

Current Topics in Higher Education for the Deaf

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This paper will review some significant developments in the postsecondary education of deaf persons in the United States and on an international level along with some of my own personal observations. The single most significant in the education of deaf students in the United States in the past quarter century has been in the area of postsecondary education. In that time, the proportion of deaf students who go on to college has increased from about 10 percent to around 50 percent. The paper also discusses briefly the demographic shift that has impacted on academic preparation of students with deficiencies in their basic skills, the technological advancements, and development of employment opportunities for deaf and hard-of-hearing people.

聾者の高等教育における今日的テーマ

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本日の講演は、アメリカ合衆国内および諸外国での聾者の高等教育におけるいくつかの重要な発展について、私見を加えて概要を述べるものである。過去四半世紀のうち達成された聾教育の顕著な発達は、合衆国においては高等教育の領域において成されたものである。この25年の間に、大学に進学する聾学生の割合は、約1割から約5割に躍進した。講演の後半では、基礎学力の不足した学生への準備教育に影響を与えた統計上の変化、科学技術の進歩、聾および難聴者の雇用機会の開発についても手短かに論じる。

It is an honor to be invited to your great country and present a paper on the "Current Topics in Higher Education for the Deaf." This is my second visit to Japan, my first one was when the World Congress of the World Federation of the Deaf was held in Tokyo in 1991. It was one of the best-managed conventions I have ever attended in my professional career. At that time my wife and I had an opportunity to visit Tsukuba College of Technology. We tremendously enjoyed meeting with students, faculty and staff and observing classes and labs in action at TCT.

NTID cherishes its strong sister relationship with the TCT. Our students and faculty always enjoy being with your students and faculty when they come to visit NTID. So did our students who visited your program earlier this summer. We look forward to our continuing working relationship in an effort to assist other colleges and universities in other countries serving deaf and hard-of-hearing students.

I was born profoundly deaf in the United States. I was fortunate to have had wonderful parents who were both deaf and were very concerned about my getting a good education. I attended a private school for the deaf in Missouri where I learned to speak and read lips. I also had an excellent elementary education, which prepared me well for secondary education in a public school system in Iowa. After attending a small four-year liberal arts college in Iowa for two years I completed the requirements for a Bachelor of Science degree in Electrical Engineering at Washington University in St. Louis. This is where your dear, Dr. Okuma, received his training in education of deaf children! Following my graduation I started my professional career as an electronics engineer and computer programmer at McDonnell Douglas Corporation, where I worked for five years. I attended night school at St. Louis University while working full time and received my Master of Science degree in Electrical Engineering.

I joined the National Technical Institute for the Deaf 30 years ago as a support faculty member for deaf students pursuing baccalaureate degrees in engineering and computer science. Over time I have held a number of progressively more responsible leadership positions at NTID and was appointed to the position of Dean of NTID July 1, 1998. In 1988 I received a doctoral degree in curriculum and teaching from the University of Rochester in Rochester, New York.

My presentation today will first review some significant developments in the postsecondary education of deaf persons in the United States and provide a few of my own observations. In my opinion, the single most significant development in the education of deaf students in the United States in the past quarter century has been in the area of postsecondary education. In that time, the proportion of deaf students who go on to college has increased from about 10 percent to around 50 percent.

In 1965 there was a report of a national study on education of deaf children and adults known as the Babbidge Report, Education of the Deaf: A Report to the Secretary of Health, Education, and Welfare by His Advisory Committee on Education of the Deaf. It was the basis for infusion of federal support to upgrade the quality of American education for all deaf children and adults. This had a direct impact on the establishment of the postsecondary education opportunities including the National Technical Institute for the Deaf as well as other significant developments that may not have dealt with postsecondary education as such. Clearly, it contributed to the upgrading in quality and enabled more students to qualify for higher-level studies.

The United States Congress created NTID in 1965 in response to national concerns that deaf adults were falling behind their hearing peers in employment due to the lack of technical education

opportunities for deaf students (Babidge, 1965). In 1966, the United States Department of Education selected Rochester Institute of Technology to host NITD, and the first class of 70 deaf students was admitted in 1968. Presently, there are 1,100 deaf students from all over the United States. In the fall of 1999, NITD began admitting international deaf students, and we now have about 120 students from around the world. Approximately 80 percent of faculty initially came from industry and business and/or had some work experience in the private sector, so they have the technical expertise to prepare deaf students to enter a wide variety of skilled occupations. Teaching faculty at NITD is trained to provide direct instruction to deaf students using simultaneous communication and sign language. NITD also provides opportunities for approximately 450 deaf students to be mainstreamed into the other colleges of Rochester Institute of Technology, which has over 12,000 hearing students. A wide range of educational support services including basic academic preparation, interpreting, tutoring, notetaking, academic advising, counseling, other forms of instructional support, and use of technology in classrooms are provided to deaf students in mainstreamed classes at RIT.

In 1994, the Department of Education received a report on the national study of other colleges and universities that served deaf and hard-of-hearing students. It was estimated that there are 22,540 deaf and hard-of-hearing students attending over 2,050 2-year and 4-year colleges and universities in the United States (National Center for Educational Statistics, 1994). This total does not include additional 2,500 students who attended NITD and Gallaudet University. It was noted that most deaf and hard-of-hearing students received limited support services (e.g., interpreting and notetaking) to facilitate learning. Unfortunately, these colleges and universities had relatively modest experience in serving deaf and hard-of-hearing students (National Task Force on Quality of Services in the Postsecondary Education of Deaf and Hard of Hearing, 1999).

As a result, the United States Government established a federally funded network of postsecondary education support centers to provide technical assistance to these colleges and universities. NTID was one of four institutions selected to receive an award of \$1,000,000 per year for five years to operate such a center. The NTID center (Northeast Technical Assistance Center - NETAC) provides outreach services to postsecondary programs serving individuals who are deaf and hard of hearing in the Northeast region of the USA and Puerto Rico. As a part of the four-regional network (Postsecondary Education Programs Network - PEPNet), the NTID Center provides technical assistance to other regions of USA.

The Guide to College and Career Programs for Deaf Students (Rawlings, et al, 1999) lists about 100 programs, which serve between 15 and 100 or more students who are deaf and hard-of-hearing attending various community colleges, four year colleges and universities throughout the United States. Many of them provide comprehensive support services. These programs receive funding through various sources: state government, local government, the colleges themselves, the Vocational Rehabilitation agencies, and other private sources. One good example is the City University of New York (CUNY), which has a consortium of four programs that collectively serve a total of over 500 deaf students and are funded by the city and state governments.

It is not known how many deaf students in other countries are currently enrolled in colleges, universities or continuing education programs, but we can see that there is a growing demand and interest to increase postsecondary or tertiary education opportunities for deaf students all over the world. We have seen that on the international front, in addition to Japan's excellent development with the Tsukuba College of Technology, other countries like China, Thailand, Russia and the Philippines are making efforts to provide postsecondary education opportunities to deaf and hard-of-hearing persons.

In considering the current topics in higher education for deaf and hard-of-hearing students, I will discuss the demographic shift that has impacted on academic preparation of students with deficiencies in their basic skills, the technological advancements, and development of employment opportunities for deaf and hard-of-hearing people:

1. Changing Student Population in USA

Based on a diminishing birth rate and other factors, Dr. Kenneth Nash (1990) predicted that in the United States there would be a significant drop of about 15% in the college-age population of deaf students between then in 1990 and the year 2000. This clearly had an important impact on planning, funding and programming postsecondary education programs in the year 2000, at least in the United States.

Further, the Center for Assessment and Demographic Studies at Gallaudet University and the United States Department of Education predicted a steady growth in the percentage of deaf students in the college-age population who are members of racial and ethnic groups; it was 29% in 1982. In 1990 it is 35%, and it was estimated to be 39% in the year 2000. An analysis of the reading level of the students in the minority population showed that 90% of minority students who are deaf were around the 5.0 grade level or below in reading compared with the 90th percentile of non-minority deaf students, which stood at the 8.6 grade level. Under these conditions, only 300 out of a pool of 3000 minority students in the 18-21 year old category were expected to attend a college program in spite of the fact that the minority population would increase to 40% by the year 2000.

Adding to this problem is the fact that the graduation rate of minority students who attend college today is significantly lower than that of non-minority students who attend NTID and Gallaudet. At NTID, we have implemented a number of retention strategies in an effort to enhance student success. One example is the establishment of a strong student-mentoring program whereby peer upper-class students are trained to serve as role models for other students. This has helped many of these students to develop their self-esteem, become proud of their cultural identity, and be motivated to work hard in their studies. The program is also designed to help students to develop their leadership skills by becoming involved in diverse student leadership development programs and activities that are commensurate with their cultural background and experiences.

2. Basic Academic Preparation

The backgrounds and academic levels of deaf and hard-of-hearing students entering postsecondary institutions vary considerably from one to another. This includes their skills in reading and writing English, and mathematics.

Assessments most commonly used in these areas suggest modifications for testing basic instruction and learning and make some suggestions of a programmatic kind.

Instruction should be based on the results of assessments and on individual student needs for improvement in their basic skills. At NTID we established a State-of-the-Art Learning Center whereby faculty members and trained tutors work with each individual student on their specific learning needs. We also set up a Peer Student Tutoring Program that hires and trains deaf students with strong academic skills to tutor other students. We found that many students learn effectively through their peers. It also has

helped many of our peer tutors to learn more about teaching techniques and become better students themselves.

It should be said at the outset that classroom support services such as interpreting, classroom assistive listening devices, and notetaking, are important, but they cannot substitute for basic academic preparation. Even though these services go a long way toward removing obstacles to communication, they alone will do little to bring the unprepared student up to the level of academic competence required by most college courses.

3. Technology

Without access to technology and the World Wide Web, deaf people will be left behind in the telecommunication and information revolution. As deaf and hard-of-hearing students continue to seek enrollment in higher education, faculty and staff need to know what technology these students need to assure success.

For most hard of hearing students and for some who are deaf, hearing aids and related sound amplification devices are of great benefit in their communication and learning. We are all familiar with hearing aids. If we don't wear hearing aid, ourselves, almost certainly we know others who do.

Technology has more recently produced an additional array of electronic devices, which benefit many deaf and hard-of-hearing students. Assistive Listening Devices (ALDs) are used in face-to-face or telephone communication as a form of providing accessibility for people who have residual hearing.

Over the past 20 years, several developments have made it possible to use real-time speech-to-text transcription services, as we know them today. These began with the development of smaller, more powerful computer systems, including their capability of converting stenotype phonetic abbreviations electronically into understandable words. These parallel developments led to the earliest applications of studio-based systems both to the classroom and to real-time captioning in 1982 (Stinson & Stackless, 1998). This enhanced portability led to the use of computers for notetaking in which the notetaker used a standard keyboard in the regular classroom.

Emerging technologies are already creating impact on the teaching and learning processes in classrooms throughout the world. Broadband and wireless technology now permits us to bring the entire world into the classroom (Porter, 2000). Wireless telecommunication devices including mobile phones with a wireless modem for Internet access at warp speeds, interactive papers, personal digital assistants (hand-held computers), and video conferencing are among the emerging technologies that enable deaf and hard-of-hearing persons to communicate with anyone, anywhere. With widespread access to the Web, it should also be considered as an important delivery channel for distance learning or electronic learning anyplace, anytime.

NTDD looks forward to collaborating with TCC in the development of distance learning opportunities that will enable deaf and hard-of-hearing students from both institutions to take courses together. I am confident that we both have the knowledge, expertise and resources to make it happen on an international level.

4. Employment

It should be noted that the employment situation for people with disabilities, in general, has not improved in spite of the ADA. In fact, fewer severely disabled Americans are working than before the ADA. We lack definitive information on the deaf population, but our own data on NTID/RIT graduates suggests that technical training has led to greater and more advanced employment. For the American deaf community, which now includes doctors, lawyers, engineers, entrepreneurs, scientists, technicians, software designers, teachers, psychologists, social workers, counselors, and administrators, among many others, a university education is what has made the difference. A quality education leading to a good career choice levels the playing field and creates economic parity between deaf persons and their hearing peers. This is the essence of a quality of education (Davila, 2000).

NTID developed a model NTID Employment Center (NCE) that focuses on placement services and employer development. NCE provides direct training to students in resume writing, job interviews, and preparation for initial coop or permanent job placement. NCE also provides employer development training to hiring managers, supervisors and co-workers in the awareness and understanding of deafness, deaf people and deaf culture. This enables employers to create a positive working climate for all workers including those who are deaf and hard of hearing. NTID also provides workshops to our alumni to help them to develop their leadership skills that will enable them to assume additional work responsibilities in their workplace including supervision and/or project management.

Conclusion

There is an obvious need for a systematic approach to design, develop and expand opportunities and choices for deaf and hard-of-hearing adults to pursue their postsecondary/tertiary education in a wide range of educational programs. These programs must take into consideration demographic trends, academic preparation, technological advancements, and employment opportunities. They also should complement with quality aspects of program options and educational support services. The objective is to enable each deaf person to develop and continue to expand their overall skills, which will foster growth and development in their careers. Every effort must be made to create a positive environment for deaf students in the pursuit of their postsecondary/tertiary education.

Deaf adults should play a greater role in policy development and decision-making processes as they affect educational opportunities and choices for deaf people. Deaf people also should be encouraged to become teachers, counselors, and administrators in postsecondary education programs for deaf students. Hearing people who work with deaf adults in postsecondary/tertiary education programs should always strive to continue to learn about deafness, deaf people, sign language and deaf culture. This will enable them to be in a better position to work with deaf people to enhance quality aspects in college and continuing educational programs and thus expand opportunities and choices for deaf people.

Colleges and universities that serve deaf and hard-of-hearing students should continue to improve teaching and learning for deaf and hard-of-hearing students. They should increase the application of technology to teaching and learning for deaf and hard-of-hearing students, and career education opportunities for deaf and hard-of-hearing people should be expanded.

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