they perceived as successful. Students identified quality of instruction, not the subject matter, as determining the value of a course (NSF, 1998). The following characteristics were most sought in faculty members: tailoring instruction to the learner, helping students see applications of science, and being accessible and caring (NSF, 1998). Elements of good teaching as perceived by students were openness, respect for students, encouragement of discussion, and a sense of discovering things together (Seymour & Hewitt, 1994). While introductory courses and labs came under heavy criticism, the pedagogy and content of advanced courses and labs were viewed as stimulating and reinforcing. Their smaller class sizes also promoted greater interaction among students, and between students and faculty (NSF, 1989).

Undergraduate students who are engaged in faculty research report positive experiences. Seymour and Hewitt (1994) reported that while students in introductory courses attributed the apathetic teaching to an obsession with research, this denunciation of research was radically altered when students either observed or participated in faculty research. Kardash (2000) found undergraduate research experiences had a positive impact on students’ research skills. Spilich (1997) indicated an increase in standardized test scores correlated with research experiences and subsequent conference presentations, with such students reporting they wanted more research experiences.

Taken together, the above findings outline a pedagogical approach for improved teaching and training of future scientists, mathematicians,

and engineers. The literature is limited with respect to the behavioral sciences, but parallels can be made regarding pedagogical technique and student perceptions. Limiting large lecture format courses and starting early with meaningful, engaging research have been recommended as characteristics of good teaching and methods of promoting future productivity of students.

AMERICAN INDIAN UNDERGRADUATES

Involving undergraduates in research may also be an answer to a more immediate, short-term problem for a select group of students. American Indian students have dramatically high postsecondary dropout rates and the lowest graduation rates among ethnic minorities (Kidwell, 1994; O'Brien, 1990). Among some of the factors related to nonpersistence decisions are low socio-economic status combined with isolation (Lin, LaCounte, & Eder, 1988) and alienation (Benjamin, Chambers, & Reiterman, 1993).

Numerous studies have investigated factors related to persistence and resiliency among successful American Indian undergraduates and reveal many cultural elements that serve as supports for them. Bowker's (1993) study of American Indian women identified four categories contributing to persistence in education: having a caring, adult role model or mentor who helped develop sense of purpose; schools and teachers focusing on the whole child; a strong sense of spirituality and moral purpose in life; and low family stress. Montgomery, Miville, Winterowd, Jeffries, and Baysden (2000) summarized four resiliency areas from their interviews with American Indian college graduates. Successful American Indian graduates reported using traditional and internalized self-talk, reflecting personal strategies for persistence in traditional ways. Bringing one's own culture into the university setting helped students participate in the academic environment without abandoning their Indian identity. Social support systems extending from family members as role models, supportive gestures from tribal elders, or even forming networks with other American Indian students were credited as part of the success. Lastly, the participants indicated using traditional ways of learning as part of their success, including observation, direct experience, and mentoring. Gloria and Robinson Kurpius (2001) found perception of being mentored as the strongest significant factor in decreasing nonpersistence decisions of American Indian undergraduates. Taken together, these findings support the use of faculty-mentored undergraduate research as a vehicle for improving retention of an at-risk population of students.

CONDUCTING AGING RESEARCH IN AN AMERICAN INDIAN COMMUNITY

The Research Environment

With nine Indian communities and over 60,000 Siouan peoples, South Dakota has the 12th largest population of American Indians in the U.S., constituting nearly 10% of the population of South Dakota. While other states boast larger populations of American Indians, South Dakota has a largely homogeneous population of Siouan people. Lakota people are the largest of three bands of Siouan people in South Dakota.

Black Hills State University has several unique characteristics that make it a perfect environment for conducting research in Indian communities. With close proximity to several reservations, Black Hills State University possesses the largest percentage of American Indian students (3%) of all the state institutions. Black Hills State University has a strong American Indian Studies program, and has long enjoyed a positive working relationship with the Indian communities in South Dakota. Many council chairs and tribal judges are alumni of the university.

As noted above, Native students attending nontribal colleges and universities have extraordinarily high attrition rates (Kidwell, 1994; O'Brien, 1990). Within tribal colleges, Native students are the majority population at approximately 85%. While Black Hills State University enjoys the highest number of American Indian students of the six state institutions, that may translate to only about 200 Native students in a student body of 3500. Consistent with previous research findings (Benjamin et al., 1993; Lin et al., 1988), many Lakota students feel isolated because of the dramatic change in cultural environment. As reflected in retention rates, many Native students feel a strong pull to return home. Of the first-time freshmen at Black Hills State University, the retention rate for American Indian students in 2002 was 20% as compared to the nonAmerican Indian rate of 57.5%. Of all of the full-time undergraduates, American Indian students have a retention rate of 48% as compared to the nonAmerican Indian retention rate of 77.8%.

Research Questions

Lakota people have strong traditions of filial piety wherein older adults deserve respect because of their advanced age, thus commuting upon them a greater status. Given this tradition of filial piety, several

research questions emerged. Do Lakota people treat their elders differently than non-Native populations? More specifically, do Lakota people hold fewer negative stereotypes of aging than seen in non-Native cultures?

The research project entailed interviewing Lakota people about their attitudes toward aging. The primary hypothesis was that Lakota people, with their traditions of filial piety, would have greater respect and, consequently, more positive and fewer negative stereotypes of aging. For a non-Native person, conducting research could be a delicate topic. Historically, Native people have found themselves either the subject of tremendous amounts of research, both appropriate and inappropriate, or virtually ignored. Even when the research has been appropriate, there is often a feeling of exploitation, making many Native people highly reticent to participate in research. It is important to note that if, indeed, Lakota people have high levels of respect toward elders, then that population of people might be shielded from outsiders pursuing research. These issues made it vital to engage Lakota undergraduate students as assistants in this research.

With the Indian Studies faculty providing information on American Indian history, beliefs, and culture as well as background on Lakota culture, the project gained credibility and legitimacy among local Lakota people. With a research team comprised of myself, most of the American Indian Studies faculty, and a group of Lakota undergraduates, we felt confident that we could successfully engage in culturally sensitive and mutually beneficial research with Lakota participants.

The Research Dynamic

Shaping the Project. During the course of the grant, seven Lakota students were employed. Most stayed with the project for over 3 years. The contributions of these students were multifold. First, they served in an advisory capacity, ensuring cultural sensitivity and appropriateness of materials. For example, one of the first questionnaires we perused for tapping filial piety, asked questions about what older adults expected from younger adults. This questionnaire failed to recognize the very essence of filial piety within Lakota culture—that older adults do not *expect* anything. It is the obligation of younger people to provide. The questionnaire was eliminated in favor of a one that probed the obligations of the young toward the old.

Second, the students conducted over 360 interviews with Lakota participants in 3 years, including over 80 older Lakota adults. In fact,

many older participants noted in their interviews their delight in interacting with young Lakota people who were interested in hearing and recording their opinions and stories.

Third, the insights of the students guided the structure of the project. The first 2 years of the project were intended to generate the traits and stereotypes of aging within Lakota culture. In year 3, our plan was to examine whether such stereotypes affect intergenerational conversations. As part of the original design, year 3 had young Lakota people giving advice to a hypothetical older Lakota adult. Researchers in non-Native cultures have successfully used this advice-giving technique to test whether existing aging stereotypes might affect intergenerational conversation (Hummert, Shaner, Garstka, & Clark, 1998). However, in discussions with the undergraduate assistants, it became clear that within Lakota culture advice is *not* given to older adults by younger adults. It would be highly inappropriate for a young person to presume to know more than an elder. This would be a violation of filial piety. Since the advice-giving technique was clearly inappropriate, with the help of the undergraduate assistants we arrived at a technique for eliciting a hypothetical conversation.

The contributions of the student assistants to this project were enormous. How does one study filial piety in another culture—while maintaining that tradition of filial piety—if one does not truly understand it? Without the assistance of the undergraduate students, the very concept being studied would have been missed. This would be due to cultural misunderstandings, as reflected in a naïve approach and inappropriate selection of questionnaires. By sending young Lakota people to ask questions and *listen* to elders, the interviews were conducted in a culturally appropriate way. Further, many of the interviews indicated that these data might have been different if generated in response to a Caucasian interviewer. To examine a within-culture question, it was necessary for the interviewer to be a member of the culture.

Shaping the Students. One of the benefits for the students involved on this project has been retention. Of the seven students hired for this project, the college retention rate has been 86%—a rate better than the non-American Indian student retention rate. Of these students, five have graduated. Of those students, three graduated with degrees in human services, one in prenursing, and one in psychology. The prenursing student graduated from nursing school, and is currently employed on another grant examining cancer and chronic health issues in American Indians. Two others have entered graduate school

in psychology, and one is currently working on another grant addressing fetal-alcohol syndrome among American Indian people. Two others will graduate in 2006.

Much of the research on nonpersistence among American Indian students has pointed to feelings of isolation (Montgomery et al., 2000). Students working on this project have been able to make connections with other students on the project. Further, the very nature of the project requires them to visit with other Native people and conduct interviews that may help alleviate the sense of isolation. Students working on this project reported that the research gave them a connection with home and a sense of purpose.

The undergraduate assistants also had an opportunity to work with a faculty member in a one-on-one fashion. Several researchers have found faculty mentorship to be a powerful tool in retaining American Indian students (Bowker, 1993; Brown & Robinson Kurpius, 1997). For the Lakota students involved in this project, the mentorship opportunity gave them occasions to develop their confidence and skill in asking questions, offer opinions and ideas, improve their comprehension of methodology within the field, and discover answers together. The opportunities provided through mentorship utilized within-culture learning styles benefiting Lakota students (Montgomery et al., 2000).

The research experience assisted these students in negotiating a cultural tradition of respect toward people who are older or viewed as an authority. This tradition prohibited them from participating in the classroom in the same fashion as a non-Native student. As evidence of their growth through this process of adjusting to a culturally different style, four of the students developed and presented posters of their own at undergraduate conferences.

Shaping the Investigator. The experience of working with students, especially minority students, has been not only gratifying but also enlightening. Importantly, one has to learn to appreciate cultural differences. One early experience with these differences was over timelines and deadlines. A prevalent Native value is that things are done when they need to be done; time is relative. There is a right time for getting things done, and everything will fall into place when the time is right. Imposing deadlines seemed to create an effect opposite than intended, with students shrinking away as if severely reprimanded. Yet, the work always got done. One lesson learned was to try to understand the cultural values, perspectives, and approach as they are vital to designing a successful, productive team for this type of research.

CONCLUSIONS

Research from undergraduate science programs has clearly illustrated the need and desire for more authentic research experiences for undergraduate students. Being involved in meaningful research keeps students interested and engaged. The mentoring relationship that accompanies an undergraduate's research experience is likely to affect their overall satisfaction in a discipline. This same mentoring relationship has proven critical in keeping at-risk students in a university environment. For American Indian students, a mentoring relationship can bridge the gap between cultures, decreasing feelings of isolation and alienation linked to nonpersistence in college.

Aside from the advantages to the students, faculty have traditionally benefited from student labor in research. While undergraduates are typically passed over in favor of graduate students with greater knowledge and skills, minority undergraduates may fill a gap for faculty seeking to collect data from diverse populations. The NIH/NIA-funded project described herein could not have been successfully completed without the assistance of Lakota undergraduates in designing the research, selecting and creating culturally-sensitive materials, and successfully obtaining within-culture data.

Given the extraordinary attrition rates for American Indian students at the undergraduate level and the consequent dearth of American Indian graduate students, engaging these students in faculty-mentored research accomplishes the goal of retaining these students. For this project, students were able to create a small social network, decreasing feelings of alienation and isolation. In addition, spending time on a project related to their communities and cultural perspectives gave the students a venue for blending the two worlds in which they live. Retention rates increased markedly for this group of students, with several presenting at conferences and a few pursuing further degrees. Lastly, faculty mentoring minority undergraduates may gain unexpected and enlightening insights into the perspectives of these students and their cultural backgrounds.

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