Project Description

Background and Significance

Communication is profoundly influenced by culture. The UA Department of Speech and Hearing Sciences focuses on the study of human communication and its disorders. As a result, the impact of culture on the assessment and treatment of children and adults with communication disorders is an issue of foremost relevance. Communication disorders have a higher prevalence in some ethnic/cultural groups, resulting in a nationally recognized need for higher educational institutions to recruit and train more minority and bilingual students to meet workforce needs. The Department of Speech and Hearing Sciences trains students to become certified speech-language pathologists and audiologists to serve the needs of an increasingly diverse U.S. population. Certified speech-language pathologists and audiologists are employed in a number of different settings including public schools, hospitals, rehabilitation clinics, long-term care facilities, and private practices. The services of speech-language pathologists and audiologists in public school settings are mandated by federal law (e.g., IDEA, No Child Left Behind).

Meeting a National Need

It is well recognized that an acute shortage of bilingual speech-language pathologists and audiologists exists in the U.S.

- Only 2% of the 95,000 speech-language pathologists in the U.S. are bilingual.
- Less than 1% of the 12,000 audiologists in the U.S. are bilingual.
- Only .08% of the 95,000 speech-language pathologists in the U.S. are Hispanic, and only .001% are American Indian.

Speech-language pathology and audiology are vibrant and dynamic professions that continue to attract a larger number of students than can be accommodated in the nation’s academic programs. Well-recognized by the white middle class, which vastly dominates the membership of the American Speech-Language-Hearing Association, careers in this field have been largely ignored by the country’s ethnic and cultural minorities who will, by 2050 represent almost 50% of the U.S. population.

Meeting Arizona’s Need

The shortage of bilingual Hispanic and American Indian speech-language pathologists and audiologists is particularly acute in Arizona, especially for school districts serving large populations of Hispanic and Native American children.

- According the Arizona Department of Education, the state needs 600 certified speech-language pathologists.
- The shortage of speech-language pathologists is one of three officially designated acute personnel shortages in the state.
- Only 30-40 Arizona speech-language pathologists are bilingual in Spanish, and more than 10,000 Spanish-speaking children in Arizona are estimated to have communication disorders.
• Fewer than 10 Arizona speech-language pathologists are American Indian, and Arizona has approximately 74,000 American Indian children.
• American Indian school children are estimated to have a 15% higher prevalence of communication disorders than the general population. Harris (1986) estimated the prevalence of communication disorders in Arizona American Indian school children to be 8,000.

Opportunities Exist for Hispanic and Bilingual Students

As the aforesaid statistics suggest, an urgent need exists for bilingual and bicultural speech-language pathologists and audiologists nationwide and in Arizona. Additionally, there is a critical need to train greater numbers of ethnically and culturally diverse students to assume academic/research responsibilities in institutions of higher education. The high demand for minority and bilingual professionals and academicians has resulted in sharply higher salaries, more job choices, and increased opportunities for advancement for these students once specialized training has been attained.

Speech and Hearing Sciences’ Multicultural Training Program

The Department of Speech and Hearing Sciences at the University of Arizona is actively developing a Multicultural Training program to address state and national needs for minority and bilingual speech-language pathologists and audiologists. The Multicultural Training Program will have three key components:

1. Recruitment of minority and Spanish-speaking high school students.
2. Provision of a program of specialized diversity training to allow:
   a. undergraduate students to have a thematic minor in the area of multiculturalism
   b. graduate students to earn one of two certificates:
      • bilingual speech-language pathology or audiology certificate
      • cultural diversity specialization certificate
3. Research and doctoral training to increase scientific investigations of the effects of cultural diversity on speech, language and hearing development and communication disorders.

High school student recruitment forms the foundational step upon which we plan to build our new Multicultural Training Program. We plan to establish a high school student recruitment program to attract students, particularly those who are Hispanic and bilingual in Spanish and English. Recruited students would be mentored throughout the bachelor’s and graduate programs, their clinical fellowship year, and on to state licensure and full certification with the American Speech-Language-Hearing Association. Although this particular proposal focuses upon potential Hispanic and Spanish-speaking minorities, similar needs exist in recruiting Native American and Asian-American students. Thus, we would like to extend the recruitment model to attract students of other ethnic and cultural groups as well.

The Multicultural Training Program initiative has the unanimous support of the Speech and Hearing Sciences faculty. This department’s faculty and staff have a long history of interest in diversity and the experience of a 15-year federally-funded program for training American Indian
3. How can these barriers be overcome?
4. What attracts students to other scientific or health-related professions?
5. What techniques have you found helpful for raising student interest in a discipline or profession?

Surveys and interviews will be developed and targeted toward high schools in Tucson and surrounding communities that have the largest number of college-bound Hispanic students. Identification of these high schools and the pool of potential counselor participants will be done in collaboration with the UA Admissions and New Student Enrollment Office, Early Outreach Program, and Multicultural Program and Services Department. In particular, early development of the counselor and student surveys will be done with the assistance of the Director of Chicano-Hispano Student Affairs Office, who is an undergraduate alumnus of UA Speech and Hearing Sciences.

For counselors, surveys will be in the form of open-ended interviews conducted face-to-face with 10 high school counselors who agree to be interviewed. Each interview will take approximately 30 minutes and will be conducted by a trained interviewer. Interviews will be transcribed, and trends and commonalities, as well as exceptionalities, will be identified. Data obtained from these interviews will help to form the basis of the student focus groups to be described later in this proposal. Each counselor also will be asked to suggest the names of 5 to 10 students who will be contacted to take the survey described below and participate in the focus groups.

**Survey/Interview for Students:**

We are particularly interested in what the students know about the field, and how to increase their knowledge so that they might consider it among their career options, and make informed decisions concerning the relevance of human communication and its disorders as a potential career choice. Thus, the simple 10-15 question, forced-choice survey will be designed to examine the following:

- Awareness of the field of speech and hearing sciences.
- Depth of knowledge about careers in speech and hearing sciences.
- Academic pathway to eventual certification as a speech-language pathologist or audiologist.
- Employment opportunities: employment settings, salary ranges, and benefits of bilingual skills and specialized multicultural training.

A minimum of 50 students will be surveyed (5 to 10 referred student from each of 10 counselors). The interviewer will also ask them if they would be interested in participating in a focus group experience (the number of which will depend on the number of interested students). Responses to the surveys will be tallied, and together with the responses of the counselors, will be important in developing the agenda of the focus groups. Students will be paid $5 for completing the survey.
Improving Minority Student Recruitment in Speech and Hearing Sciences

Project Summary

The purpose of this project is to address a critical issue in Speech and Hearing Sciences – the need to increase the number of minority, particularly Hispanic, students entering this field of study. The Department of Speech and Hearing Sciences requests funds to systematically examine why so few Hispanic students major in this degree program to prepare for careers as speech pathologists and audiologists. We propose to conduct in-depth surveys and focus groups for high school students and guidance counselors in Southern Arizona with the goal of identifying barriers to recruiting students to be Speech and Hearing Sciences majors and to develop ways to overcome these barriers. There are multiple reasons for this request.

First, an acute shortage exists of speech-language pathologists and audiologists (also referred to as clinicians) in Arizona in general, with a particularly grave shortage of Hispanic and bilingual Spanish-English speaking clinicians. Recent estimates from the Arizona Department of Education indicate a need for 600 certified speech-language pathologists. Nationally, the American Speech-Language-Hearing Association has made multicultural training a priority for Speech and Hearing Sciences programs, in recognition of the critical need for bilingual clinicians in the United States. Yet, surprisingly few minority students in Arizona seek this course of study or even appear to know of the discipline’s existence. We do not fully understand why Hispanic students, in particular, remain largely unaware of the field and of the advantages their culture and bilingual abilities bring to the profession. Our goal is to increase our understanding of the barriers that impede student enrollment in Speech and Hearing Sciences, and to begin the process of mitigating them. A secondary goal will be to extend what we learn from this study to promote awareness in other underrepresented minorities, in particular, Native American high school students.

Another less-tightly focused goal also should be mentioned. Although our study will emphasize Speech and Hearing Sciences, it can be expected that a substantial portion of what we learn can be applied to other disciplines in the College of Sciences who may also have experienced difficulty in attracting Hispanic students.

It is expected that the proposed effort will help to increase minority student enrollment in Speech and Hearing Sciences, increase the diversity of students on this campus, and provide preliminary data to support federally-funded training grants and state-supported collaborative ventures.
Focus Groups:

The important element of the proposed research is to conduct focus groups of students intended to increase both their interest and awareness of the field of Speech and Hearing Sciences. Focus groups will meet in the Speech and Hearing Sciences Building at the University of Arizona. The program content for the focus groups will include recruitment videos developed by the American Speech-Language-Hearing Association, discussions of why the profession is particularly attractive to individuals who are bilingual or who obtain specialized diversity training, and what they see as barriers to Hispanic students to careers in this area. Further, students will be given the opportunity to observe the work that speech-language pathologists and audiologists actually do. Students will be paid $10 for their participation; they will be offered a (subsidized) lunch in the Student Union, and will be given a brief tour of the campus.

Pre- and post-focus group tests will be given. It is hypothesized that students will have a greater understanding and interest in this profession (here defined as change-scores on the pre and post measures) as a result of the focus group.

Study Outcomes

As previously mentioned, funding of this project will increase the likelihood of receiving matching funds through a Multicultural Activities grant from the American Speech-Language-Hearing Association. In addition, the data collected through this project will serve as preliminary data for other funded projects, including training grants from the U.S. Department of Education and the National Institutes of Health - National Institute on Deafness and Other Communication Disorders. The Arizona Department of Education and local school districts may provide additional financial support to recruit and train students to become speech-language pathologists to meet the urgent need for certified professionals in this state. Private corporate and foundation donations as well as UA institutional support also will be sought to support the larger Multicultural Training Program initiative. Collaborative efforts are already being discussed within the College and with the College of Education to enhance this diversity effort. We envision that many innovative spin-offs can occur with this investment of funds that will result in increased minority and bilingual student enrollment in Speech and Hearing Sciences. The data gathering process and results of this inquiry also can inform us generally about ways to attract the minority students to disciplines within the College of Science.
students in speech-language pathology and audiology. Also, diversity issues were a priority of a 10-year NIH Center grant which allowed for the development of diversity training workshops, educational videotapes, doctoral and post-doctoral training. In addition, the department has a number of affiliations and projects that support the clinical and scientific interest of students receiving specialized diversity training, among them: Escuela de Audicion y Lingua (School for the Deaf) in Hermosillo, Sonora; St. Andrew’s Crippled Children’s in Nogales, Arizona; San Xavier Indian Health Service, Pueblo Pediatrics, Arizona Department of Developmental Disabilities which services the Tohono O’odham nation and Pascua Yaqui tribe, Veterans Affairs Medical Center, Carondelet St. Mary’s and St. Joseph’s Hospitals, Tucson Medical Center, University Medical Center, Northwest Medical Center, El Dorado Hospital, and most of the area school districts including, Tucson Unified School District, Amphitheater, Catalina, Tanque Verde, Sunnyside, Vail, Benson, Sahuarita, and Baboquivari.

Research Plan

We propose to approach high school student recruitment in the Southern Arizona area utilizing existing connections with speech-language pathologists in public and private high schools. This will allow us to collect quantitative and qualitative data to help us understand why so few Hispanic and bilingual high school students elect to enroll as Speech and Hearing Sciences majors at the University of Arizona. Once barriers to student recruitment are identified, we will initiate a recruitment effort geared toward eliminating barriers and increasing enrollment. Support of this second phase of recruitment will be requested through a Multicultural Activities Grant from the American Speech-Language-Hearing Association. The likelihood of funding by this national organization for our recruitment phase is greatly enhanced by University of Arizona commitment such as from the COS Millennium Committee funding mechanism.

To identify reasons for low minority involvement in Speech and Hearing Sciences careers, qualitative methodologies will be used, including interviewing, surveying and triangulation of those results. However, we will also add a simple quantitative component, looking at pre- vs. post-test differences in knowledge of the field of speech and hearing sciences after student focus-group participation, to be described below. All study procedures will be reviewed by the University of Arizona Institutional Review Board for protection of human subjects. Study approval also will be sought from respective school boards/authorities.

Survey/Interview

We suspect that an important factor contributing to the underrepresentation of minority students in Speech and Hearing Sciences is the result of lack of knowledge about the field. Therefore, we propose to develop surveys for both high school students and their counselors concerning this topic (please be aware that the complete interviews/surveys are as yet unspecified). The survey interview questions will be field tested prior to the initiation of actual data collection.

Survey/Interview for High School Counselors:

1. What do you know about the professions of speech-language pathology and audiology?
2. What do you see as barriers for getting students into the professions of speech-language pathology and audiology?