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A Program Evaluation of a Summer Research Training Institute for American Indian and Alaska Native Health Professionals

**TOSHA ZABACK, THOMAS M. BECKER, MARK B. DIGNAN, AND
WILLIAM E. LAMBERT**

INTRODUCTION

Public health and medical studies in American Indian/Alaska Native (AI/AN) populations have not commonly included AI/AN researchers in principal roles. This leadership disparity may be attributed, in part, to the low numbers of AI/AN researchers who have sufficient training and leadership experience to plan and conduct epidemiologic and other health research studies. Despite initiatives to correct this situation, progress to increase numbers of AI/ANs in principal investigator roles has been slow.¹ According to the National Research Council, no increase in the number of PhD degrees awarded to ethnic or racial minorities involved in behavioral or biomedical research has been observed in recent years.² Several scientists of AI/AN heritage are engaged in productive research careers in the social and behavioral sciences; however, encouragement to orient career goals in the direction of biomedical sciences, epidemiology, or disease prevention in AI/AN peoples has been less successful. Multiple organizations and expert panels have recommended that additional resources be directed toward increasing the numbers of qualified

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AI/AN researchers in biomedical and related sciences.³ More recently, the National Institutes of Health (NIH) Summit focused attention on the critical roles that minority investigators must embrace in order to improve the health of our nation, and the March 2009 supplemental issue of the *American Journal of Public Health* devoted several articles to the barriers that minorities encounter in pursuing doctoral degrees and to the strategies used to recruit and retain minority researchers.⁴ Alleviating barriers by providing mentorship opportunities, financial incentives, and scholarship programs is an important strategy to increasing minority students' enrollment and academic success.⁵

These aforementioned initiatives are crucial and will eventually result in greater numbers of AI/ANs and other minority scientists entering into leadership roles in health research. However, more immediate progress could be achieved by specialty training to augment existing skills in AI/ANs who are already employed in the health professions. Tailored training and "culturally grounded mentorship" hold considerable promise as a learning model, allowing exchange between academics trained in epidemiologic research methods and with the indigenous knowledge owned by their AI/AN counterparts.⁶ Victoria Cargill urged academics to renew their investment and commitment to the development of all junior investigators but especially those who reflect the communities we pledge to serve, whose diseases are particularly disabling, and whose members are dying in disproportionate numbers.⁷

In this article, we describe a unique summer program to train AI/AN health professionals in a variety of health research-related skills, including epidemiology, data management, statistical analysis, program evaluation, cost-benefit analysis, community-based participatory research, grant writing, and program/policy development. The Summer Research Training Institute for American Indian/Alaska Native Health Professionals is modeled on our successful Native Researchers' Cancer Control Training Program, established in 1995.⁸ Our goal is to provide training in the conduct of scientific research to health professionals in order to increase research capacities and the number of qualified AI/AN principal investigators in Indian country. In the sections that follow, we provide a brief description of our training program and an evaluation of its process and outcomes.

TRAINING PROGRAM DESCRIPTION

Structure of the Summer Research Training Institute and Curricular Topics

Each summer since 2004, the Northwest Portland Area Indian Health Board (NPAIHB) has collaborated with faculty from Oregon Health and Science University and other academic institutions to offer intensive short courses on research methods during a three-week period. Classes vary in length from three to five days. The Indian Health Service (IHS) and NIH provide funding for the institute, and the courses are provided free of charge to AI/AN students. Non-Native trainees can enroll but are required to pay a modest tuition to help offset expenses. A diverse set of courses is offered each year,

with some courses offered every other year, and others offered annually because of high demand (see table 1). A core series of courses is offered in order to provide fundamental training in research that is needed by all biomedical researchers and includes AI/AN faculty in key teaching roles. Topics focus on research skill building and emphasize research methods that are useful to many areas of health research, such as substance abuse, mental health issues, diabetes, injury, cancer, and maternal and child health. The curriculum is flexible in order to accommodate changes based on trainee needs assessment and market demands. For example, trainees have requested that additional courses be directed toward new software programs, preparation of grant budgets, and writing of papers for publication. Each year, the Summer Research Training Institute principal investigator reviews the needs assessment that is sent out to a broad audience in the winter and recruits expert faculty members in order to meet the trainee course requests. In this report, we provide background information on the Summer Research Training Institute and include evaluation of the courses for 2008 (see table 2).

Table 1
Summer Research Training Institute Courses Offered
During the Past Five Years, 2004–2008

Conducting Focus Groups ^a	Infectious Disease Prevention and Control
Cost-Benefit Analysis	Injury Prevention
Data Analysis with SAS ^b	Introduction to Epidemiology ^a
Data Linkage	Epidemiology Methods ^a
Analysis Using SPSS	Introduction to Geographic Information Systems (GIS)
Analysis Using STATA	Introduction to Qualitative Research
Diabetes Prevention and Control	Program Evaluation
Desktop Publishing	Q-Man Query in Resource and Patient Management System (RPMS)
Substance Abuse Epidemiology	
Environmental Epidemiology	Questionnaire Design and Data Management ^a
Grant Budget Development and Management	Reproductive and Maternal Child Health Epidemiology
Human Subjects Protection ^a	Research Design and Grant Development ^a

^a Indicates core curriculum.

^b SAS, SPSS, and STATA are statistical software packages.

Table 2
2008 Summer Research Training Institute Course Schedule

Week 1: 9–13 June 2008	Week 2: 16–20 June 2008	Week 3: 23–27 June 2008
Introduction to Epidemiology ^a	Epidemiology Methods ^a	Research Design and Grant Development
Reproductive and Maternal Child Health Epidemiology	Cost-Benefit Analysis	Data Analysis with SAS ^b
Substance Abuse Epidemiology	Data Analysis Using STATA ^b	Human Subjects Protection ^a
Introduction to GIS	Conducting Focus Groups ^a	Program Evaluation
Questionnaire Design and Data Management ^a		

^a Indicates core curriculum.

^b STATA and SAS are statistical software packages.

We have endeavored to create an engaging and participatory style of learning that is suitable for adult learners who come from diverse backgrounds. All courses include a variety of activities and exercises and minimize didactic presentation. Approaches include problem-based learning sessions, case-based learning sessions, faculty and student presentations, hands-on workshops, and computer laboratory exercises.⁹ To the extent possible, we include in-class and homework examples that are specific to health issues in tribal and other AI/AN communities. Small group seminars and workshops are a central feature of this curriculum. We have tested this approach on AI/AN trainees, medical students, midlevel health care providers, allied health scientists, and groups of PhDs and clinicians with little experience in scientific research and have found that a mixture of small group tutorials and short presentations is very successful and well received by the learners. Each learning strategy stresses active participation by the trainees, and each course concludes with a performance measure—such as a postcourse test, presentation, or short paper—to test trainee learning. Feedback on performance is then provided to students.

Several of our trainees would be considered to be “fully trained” because they held doctoral degrees at the time of their enrollment in our courses. However, our needs assessment indicated that these trainees perceived the need for development of new skills that could advance their careers, including the types of skill-development courses that we offer in our program. Furthermore, doctoral-level trainees can enhance their academic preparation and benefit greatly from collectively learning among their shared communities of practice.¹⁰ Our awareness of adult learning theory and some of the guiding principles of teaching adult learners appeals to some of our advanced students. For example, we attempt to adhere to the Knowles principles as guidelines in order to teach learners who are independent and self-directed.¹¹ We also have substantial experience with problem-based learning and its utility in settings such as our Summer Research Training Institute courses

and use this approach as much as possible to meet our adult learners' needs. Furthermore, M. L. Belonozhko and E. F. Khitu have stressed the need for PhDs and other highly trained members of the workforce to develop new skills in order to match societal and workforce demands.¹² Our advanced trainees recognize the need to stay current with their skills.

Our curriculum is not just directed at more advanced trainees, however. We try to offer a range of classes that will meet the needs of health professionals who have a range of training and work experiences. Our introductory classes are more likely to contain students and baccalaureate-level trainees, while our advanced software classes are aimed at more skilled groups. In addition, many of our courses focus on practical skills (for example, focus groups and grant writing) that may not be offered in graduate or clinical training programs.

Characteristics of Trainees

Ninety percent of trainees attending the Summer Research Training Institute were tribal members. They came from a wide variety of professional and educational backgrounds with a range of levels of educational attainment. The largest proportion of trainees held bachelor's (40%) and master's degrees (36%), while seven trainees held doctoral degrees (10%). Educational backgrounds included anthropology, nursing, psychology, medicine, social work, public health, and law. Many of the trainees were concurrently enrolled in degree-granting programs and/or held several degrees.

EVALUATION

Methods

Evaluation of our Summer Research Training Institute involved process and outcome indicators using quantitative and qualitative methods. The process evaluation focused on the implementation of program plans and course evaluations performed at the end of each course in order to provide instructors and program staff with immediate student feedback. We collected evaluations in a traditional manner, using paper-and-pencil forms distributed at the completion of each course. These evaluations included questions designed to assess organization, content, and instructor effectiveness, as well as the potential applicability of the trainees' new skills to their jobs.

The outcome evaluation occurred six months postinstruction and included two phases. The first phase was designed to assess the utility of the Summer Research Training Institute instruction after graduates had time to use their new skills and knowledge. We designed an electronic survey to assess the extent to which the graduates were able to integrate their Summer Research Training Institute experience into their job performance and community work. The purpose of the second phase of the outcome evaluation was to gain insight into the impact of graduates' newly acquired skills and knowledge about their work and to assist program staff with program

development for future Summer Research Training Institutes. Graduates were provided with an example of the survey that we asked their supervisor to complete.

Results

Course evaluations. These evaluations suggested that students were very positive about the training opportunity. Graduates reported positively on the experience explaining that it was very concentrated and intense with high-quality instructors. Graduates reported gaining new and practical skills and knowledge. Graduates also remarked that staff seemed dedicated and passionate. The most consistent recommendations throughout the questionnaires were to adjust the length of courses depending on their intensity and to include more examples specific to Native populations. Only one course revealed the need for changes to the curriculum, as students reported the content was too basic. We have used these findings to adjust the content and improve the quality of courses offered.

Six-month follow-up survey with graduates. This survey consisted of six questions designed to assess utility of instruction, job performance, professional opportunities, barriers to implementation, and accomplishments as a result of taking classes at the Summer Research Training Institute. It also gathered suggestions for improvement and courses for future institutes. In our evaluation of the class of 2008, we attempted to contact sixty-seven graduates and collected fifty self-administered electronic questionnaires (75%). We made every effort to collect data from each graduate through searching for valid contact information, multiple electronic communications, and telephone calls. Nine graduates were lost to follow-up, and eight graduates did not respond. One questionnaire was excluded due to invalid answers, leaving a total of forty-nine valid surveys for analysis (73% of all graduates in 2008).

Utility of instruction. Table 3 presents graduates' assessments of the usefulness of instruction for each course offered at the Summer Research Training Institute. As the table reflects, with few exceptions, graduates found most courses useful.

Table 3
Usefulness of Instruction for Summer Research Training Institute Trainees, 2008

How useful was instruction on this topic? Number of graduates that reported . . .				
Course	Very Useful	Okay	Not Very Useful	Total Number
Introduction to Epidemiology	9	7	–	16
Reproductive Child and Maternal Health Epidemiology	–	3	2	5
Substance Abuse Epidemiology	6	4	–	10
Introduction to GIS	1	2	–	3
Questionnaire Design and Data Management	10	7	3	20
Epidemiology Methods	12	1	–	13
Cost-Benefit Analysis	4	2	–	6
Data Management and Analysis Using STATA ^a	3	1	2	6
Conducting Focus Groups	9	4	1	14
Research Design and Grant Development	10	–	–	10
Data Analysis with SAS	3	2	1	6
Human Subjects Protection	3	2	2	7
Program Evaluation	5	5	–	10

^aSTATA and SAS are statistical software packages.

Forty-three graduates provided examples of how they were utilizing the training they received from the Summer Research Training Institute. Several graduates cited multiple examples in order to illustrate the utility of their new skills. Nine graduates reported that they utilized the training they received when writing grant proposals. They reported that they were able to design methods sections of the proposal, implement and write research-based grants in their organizations, and/or use their skill in proposal writing for their dissertations. Several graduates ($n = 9$) commented that their increased understanding of epidemiology in reading biomedical literature was a skill that they utilized regularly. Of these nine, six trainees also indicated that they were able to apply this understanding to tasks like helping cancer patients

understand medical literature, designing methods, and/or analysis of their own projects. Seven graduates also reported contributing to and/or designing research tools such as surveys ($n = 5$) and/or consent forms ($n = 2$). Other graduates ($n = 6$) mentioned specific software programs or datasets that they utilize as a result of the training, such as EpiData, GIS, SAS statistical programming software, electronic medical record research (that is, use of IHS RPMS), and data from the Indian Country Methamphetamine Initiative. Three graduates reported that they were conducting program evaluation, and three others mentioned applying gained knowledge to their graduate programs—one decided to return to graduate school as a result of the training. The remaining graduates were using resources from the Substance Abuse course in their private practice ($n = 2$), writing articles for a cancer advocacy group ($n = 1$), and conducting cost-benefit analysis on organizational programs ($n = 1$).

Job performance. Table 4 presents assessments of the effects of the Summer Research Training Institute on the graduates' job performance. Only one graduate reported no effect on job performance.

Table 4
Effect of Summer Research Training Institute on
Trainees' Job Performance, 2008

Do you think that participating in the training program has affected your performance on the job? ($n = 44$)		
	Number	% of Total
Yes, it helped a great deal	13	30%
Yes, it helped somewhat	21	48%
Yes, but very little	9	20%
No, it didn't help	1	2%

We asked graduates to provide an example of how the Summer Research Training Institute affected job performance. Thirty-nine graduates responded. The majority of graduates ($n = 17$) reported experiencing increased understanding of a specific course topic or public health research in general. Several of these graduates ($n = 9$) noted that increased understanding boosted their confidence and feelings of value to their organization, prompting them to contribute more to study design and analysis. Others ($n = 6$) reported that attending the Summer Research Training Institute affected academic pursuits such as enrolling in graduate-level epidemiology/biostatistics courses, improving performance in a graduate program evaluation course, contributing to a PhD dissertation, investigating graduate school, and finding mentors for academic programs. Six graduates reported specific tasks that they now perform because of the training, such as focus groups, program evaluation, database creation, and writing grant proposals. Three other graduates stated that they utilized the resources that they gained from the training on a regular basis in their workplace. Other responses included

improved grant-writing skills, use of the clinical terminology learned at the institute in their practice, performing training-to-training opportunities for tribal communities, and reminders “that there is science that can substantiate his/her work.”

The remaining graduates (n = 3) were unable to provide examples of effects on job performance, explaining that there was a lack of opportunity and/or they changed careers. One graduate noted that although her performance had not changed appreciably, she still benefited from the networking opportunities that the institute provided.

Professional opportunities. Table 5 presents opportunities graduates attribute to training they received at the Summer Research Training Institute.

Table 5
New Professional Opportunities for Summer
Research Training Institute Trainees, 2008

Have you experienced any new professional opportunities as a result of the Summer Research Training Institute training? (check all that apply) (n = 24)		
	Number	% of Total
New research projects	2	8%
New grant applications	6	25%
New colleagues	17	41%
New training programs	4	17%
Other ^a	9	38%

^a Three graduates reported receiving academic scholarships. The other graduates listed individual responses including presentations to cancer support groups, developing research protocols, work on focus groups, “ongoing ideas,” new way of working/managing, and networking with other graduates.

Forty-nine percent of graduates responded to our survey question about new professional opportunities as a result of the Summer Research Training Institute. It is unknown if those who did not respond did so intentionally, or if they did not experience any new professional opportunities. Seven graduates reported that they have not experienced any professional opportunities as a result of the training. However, we would like to note that four of these seven also indicated in a subsequent question that they had limited decision-making authority.

Graduates provided examples of professional opportunities that they have encountered through their participation in the Summer Research Training Institute. Graduates reported that the networking that the institute facilitated allowed for collaboration on projects (n = 5) with other Summer Research Training Institute graduates. Some reported that they were writing grant proposals (n = 4) including two Native American Research Centers for Health (NARCH) applications.¹³ Other graduates (n = 4) reported an increase in responsibilities at their organizations, such as conducting focus

groups, managing programs, developing protocols, and working on research projects. Graduates also reported that they connected with mentors ($n = 3$), served on committees ($n = 2$), pursued more education ($n = 2$), and experienced a change in their area of concentration to environmental science secondary to the training received at the Summer Research Training Institute, which was used as a prerequisite for admission.

Barriers to implementation. Tables 6 and 7 present barriers to implementing the Summer Research Training Institute training accomplishments that graduates attribute to the training they received.

Table 6
Barriers to Implementation of New Skills among Summer
Research Training Institute Trainees, 2008

Many graduates have reported that they experienced a variety of barriers to implementing the training from the Summer Research Training Institute after they return home. What barriers have you encountered? (check all that apply) (n = 43)		
	Number	% of Total
I haven't encountered any barriers	13	30%
Not enough time to use the training	9	21%
I have limited decision-making authority	14	33%
My career goals have changed	1	2%
My workplace goals have changed	3	7%
Other ^a	11	26%

^aSix respondents reported lack of opportunity as the primary barrier to implementing the training; including one respondent who stated that her/his employer did not "realize the value and depth" of what she/he had learned. Two graduates commented specifically on the Questionnaire Design and Data Management course stating that they did not think they were able to design a survey based on what they learned from the course, and one suggested a different instructor for the design portion of the class. One graduate reported funding as a barrier, while another stated she/he needed advice and leadership to implement training, and the final graduate did not specify.

Table 7
Accomplishments of Summer Research Training Institute Trainees, 2008 Cohort

Based on what you learned in the institute, what accomplishments would you like to share? Have you . . . (check all that apply) (n = 26)		
	Number	% of Total
Been involved in any additional training programs?	8	31%
Been the leader on any new projects?	5	19%
Been involved in grant writing for your department?	15	58%
Been involved in any publications?	9	35%
Other ^a	7	27%

^a Graduates reported individual accomplishments including representing their agency on maternal child health issues in the state, becoming involved in departmental changes, creating a consent form, participating in an epidemiology photo shoot, and volunteering to write grants for a domestic violence shelter “because I am the only one on staff that really knows about research.” One graduate stated that she/he was involved with these activities but did not attribute it to the Summer Research Training Institute.

Supervisor Survey Results

Several of the graduates were students, so they were unable to participate in this phase of the outcome evaluation. Of the forty-nine graduates in the 2008 cohort (73% of the 67 remaining in contact), twenty-four gave permission to approach their supervisors. Fifteen of the twenty-four supervisors (62%) responded to our request for information. Supervisors returned surveys designed to assess the graduates’ impact on their organizations, focusing on the demonstration of new skills, participation in planning and development, and increase in leadership qualities. Supervisors were also asked whether they would consider sending additional employees to the institute and make future course recommendations.

We asked supervisors whether the graduate had demonstrated new skills since attending the Summer Research Training Institute. Ten of the graduates’ supervisors responded affirmatively that the graduate had demonstrated new skills, one supervisor stated the question wasn’t applicable to the graduate, another supervisor wasn’t sure if the graduate had demonstrated new skills, and yet another supervisor stated that sufficient time had not occurred to assess new skills. Only two supervisors stated that the graduate did not demonstrate new skills. Supervisors provided examples of enhanced skills including the abilities to create databases, analyze and report on data, and create surveys for evaluation purposes as well as improved grant-writing and program-planning skills.

We also asked supervisors whether the graduate had participated in planning or development of new projects since attending the Summer Research Training Institute. Eleven graduate supervisors reported that graduates had participated in planning or development of new projects since attending the

institute. Of the remaining supervisors, three stated that the graduate had not participated in planning and development activities, and one stated that the question was not applicable to the graduate.

Supervisors reported on whether the graduate had demonstrated changes in leadership qualities since their attendance at the institute. Responses included nine affirmatives, while other supervisors indicated that the graduate already demonstrated good leadership qualities prior to attending the Summer Research Training Institute ($n = 4$), the graduate did not have any leadership responsibilities ($n = 1$), or the question was not applicable to the graduate ($n = 1$).

Fourteen supervisors stated that they would send additional employees to the Summer Research Training Institute, reporting that they thought the institute was a valuable resource. Only one supervisor stated that she was not sure if she would send additional employees to the institute.

DISCUSSION

During the first four years of this program, the Summer Research Training Institute for American Indian/Alaska Native Health Professionals offered twenty-four courses to 317 trainees. Sixty diverse faculty members from universities, Indian health care systems, and tribal and state public health agencies served as instructors and mentors. Overall, the evaluation suggests that our AI/AN trainees consider the program staff and instructors to be well prepared and competent, from planning to implementation. Graduates were quite positive in their assessments of the training program and their ability to utilize the newly gained knowledge and skills in the workplace or their academic pursuits. Supervisors confirmed that graduates had grown from their learning experiences at the Summer Research Training Institute, and this growth was having a positive impact on their organization.

We evaluated the program from two viewpoints: process and outcome. The process evaluation documented the development and delivery of the curriculum and related postcourse activities and the experience of the training program at the time it occurred, while the outcome evaluation focused on the utility of knowledge gained after participating in the training program. Focusing the evaluation from these perspectives has allowed for modifications to the training program as needed, as well as enhancement of successful strategies. We recognize that the small number of participants and the short follow-up time limits our evaluation with assessments from a small number of supervisors. We will continue to seek data on outcomes from our alumni and their supervisors at intervals in the future in order to obtain a more confident picture of influence on the practice of health research in Indian country.

Our results may not be generalizable to other settings. We are unaware of similar programs that involve AI/AN students. However, we are also not aware of training programs like ours that are targeted at Hispanic, African American, or other racial/ethnic groups. We recommend that readers exercise caution in generalizing our approaches, or our evaluation findings,

to other special population groups if and when new training programs are designed and implemented.

We believe that our program provides an essential supplement to other efforts to build capacity for health research in the underserved AI/AN community. Our educational efforts are not a replacement for other actions to encourage graduate training in master and doctoral degree programs, but they do appear to provide immediately useful skills while offering a taste of graduate-level training. We remain committed to the development of junior investigators who are AI/AN, and we will continue to find ways to offer training in medical and health research methods. We suggest that this program may serve as a good model for other minority group-specific research training programs in which cultural concerns are an important part of an educational program.

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NOTES

1. Indian Health Service, *Native American Research Centers for Health Grants*, <http://www.ihs.gov/medicalprograms/research/narch.cfm> (accessed 1 July 2009).
2. National Research Council, ed., *Addressing the Nation's Changing Needs for Biomedical and Behavioral Scientists* (Washington, DC: National Academy Press, 2000).
3. US Department of Defense, ed., *Initiative for Biomedical and Behavioral Minority Research: Final Report of the Planning Process and Consensus Recommendations* (Fort

Detrick, MD: US Army Medical Research and Materiel Command, November 1998); D. R. Burgess, "Where Will the Next Generation of Minority Biomedical Scientists Come From?" *Cancer* 83, no. 8 (1998): 1717–19; US Congress, House Subcommittee on Health and the Environment of the Committee on Energy and Commerce, *NIH Revitalization Act: Hearings on H.R. 4*, 103rd Cong., 1st sess., 3 February 1993; US Department of Health and Human Services, ed., *Initiative to Eliminate Racial and Ethnic Disparities in Health* (Washington, DC: US Department of Health and Human Services, 1998); US Department of Health and Human Services, ed., *US Department of Health and Human Services Strategic Plan Fiscal Years 2007–2012* (Washington, DC: US Department of Health and Human Services, 2007).

4. "NIH NCMHD Summit," in *Science of Health Disparities* (National Harbor, MD: Gaylord Center, 2008).

5. Victoria A. Cargill, "Recruiting, Retaining, and Maintaining Racial and Ethnic Minority Investigators: Why We Should Bother, Why We Should Care," *American Journal of Public Health* 99, no. S1 (2009): S5–7.

6. Karina L. Walters and Jane M. Simoni, "Decolonizing Strategies for Mentoring American Indians and Alaska Natives in HIV and Mental Health Research," *American Journal of Public Health* 99, no. S1 (2009): S71–76.

7. Cargill, "Recruiting, Retaining, and Maintaining Racial and Ethnic Minority Investigators."

8. Thomas M. Becker, Esther Dunn, Lillian Tom-Orme, and Jennie Joe, "Cancer Control Research Training for Native Researchers: A Model for Development of Additional Native Researcher Training Programs," *American Indian Culture and Research Journal* 29, no. 2 (2009): 75–83.

9. Arthur Kaufman, *Implementing Problem-Based Medical Education: Lessons from Successful Innovations* (New York: Springer, 1985).

10. Miri Shacham and Yehudit Od-Cohen, "Rethinking PhD Learning Incorporating Communities of Practice," *Innovations in Education and Teaching International* 46, no. 3 (2009): 279–92.

11. Elwood F. Holton, Richard A. Swanson, and Sharon S. Naquin, "Andragogy in Practice: Clarifying the Andragogical Model of Adult Learning," *Performance Improvement Quarterly* 14, no. 1 (2001): 118–43.

12. M. L. Belonozhko and E. F. Khitu, "On the Characteristics of Higher Education for Adults," *Russian Education and Society* 50, no. 3 (2008): 57–63.

13. Indian Health Service, *Native American Research Centers for Health Grants*.