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Rehabilitation for People with Disabilities in Thailand: An Overview

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Introduction

Thailand is located in the center of peninsular Southeast Asia, about 513, 115 square kilometers. The population was estimated at 62,458,958 in January 2006[1]. In 2005, 70 percent of population lived in rural areas and 30.1 percent in urban areas The largest metropolitan area is the capital, Bangkok, with as estimated 6.5 million inhabitants in 2005[2]. According to estimates of Thailand's age structure for 2005, 22.54 percent of inhabitants are less than 15 years of age, 66.87 percent are 15-59 years of age, and 10.58 percent are over 60[3]. In 2005 life expectancy was estimated at 73.9 years for women and 69.4 for men, or nearly 71.6 years total. In 2003 services sector, which ranges from tourism to banking and finance, contributed 46.4 percent of gross domestic product (GDP), followed closely by industry with a 43.5 percent share. Agriculture accounted for the remaining 10 percent. Thailand's labor force was estimated at 36.4 million as of November 2004. About 49 percent were employed in agriculture, 37 percent in services, and 14 percent in industry. In 2004 women constituted 48 percent of the labor force and held an increasing share of professional jobs. Starting in October 2002, the education system offered 12 years of free basic education to students nationwide: six years of primary education beginning at age six or seven, followed by three years of middle school and three years of high school, ending at age 18. Education has been compulsory through the ninth grade (from age seven to 16) since January 2003. With the addition of two years of pre-primary schooling, the length of education was extended to 14 years in May 2004. In 2004 an estimated 96 percent of students completed grade six, and 48 percent complete grade 12. In 2004 more than 8.8 million students were enrolled in 32,413 primary, middle and high schools; 631,000 students were enrolled in 612

[1] http://www.dopa.go.th 2006
[2] http://lcweb2.loc.gov/frd/cs/profiles/Thailand.pdf, 2006
[3] Mahidol University, Mahidol Population gazette, Jan 2006

vocational education institutions. Thailand also has 20 state universities, 12 of which are in Bangkok, plus 26 private universities and colleges and some 120 other institutions of higher education. About half of all university graduates were women in 2004. The literacy rate in Thailand is 92.6 percent[2].

Legislation of Rehabilitation for People with Disabilities and Implementation

People with disabilities who enrolled were estimated at 478,611 in September 2005. About 48.34 percent of such people with disabilities were physical disabilities, 14.05 percent disabilities in auditory, 13.33 percent disabilities in intelligence, 10.40 percent disabilities in visual, 2.85 percent disabilities in mental health, 9.94 percent multi disabilities[4]. The rehabilitation for people with disabilities is processed based on the Rehabilitation of Disabled Persons Act in 1991. The important elements of this Act are the establishment of the Committee for the Rehabilitation of Disabled Persons and created a Fund for the Rehabilitation of Disabled Persons which under responsibility of Ministry of Human Development and Security. The main task of the Committee include the proposal and recommendation of policies and plans to be approved by the Cabinet and the establishment of rules, regulations and ordinances related to the Act. The important rule that Committee for the Rehabilitation of Disabled Persons established was Registration of Person with Disabilities Rule (1994).

There are now 5 Ministerial Regulations related disabled persons. Ministerial Regulation No. 1 (1994) on the Employment of Disabled Persons and the Contribution to the Fund for Rehabilitation of Disabled Persons was authorized by Ministry of Human Development and Security (formerly Ministry of Labour and Social Welfare). The purpose of Regulation No.1 is to establish a ratio of disabled employees to be hired by private companies and the rate of payment which must be paid by employers or owners of the companies to the Rehabilitation Fund of Disabled Persons. Ministerial Regulation No. 2 (1994) on the Designation of Type and Criteria of Disabled Persons and Ministerial Regulation No. 3 (1994) on Provision of Medical Rehabilitation Service and Expenses for Nursing Care and Equipment were authorized by Ministry of Public Health. The purpose of Regulation No. 2 is to designate type and

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[4] Ministry of Human Development and Security, 2006

criteria of persons with disabilities and Regulation No.3 is to establish medical rehabilitation service for readjust physical, intellectual or emotional condition or improve existing condition of disabled person and expenses for nursing care and equipment. Ministerial Regulation No. 4 (1999) on Accessibility for People with Disabilities was authorized by Ministry of Human Development and Security (formerly Ministry of Labour and Social Welfare). The purpose of Regulation No. 4 is to provision of welfare protection, social service including improving living conditions, equality and eradicating any barriers which deprive disabled persons from access to the facilities in building, sites, vehicles and public services. Ministerial Regulation No. 5 (2002) on Criteria of Children with Disabilities and Provision of Assistive Devices, Media, and Services in Education was authorized by Ministry of Education. The purpose of Regulation No. 5 is to designate qualification of students with disabilities to receive/lend an assistive devices, media, and other services.

According to the Rehabilitation of Disabled Persons Act, persons with disabilities should receive the rehabilitation services include of medical rehabilitation, educational rehabilitation, vocational rehabilitation, and social rehabilitation supported by four Ministries. Ministry of Public Health is responsible for medical rehabilitation. And the Sirindorn National Medical Rehabilitation Center was established to provide medical rehabilitation services and to be center for distributing assistive devices, orthosis, and prothesis to the affiliated hospitals throughout Thailand. Ministry of Education is responsible for educational rehabilitation as the stipulation of the National Education Act 1999. This act protects the rights of persons with disabilities to education in accordance with their Constitutional rights. People with disabilities are entitled to early intervention services, educational materials and facilities, and government-supported home schooling. All children receive 12 years of basic schooling free of charge. Educational materials are being produced to meet the needs of target groups. Ministry of Labour (formerly Ministry of Labour and Social Welfare) is responsible for implementation of Worker Compensation Act 1979, Social Security Act 1990, Occupational Training Promotion Act 1994, and Vocational Training Promotion Act 1996. The Worker Compensation Act provides protection for employees disabled at work so that they receive compensation for medical expenses, prosthetic devices and equipment, and physical and mental rehabilitation. In addition, under this Act, the Social Security Office,

Ministry of Labour provides vocational rehabilitation service at the Industrial Rehabilitation Center in Bangpoon, Pathum Thani Province. The Social Security Act covers employees in enterprises in the private sector with 10 or more workers. Insured employees are granted certain benefits (health care, rehabilitation services, income replacement, etc.) in cases of illness, disability, maternity, old age and death. Physical, mental and occupational rehabilitation expenses are covered by invalidity benefits. Social Security services include 500 baht (US $12) a month cost-of living for registered persons with disabilities as a subsistence allowance. Occupational Training Promotion Act stipulates the establishment of job training among active workers to enable them to enter the skilled labour market as well as improve productivity of the workforce. It calls for cooperation between employers and vocational institutes to provide students with on the job training. Vocational Training Promotion Act is to entitle registered private enterprises to a 50 percent tax reduction of training expenses as well as other incentives to encourage training and established the Vocational Training Committee, a tripartite group to establish skill standards. Ministry of Social Development and Human Security is the principle ministry promoting the interests of people with disabilities in social rehabilitation including employment. There are 75 Provincial Social Development Office and 8 Vocational Training Centers. These centers provide training in various around 800-1,000 persons annually.

Education for Persons with Disabilities

The Rehabilitation for Persons with Disabilities Act 1991 entitles persons with disabilities to compulsory education, vocational education and higher education in accordance with the National Education Plan. Such an education may be arranged in special educational institutes or in regular ones, with the Educational Technology Center under the Ministry of Education providing the necessary support. Ministry of Education established 43 special schools (20 for deaf, 19 for intellectual disabilities, 2 for blind, and 2 for physical disabilities) to get a basic education[5]. Some NGO or foundation also established special schools for children with disabilities. In 1999, a total of 110,327 disabled children went to school, 96,351 of whom were enrolled in integrated education in 4,968 schools, and 13,976 in 52 special schools. There were 2,668

[5] http://special.obec.go.th, 31 Jan 2006

International conference of career planing and employment for students with deafness or hard of hearing, Beijing, China, 2006

disabled students study in general high school and 1,975 disabled students in vocational school in 2005[6].

In 1993, at the initiative of Her Royal Highness Princess Maha Chakri Sirindron, Ratchasuda College was established under Mahidol University as an institution of higher education for persons with hearing impairments. At the same time, the College offers a master's degree program in rehabilitation counseling, which is open to all. On 17 August 1999, Thai sign language was announced as the national language for person with hearing impairments. The Government proclaimed 1999 as the "Year of Education for Persons with Disabilities". In 2001, the government also announced a new policy stating that persons with disabilities must be provided with educational opportunities so that they can improve upon both their own as well as society's quality of life. In 2005, there were 1,289 disabled students in 113 higher education institutes (265 in certificate level, 1,006 in undergraduate level, 17 master program, 1 doctoral program). Most undergraduate disabled students (253) study in faculty of Education, followed by 153 in faculty of Business and Administration, 103 in faculty of Law, 89 in faculty of social science and Humanity, 76 in faculty of Art. These disabled students included 406 students with physical impairments, 342 students with hearing, 297 students with visual impairments, 151 students with mental disabilities, 57 students with intellectual disabilities, and 36 students with multi disabilities[6].

Employment of Persons with Disabilities

Persons with disabilities have the right to apply for work without discrimination. In 1994, Ministry of Human Development and Security (formerly Ministry of Labour and Social Welfare) issued a ministerial regulation on employment of persons with disabilities. This regulation requires an enterprise with over 200 employees to hire person with disabilities who has the ability to work in any position per every 200 employees. Employers hiring persons with disabilities can deduct double the actual cost of hiring for tax purposes. The enterprises that have not employed persons with disabilities should contribute money to the Fund for the Rehabilitation of Disabled Persons. Under this scheme, there were 3,568 registered enterprises from 5,967 which employed

[6] Office of Higher Education, Ministry of Education, 2005

approximately 3,874 persons with disabilities in 2005[7]. In case persons with disabilities do not wish to work in enterprises or government agencies, they can apply for loans with the Rehabilitation for Persons with Disabilities Fund so they can start their own self-employment. The loan is 40,000 bahts, it is interest free with maximum five year repayment period. As for those persons with disabilities who can not secure a job, the government has established a garment-producing factory for them in Nonthaburi Province. Called the IYDP sheltered workshop, this shelter was established to commemorate the International Year of Disabled Persons in 1981, using both state funds as well as money donated by public. Ministry of Human Development and Security operates 8 residential vocational training centers and provides 17 training courses. People with disabilities apply thorough provincial welfare offices. Initial assessment involving a basic literacy, paper and pencil tests and basic ability test through situational analysis determines a person's eligibility for training. Ministry of Human Development and Security also provides a small-scale job placement service for disabled persons based in Bangkok. This service focuses predominantly on providing information on job vacancies from a central location to job seekers and training centers.

Discussion

Although there are many Acts and regulations that relate to rehabilitation for persons with disabilities, the implementation of these laws are inadequate because people does not perceive person with disability as a capable person. The role and function of 4 ministries responsible for rehabilitation is not clear which effect on the cooperation among the ministries. The government seems realize this problem so Ministry of Human Development and Security has recently signed a memorandum of understanding with Ministry of Labour to do a work placement for persons with disabilities. Few persons who work with persons with disabilities have knowledge of rehabilitation for person with disabilities especially in educational and vocational rehabilitation. The curriculum and instruction in the blind or deaf school does not provide children with disabilities to study in mainstream school. Many general schools are not ready to teach children with disabilities in the same class of general children. However, there are 390 schools join the government's pilot project on integrated

[7] Ibid. Ministry of Human Development and Security, 2006

school for children with disabilities beginning 2006[8]. The program for transition to work is not arranged for children with disabilities in the school. During 1996-1998, employers covered by the Rehabilitation Act offered more than 9,000 job vacancies each year specifically for job seekers with disabilities for which neither the Department of Public Welfare, Ministry of Human Development and Security or the Department of Employment, Ministry of Labour could find qualified applicants[9]. A survey on occupational opportunity for the disabled (Phase II) found that 16.4% of 117 persons with disabilities work in document or type writing, 8.6% sewing, 7.3% production line, 6.2% academic or research, 0.6% professional such as engineer, architecture[10]. For self-employment, there are 12% of enrolled persons with disabilities loan from the rehabilitation fund and 72% return the money[11]. The vocational training course is not match with the market need and persons with disabilities have problem concerning adaptation.

Making people realize that persons with disabilities have capacity to work is necessary. Organizations related persons with disabilities should understand the role and function of rehabilitation counselor and promote the position of rehabilitation counselor in the hospital and welfare center. The special school should have guidance teacher to help children know themselves enough so they can choose a suitable choice in career or education. The supported employment program through a job coach with a resource person or rehabilitation counselor will help persons with disabilities get work. Moreover, Employer's Confederation of Thailand (ECOT) should collaborate with disable person organizations in promoting the employment of disabled persons. The loan system should assist persons with disabilities in the preparation of self-employment business including supervision or monitor their business until they can return the money. Since most of disabled persons live in the rural area, the employment should accommodate the disabled persons to work in their community. "Put the Right Man on the Right Job" is also used in persons with disabilities as well as in general persons.

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[8] Ibd. http://special.obec.go.th, 31 Jan 2006

[9] ILO, Thailand Country Profile, March 2003

[10] Social Welfare, Thammasat University, 2000

[11] Ibid. 9

An Article for The 1st International Conference of Career Planning and Employment for Students with Deafness or Hard of Hearing in Post-Secondary Level.

College Support Programs for the Students with Deafness or Hard of Hearing in Korea Nazarene University.

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I . Introduction

1. Disability Population

According to the sample survey conducted by the Ministry of Health and Welfare (MOHW) in 2,000, the total number of persons with disabilities in Korea was estimated at 1,449,000 with an appearance rate of 3.09 per 100 persons. This survey has been conducting in every five years from 1985 according to Welfare Act for Persons with Disability. The number of persons with disabilities by each disability/handicap category is as follows;

<Table 1> The Number of Persons with Disability by Category
(thousand persons, 2,000)

Category	Persons	Percent		
Physical Disability	605	41.8	Appearance Rate per 100 Persons	3.09%
Brain Damage	223	15.4		
Visual Impairment	182	12.6		
Hearing Impairment	149	10.3		
Lingual Impairment	27	1.9		
Mental Retardation	109	7.5		
Autism	13	0.9		
Mental Illness	72	5.0		
Kidney Failure	25	1.7		
Heart Failure	44	3.0		
Total	1,449	100.0		

To foster more effective welfare measures for persons with disabilities, Korean Government has started a registration system for people with disability in 1988, and the registration rate is 117% in June of 2005. The total number of persons with disability is about 1,700,000 persons and this number has exceeded the estimated number of persons in the year of 2,000 due to various benefits wbich registered persons with disability can receive.

2. Major Revision of Disability-related Acts

The Korean Government has laid a basic foundation for comprehensive welfare programs for the disabled by amending disability related laws.

- 1977 : Special Education Promotion Act was enacted.
- 1981 : Welfare Act for Disabled Persons was enacted.
- 1988 : Seoul Paralympics
  President's Welfare Committee for Persons with Disabilities organized.
- 1989 : Welfare for Disabled Persons Act was revised extensively.
- 1990 : Promotion, etc., of Employment of Disabled Persons Act was enacted.
- 1991 : Central Welfare Committee for Persons with Disabilities was organized.
- 1994 : Barrier-free legislation for Persons with Disabilities was enacted.
- 1997 : The Act on Installation of Convenience Facilities for the Disabled was enacted.
- 2000 : Welfare for Disabled Persons Act was revised extensively
- 2000 : Promotion of Employment of Disabled Persons Act was reenacted to Promotion of Employment and Vocational Rehabilitation of Disabled Persons Act
- 2003:

By amending laws that have excessively high qualification standards for some certificates, the Government has expanded opportunities for persons with disabilities to participate in society.

Ⅱ. Rehabilitation Policies for Persons with Disability

The Korean Government endeavors to expand welfare institutions and improve the quality of their services to provide comprehensive protection for persons with severe and/or multiple disabilities. The Government is also expanding the income maintenance programs for persons with disabilities by providing welfare allowance and reducing taxes and fees.
The Government has been conducting information campaign to counter social prejudice against persons with disabilities and helping the disabled develop their self reliance so that they can become active members of society. The Government has been providing itinerant rehabilitation services to promote self-support so that disabled persons at home can perform social activities equal to non-disabled persons.

1. Prevention of disabilities

The incidence of disability can be reduced by strengthening the maternal and child health care systems and by early detection and treatment of disability producing sickness and injuries. A management system for maternal and child health care has been implemented. Infants and adolescents are vaccinated on a periodic basis. The Government sets the medical examination for inborn metabolic disorders for all babies within three days following birth.

2. Expansion of welfare institutions for persons with disability

The Government is expanding the scope of operation of rehabilitation institutions in order to provide better vocational, medical, and social rehabilitation for the severely disabled. The total number of rehabilitation institutions are 747 (Residential-216, Community-531) and people with disabilities who have resided institutions are 19,515 persons as of year 2002.

<Table 2> Status of Welfare Institutions (2002)

	Type of Institution	No. of Institution	No. of Persons in Institutions
Residential Institutions	-Physically Disabled	31	2,646
	-Mentally Retarded	83	7,322
	-Visually Impaired	12	1,008
	-Auditory-lingually Impaired	12	1,097
	-Medical Care	78	7,442
	Sub Total	216	19,515
Non-residential Institutions	-Rehabilitation Center	92	

	-Rehabilitation Hospital -Day Care Center -Short-term Care Center -Group-Home -Sports Center -Mobile Service Center -Sign Language Center -Vocational Rehabilitation Institution	14 61 15 63 14 40 38 194	
	Sub Total	531	
	Total	747	19,515

3. Measures to reduce the financial burden

To reduce the economic hardship of the disabled and their families, the Government has developed various measures which enable persons with disabilities to support themselves. The Government provides 76,899 low-income disabled persons with disability allowance and 93,251 disabled persons with medical aid, bearing all medical expenses. The Government also provides loans for self-support, education aid, appliances aid and non-budgetary measures for reducing tbe economic burden, such as deduction of tax, discount of fee for public facilities, etc.

4. Community rehabilitation facilities for persons with disabilities

The Government establishes many kinds of public rehabilitation institution to foster the development of persons with disabilities toward self-supporting status. As public rebabilitation institutions, there are Welfare Center, Special Hospital for Rehabilitation, Day Care Center, Short-term Care Center, Group Home, Sports Center, Mobile Service Center and Sign Language Interpreting Center. The functions of public rehabilitation institutions include rehabilitation counseling, therapy, training, social surveys, general rehabilitation services and social action, etc.

5. Increase the number of barrier-free facilities

The Government has been continuously eliminating social and physical barriers and has made access easier for persons with disabilities to participate in social activities. The Government also introduced the Act on the Installation of Convenience Facilities for the Disabled in April 1997 for the benefit of people with disabilities to improve their accessibility and to bring about their unrestricted social mobility and free access to information. Under the Act, the installation of barrier-free facilities for roads, parks, public buildings and facilities, means of transportation and communication equipment is compulsory. Also the government is subsidizing the private sector installation of barrier-free facilities by providing financial and technological benefits and tax breaks.

6. Increase educational and employment opportunities

Most disabled children are enrolled in regular schools. But for the disabled children who cannot adapt themselves effectively to the environment, the Government operates 129 special schools and 6,429 (3,825 in general schools) special classes, where 50,852 disabled students are being educated. The Promotion, etc. of Employment of Disabled Persons Act was enacted in 1990. This Act was reenacted as Promotion of Employment and Vocational Rehabilitation of Disabled Persons Act in January, 2000. According to the law, the company with 300 employees or more must fill at least 2% of its positions with disabled workers. The Government has established the public vocational training centers for the disabled.

7. Establishment of the National Rehabilitation Center

The National Rehabilitation Center was established in October, 1986. The functions of the Center include counseling, medical rehabilitation, job-training, research and study. The Center has also constructed the National Rehabilitation Medical Center. The Medical Center will meet the growing need for specialized medical rehabilitation treatment of the handicapped and technically qualified personnel. It was opened in April, 1994.

8. Sports Activities

Since 1981, National Sports Games for the disabled have been held every year. The Government has participated in the Paralympic Games since 1968. Athletic activities serve as a form of social rehabilitation and as a way to maintain one's health. It is very important to provide persons with disabilities with equal opportunities for taking part in athletic activities and to develop such sports events in Korea.

Ⅲ. Rehabilitation Welfare Programs in KNU

1. Korea Nazarene University

Korea Nazarene University (KNU), a private university which comprises 130 full-time professors and 4,300 students, now entering a new era. We have celebrated the 50th anniversary in 2004. KNU has achieved a lot over the past 50 years, but we still have lots to do in future. Korea Nazarene University is the best university in the field of rehabilitation & welfare in Korea. It is human welfare that we are focusing on, not politics, economy, military or diplomacy. We respect the various experiences from overseas. We, as a member of 57 Nazarene Colleges and Universities worldwide, have been providing various experimental opportunities such as cultural interchange, language training, backpack traveling, and degree programs to our students, faculty, and staff. We offer comprehensive personality education to our students by the faculty-parents program. Now we are preparing for another 50 years on the basis of our tradition and capacities. First, to complete our master plan, we will focus on campus beautification. Second, we will try to improve the quality of education by supporting our faculty members, encouraging them to develop various teaching methods. We also plan to give our students various opportunities to apply their learning to real community services. Korea Nazarene University welcomes people who live out their beliefs. We are open to anyone and looking for people who care about other people.

Mission

Korea Nazarene University provides higher education -- teacher training, business and management training, liberal arts education, and religious education -- based on democratic ideals, the academic standards of the Republic of Korea, and Christian principles. It strives to produce Christian leaders capable of faithful, dedicated service to this nation and mankind overall, as well as qualified Christian ministers for the Korea National District Church of the Nazarene. KNU graduates should also have acquired professional disciplines and skills to improve the welfare of the regional community.

Purpose/Goals

The educational purpose of KNU is to produce missionaries who will serve in the world mission field, and lay people who will serve the community, the nation, and all of mankind. This is accomplished through research and instruction in true academic principles, applied theories,

and discipline based on the Christian spirit, democratic ideals, and the creed of the Church of the Nazarene.

History in Brief

Years	Brief History
1954	Opened in Seoul, Korea as Korea Nazarene Church Seminary
1981	Moved to Cheonan City, Choong-nam
1995	Starts Undergraduate Rehabilitation Programs
1996	Changed from Seminary to four year University Starts Specialization in Rehabilitation Welfare field
1999	Starts Graduate Rehabilitation Welfare Programs
2000	Establish Education Support Center for students with disability
2002	Received a financial grant for regional university development from the Ministry of Education and Human Resource
2004	Selected as Participant University of the New University Regional Innovation (NURI) Project by the Ministry of Education and Human Resource
2004 2005	Selected as Number One University in Education and Welfare Support for Students with Disability by the Ministry of Education and Human Resources

1. Undergraduate Programs

KNU has various kinds of undergraduate and graduate programs in rehabilitation welfare field. We have three undergraduate divisions (Division of on, Division of Special Education, Division of Social Welfare) and two graduate programs (Graduate School of Rehabilitation Welfare and Graduate School of Education) in rehabilitation services.

In undergraduate rehabilitation welfare related majors (See Table), Division of Rehabilitation has four majors (Human Rehabilitation, Rehabilitation Engineering, Speech & Communication Disorders, Sign Language Interpretation), to which belong 25 full-time professors and 1,060 students. Division of Special Education has four majors (Early Special Education, Elementary Special Education, Secondary Special Education, Therapeutic Special Education) which comprise 11 full-time professors and 360 students. Division of Social Welfare has three majors (Social Welfare, Adolescent Welfare, Elderly Welfare), to which belong 8 full-time professors and 600 students.

<Table 3> Undergraduate Rehabilitation Welfare related Majors

Divisions	Majors	Professors	Students
Rehabilitation	-Human Rehabilitation	11	450
	-Rehabilitation Engineering	5	200
	-Speech & Communication Disorders	7	400
	-Sign Language Interpretation	2	10
Special Education	-Early Special Education	4	140
	-Elementary Special Education	3	140
	-Secondary Special Education	2	60
	-Therapeutic Special Education	2	20
Social Welfare	-Social Welfare	3	400
	-Adolescent Welfare	3	100
	-Elderly Welfare	2	100
Total	11 Majors	44	1,860

2. Graduate Programs

In graduate rehabilitation related majors (See Table), We have two graduate programs (Graduate School of Rehabilitation Welfare and Graduate School of Education) in rehabilitation field. Graduate School of Rehabilitation Welfare has seven majors specified in various rehabilitation services across all disability categories (Rehabilitation Welfare, Vocational Rehabilitation, Psychological Rehabilitation, Speech & Communication Disorders, International Sign Language Interpretation, Rehabilitation Engineering, Rehabilitation Sports), to which belong 260 students. Graduate School of Education has one major of Special Education which comprises 50 students. The total number of graduate programs in rehabilitation field is 250 students.

<Table 4> Graduate Schools Related with Rehabilitation Welfare

Divisions	Majors	Begins	Students
Graduate School of Rehabilitation Welfare	- Rehabilitation Welfare	2,000	30
	- Vocational Rehabilitation	2,000	30
	- Psychological Rehabilitation	2,000	30
	- Speech & Communication	2,000	40

	Disorders - International Sign Language Interpretation - Rehabilitation Engineering - Rehabilitation Sports	2,002 2,003 2,003	35 20 15
Graduate School of Education	- Special Education	2,000	50
	8 Majors		250

3. Students with Disability in KNU

KNU retains 218 students with disabilities as of October, 200 and this number is 5.5% of total university students 4,300. Among them, students with orthopedic or physical disability comprise the largest number of 65 (29.8%), then students with deafness and hard of hearing are 57 (26.2%), students with visual impairment are 40 (18.4%), students with learning disability 33 (15.1%), and students with brain damage 23 (10.6%).

The academic field which has the largest number of students with disabilities is Division of Rehabilitation (68 students), Division of Social Welfare 54 students with disability, Division of Theology (27 students), Division of Special Education (26 students), and Division of Computer Technology (25 students). Approximately 68% of students with disability belong to university specialized rehabilitation welfare field including Division of Rehabilitation, Division of Social Welfare, and Division of Special Education

<Table 5> Numbers of Students with Disability Category.

Academic Division	Deaf and Hard of Hearing	Learning Disabilities	Visual Impairment	Physical/ Orthopedic	Brain Damage	Total
Theology	8	7	4	7	1	27
Rehabilitation	17	14	13	18	6	68
Social Welfare	8	4	11	22	9	54
Child Study				2		2
International Language	1	1		1	2	5
Music		3				3
Special Education	10		9	4	2	25

Flower Design	2					2
Computer Technology	10	4	3	7	2	26
Management	1			1		2
Public Information				3	1	4
합 계 (Percent)	57 (26.2)	33 (15.1)	40 (18.4)	65 (29.8)	23 (10.6)	218 (100.0)

* As of October 1, 2005.

Ⅳ. Braille, Voice, Electronic Education Information Center

http://www.nable.or.kr

The KNU Braille, Voice, Electronic Education Information Center (EIC) offers education and support services for various kind of students with disability registered in our university since the year of 2000. EIC provide academic support services to students with permanent and temporary disabilities who have a verifiable disability-based need. Services are available, upon request, to assist students with disability in completing their academic requirements and to attend campus programs and activities. The support services for students with disability provided by 10 EIC coordinators and 70 student helpers are listed and described below. Eligibility for a specific service is determined by a review of the documentation provided during a meeting with an EIC Disability Specialist. Academic support services are designed to provide equal access to the educational program between students with and without disability. Each service may be approved by the EIC coordinator and can be accessed by competing the appropriate service request form. Service guideline information is available at EIC office, and at EIC web site: *http://www.nable.or.kr*

1. Support Services for Physical or Visual Impairment Students

1) Priority Enrollment/Registration Assistance

Undergraduate students with disability-based needs that impact their ability to get from class to class quickly, students who need to arrange for service providers, students who must take a reduced load, students who cannot attend classes during certain parts of the day, etc. may be

entitled to priority enrollment. Again, this service is based on disability need as described in the verification of disability.

2) Campus Orientation

Students with visual impairments or learning disabilities may request a campus orientation and mobility session with the Mobility Assistance Coordinator. The student will learn to traverse the campus as they would during a regular day - going from the classroom to labs, lecture halls, or bus stops.

3) Mobility Assistance

Students may need assistance in getting to and from campus locations. Students with permanent and temporary mobility impairments can arrange for on-campus van service to assist them in traveling around campus and to adjacent residential areas. Students with visual impairments can request orientation and mobility assistance.

4) On Campus Van Service

Provided to students with a variety of disabilities, which impact the student's ability to traverse the campus. Van service is provided from 9:00 a.m. - 5:00 p.m. Monday through Friday. Limited service, for academic classes, is available on weekends and evenings.

5) Disability Parking

Provided to professors/staffs/students based on a documented functional disability. Students with a disability or medical condition must present professional verification to the EIC where our Mobility Assistance Coordinator will evaluate appropriate parking. Students with Department of Motor Vehicle Placards/Plates need to present the receipt of the government-issued placard/plate to the EIC. Students who do not have placards/ plates may be eligible for up to one year of parking based on their documented need. Should their disability-based need continue beyond one year, students are required to obtain a DMV placard or plate.

6) Transcription

Provided primarily for students with learning disabilities, visual impairments or disabilities impacting manual dexterity. This service involves the conversion of information from any format into any other format (tape to transcript, text to Braille, handwriting to typed, etc.)

7) Alternative Format

Provided mainly for students with visual or learning disabilities. Reading may be done live or onto a tape. Scanning involves using a computer to scan the material and convert it to a word processing program which can, in turn convert to Braille, large print or a speech synthesized reading program.

8) Housing

Housing is available for students with disability on campus in University owned dormitory, resident halls, cooperatives and off campus in private apartments.

9) Other Services

Other services offered by the EIC include Housing Appeals, Tutorial Referrals, Disability Management Counseling and Information and Referral among others. If you want or need information about support services, please contact the EIC.

2. Services Specific to Deaf and Hard of Hearing Students

In order to have access to classroom information, deaf students typically receive realtime captioning or sign language interpreters or notetakers. Students who are hard of hearing may receive assistive listening devices and notetakers. Deaf and hard of hearing students may qualify to have extended time for exams. The coordinator works closely with faculty to orient them about how these services function.

1) Interpreting/Captioning

Provided almost exclusively for hearing impaired and deaf students but occasionally for other disabilities as well. Interpreters facilitate communication among instructors, hearing students and deaf students. Interpreters make it possible for deaf students to participate fully in classes and academically related activities. Their role is to translate or interpret what the teacher or classmates are saying into the sign language system preferred by the student receiving the service. Real-time captioning allows the words of the lecture to come up instantaneously on the screen of a laptop computer for the student to read. Captioning provides a verbatim transcript of a lecture which can be reviewed by the student or converted into Braille, large print, or scanned for a speech synthesized reading program.

2) Notetaking

Notetaking service is provided for students with a wide variety of disabilities. Notetakers allow deaf or hard of hearing students to watch the interpreter or speech-read the professor.

The one selected for a particular student will be determined on verified need after a meeting with the appropriate EIC Disability Specialist and a discussion with the Deaf Services Coordinator.

3) Proctoring

Procting service is provided for students with a variety of disabilities. Test-taking accommodations are determined based on verified need after meeting the appropriate EIC Disability Specialist. Accommodations are tailored to the student's specific disability -based need. Professors are notified of the accommodation request through a letter from the EIC Disability Specialist, the student meeting with the professor/TA and an e-mail from the EIC Proctoring Service.

4) Adaptive Equipment

The office maintains many adaptive aids and equipment. These aids include wheelchairs, adaptive computer equipment/software, 4-track tape recorders and more. A student must have a documented need and training to use this equipment. Some of the equipment is available to be checked out by students.

<Table 6> Academic Support Services in KNU-EIC

Disability Category	Support Services
Physical Disability	Priority Enrollment/Registration, Mobility support, Support for Living, Notetaking, Proctoring, Handicap parking, Computer lab, Adaptive devices, Housing
Deaf and Hard of Hearing	Priority Enrollment/Registration, Notetaking, Sign language interpretation, Real-time Captioning, Speech therapy, Sign language education in community, Computer lab, Adaptive devices, Tutoring, Housing
Visual Impairment	Priority Enrollment/Registration, Braille books, Word processing, Proctoring, Computer lab, Tutoring, Alternative Format, Transcription Adaptive devices, Housing
Learning Disability	Priority Enrollment/Registration, Alternative Format, Computer lab, Tutoring and mentoring, Housing

V. Employment Services for Deaf Students with Disability

1. KNU Career Center

The KNU Career Center helps KNU students with career development and employment services. The Career Center also has several resources for students with disability to help them develop a career strategy. This Center offers services and resources to help KNU students, graduates and employers reach their goals. As a KNU student we can introduce students to an array of career possibilities and internships and help you explore the link between your major and career choices. The Center can also assist you in transitioning from current occupation to next dream job. We can help employers find energetic and intelligent KNU students through Information Sessions, on campus interviewing, and job or internship listings. The Career Center offers a variety of different services for currently enrolled students, such as:

* Career Planning & Job Search: Career Counseling, Computer Lab, Employment Trend Information, Online Workshops & Services, Resume & Vita Critique, Workshops and Special Events
* Career Information & Exploration: Career Library, Career Week, Employer Information Sessions, Internships, Study and Work Abroad
* Employment Opportunities: Campus jobs, internships, Interviews.

2. Vocational Developmental Institute

Vocational Developmental Institute (VDI) provides professional vocational evaluation and counseling services in order to support job selection appropriate for disabled student's individual features and abilities. The Institute's aim is to discover the various vocational potential of the disabled, including physical, psychological and work abilities. VDI staffs try to improve the quality of work life for persons with disability by studying the employment policy and system for people with disability, expanding work boundaries through the development of jobs appropriate for disabled students' abilities, and providing support for assistive technology equipment necessary in work life.

3. Korea Employment Promotion Agency for the Disabled

Korea Employment Promotion Agency for the Disabled (KEPAD) provides support for collaborating and strengthening job placement services of local communities, developing a model enabling the disabled to be employed in large numbers, and improving vocational abilities in order to satisfy both disabled job-seekers and employers wishing to employ

competent personnel. KEPAD provides appropriate jobs and human resources by conducting counseling for those disabled seeking employment and employers desiring human resources, and implements adaptation guidance in order for the disabled to maintain a stable work life after employment.

4. Sign Language Interpretation Center

We have around 40 sign language interpretation centers nationwide to help deaf people to communicate easy and give appropriate services. Each interpretation center comprises 2-4 staffs sign language interpreters which usually include 1-2 persons with deaf. Considerable number of deaf persons work in this center as a peer interpreter.

■ Presenter : Heaeun Choi
■ Institution : Korea Employment Promotion Agency for the Disabled
Ilsan Vocatinal Competency Development Center

I. The status of People with Disability in the Republic of Korea

1) Demographic Information

☐ Total population of Republic of Korea
: 47.8millions (State of world population report 2005, UNFPA)
☐ The Number of registered Disabled people
: 1,741,024 (3.7% of Total population)

☐ Classification by 15 types of Disability

(Unit: Persons)

Total Number		**1,741,024**
External & Physical	Physical & locomotion	943,395
	Brain disease	160,806
	Visual impairment	184,965
	Hearing impairment	156,063
	Speech Disorder	14,061
	Facial Disability	1,419
Mental	Mental Retardation	125,292
	Mental Disorder	61,088
	Autism	9,100
Internal Organ	Kidney Disorder	40,921
	Heart Disorder	12,461
	Bronchial Disorder	11,186
	Liver Disorder	4,817
	Ostomy	9,091
	Epilepsy	6,359

※ (2005.9, Ministry of Health and Welfare(www.mohw.go.kr)

According to the 2000 survey on the status of disabled persons in the Republic of Korea the appearance rate of the disabled is 3.09%.

And the number of the registered disabled is increasing annually due to the expansion of disability categories.

2) The status of the Hearing Impaired in Korea

☐ Number of People with Hearing impairment
: 156,063 (9% of Total disabled population (M 91,047 / F 65,016))

☐ Classification by the level of seriousness of Hearing impairment

Total / Seriousness	156,063	Ratio
Level 1	3,146	2%
Level 2	43,276	28%
Level 3	27,524	18%
Level 4	29,199	19%
Level 5	25,310	16%
Level 6	27,608	17%

☐ Appearance rate of Hearing impairment by age group

Age	Appearance Rate (%)
Under 10	0.40
10 ~ 19	0.35
20 ~ 29	1.66
30 ~ 39	1.17
40 ~ 49	0.33
50 ~ 59	4.74
60 ~ 69	10.71
Over 70	37.53

*Korea Institute for Health & Social Affairs(2001), 「2000National Disability Survey」

National Survey reveals that the number of population with severe hearing impairment(level 1,2) takes up 30% of the total. And the appearance rate of the hearing impaired is on rise in old age. This supports the fact that about 86.4% of hearing impaired come from posterior causes.

II. The status of employment of People with Disability in the Republic of Korea

[Chart II-1. Number of Employed Population & Employment Rate by Disability Types]

(Unit : Persons , %)

Type	Population of aged over 15	Economically Active Population			Economically non-active population	Rate of Economic Activity participation	Employmnet Rate	Unemployment Rate	Employment vs population (%)
		Sub total	Employed	Unemployed					
Physical	590,460	354,560	259,185	95,375	235,900	60.0	73.1	26.9	43.9

Brain	209,485	39,426	15,143	24,283	170,059	18.8	38.4	61.6	7.2
Visual	175,742	99,809	80,222	19,587	75,933	56.8	80.4	19.6	45.6
Hearing	**143,924**	**69,541**	**58,381**	**11,160**	**74,383**	**48.3**	**84.0**	**16.0**	**40.6**
Speech	23,359	11,638	9,326	2,312	11,721	49.8	80.1	19.9	39.9
Mental Retard	67,821	25,302	14,746	10,556	42,519	37.3	58.3	41.7	21.7
Autism	3,077	454	0	454	2,623	14.8	0.0	100.0	0.0
Mental Disorder	50,069	13,406	5,009	8,397	36,663	26.8	37.4	62.6	10.0
Kidney	25,149	11,450	5,701	5,749	13,699	45.5	49.8	50.2	22.7
Heart	42,402	11,070	8,017	3,053	31,332	26.1	72.4	27.6	18.9
TOTAL	1,331,486	636,654	455,729	180,925	694,832	47.8	71.6	28.4	34.2

[Chart II-2. Rate of occupational distribution of the Employed Disabled]

Public servant & Manager	Expert	Technician associate	Office worker	Service worker	Agriculture & Fishery	Craftsmen	Mechanic &Assembler	Unskilled elementry Job	Total
0.3	2.4	3.6	4.8	21.0	25.6	11.7	6.5	23.4	100

[Chart II-3. Rate of occupational distribution by Type of Disability]

	Physical	Brain	Visual	**Hearing**	Mental	Total
Experts/Public Servant/Manager	1.4	0.2	1.2	0.8	-	0.9
Technicians associate	2.7	0.3	3.0	0.6	-	1.3
Office Worker	2.5	0.3	1.9	1.0	-	1.7
Service worker	8.5	1.7	17.2	5.3	1.0	7.4
Agriculture & Fishery	11.4	1.9	8.1	**16.2**	8.2	9.4
Craftsmen	5.9	1.0	4.6	5.0	1.0	4.0
Mechanic & Assembler	4.0	0.3	1.4	1.3	0.47	2.2
Unskilled elementary job	9.7	2.2	8.1	**10.9**	11.0	8.3
Student	1.2	1.7	2.2	0.7	11.7	2.1
House wife	10.5	9.8	8.4	6.8	6.3	10.0
No occupation	43.2	80.5	43.9	51.5	60.1	52.6
TOTAL	100	100	100	100	100	100

*Footnote: Exclude under 25aged

*Korea Institute for Health & Social Affairs(2001), 「2000National Disability Survey」

1) The Status of Employment of the Disabled in Public Sector

	Administration Bodies	Total Public Servants	Public Servants with Disability	Employment Rate
Total Number	87	297,505	6,079	2.04

※ 2004. 12. 31

☐ [Rate of distribution of Public Servants with Disability by types of Disabilities]

Total Number	Types of Disability						
	Physical	Hearing & Speech	Visual	Mental	Disabled by industrial disaster	the war disabled	Other
6,079	4,726	223	499	18	10	292	311

The employment rate of the disabled in Public sector is quite low (2.04%) and the proportion of the hearing impaired of disabled public servants is low (3.7%).

2) The Status of Employment of the Disabled in Private Sector

☐ Employment rate by size(total number of employees) and type of Enterprises in Private Sector

※ 2004. 12. 31.

Size (regular employees)	Total	Public Enterprises	Over300	50~299	conglomerate
Employment Rate(%)	1.31	2.01	1.26	1.41	0.97

☐ Employment Rate by main types of Disabilities in Private Sector

Size of Enterprise	Total	Types of Disability						Industrial Disease	War Disabled
		Physical	Hearing& Speech	Visual	Brain	Mental	Other		
Total (%)	46,674 (100)	31,518 (67.5)	4,056 (8.7)	3,009 (6.4)	833 (1.8)	1,550 (3.3)	1,249 (2.7)	1,340 (2.9)	3,119 (6.7)
50~299	18,514 (39.7)	12,699 (40.3)	1,817 (44.8)	1,051 (34.9)	356 (42.7)	933 (60.2)	507 (40.6)	364 (27.2)	787 (25.2)
Over 300	28,160 (60.3)	18,819 (59.7)	2,239 (55.2)	1,958 (65.1)	477 (57.3)	617 (39.8)	742 (59.4)	976 (72.8)	2,332 (74.8)

The employment rate of the disabled in Private sector is lower than that of the public sector and employment rate of the disabled in conglomerates is the lowest.
The proportion of the hearing impaired of total disabled workers in private sector is 8.7%.

☐ Average Monthly Income by types of Disability (unit: $10)

	Total	Physical	Brain	Visual	Hearing	Speech	Mental Retard	Autism	Mental Disorder	Kidney	Heart
Monthly Income	79.2	85.9	89.6	79.1	**67.2**	51.9	29.0	0	25.7	101.0	65.9

*Korea Institute for Health &Social Affairs(2001), 「2000 National Disability Survey」

The average monthly income of disabled workers is $79.2 and the hearing impaired of them get the lowest monthly income of all. The average monthly income of disabled workers is merely 43.1% of the full-time employees' monthly income.

In addition, the level of income of the non-disabled families is only 46.4%. And, the unemployment rate in the productive population comprising those above 15 years of age is 28.4% higher than the total unemployment rate4.2%.

The percentage of families that receive subsidies from the government from among the total number of disabled families is 13.7%, and this figure is five times higher than that of the non-disabled families.

☐ Average years of continuous service of the Hearing Impairment Workers

Years	Under 1 year	1 ~ 2	2 ~ 3	3 ~ 4	4 ~ 5	5 ~ 6	6 ~ 7	7 ~ 8	8 ~ 9	Over 10 year	Total
Ratio (%)	30.9	9.1	3.5	9.9	15.8	9.2	1.6	2.1	1.4	13.8	100

* Korea Employment Promotion Agency for the Disabled (2001), 「2000 National survey of the Disabled workers」

III. The status & Problems of the employment of Hearing Impairment in ROK

In Korea, the importance of vocational rehabilitation for the hearing impaired has been neglected as compared with that for people with other types of disabilities, and the level of awareness regarding this necessity is low due to the independence and free mobility of the hearing. Due to the lack of support such as sign language interpreting or captioning for the hearing impaired in mainstream work place and schools, they face many difficulties and get isolated.

A National Survey revealed that most workers with hearing impairments are engaged in unskilled, elementary, manual jobs with a low wage, and 30% of them change their jobs within 1 year. This is the result of a low level of education and few vocational skills, limited communication, and an unfriendly environment.

And other surveys reveal that most employers and managers are having difficulties in communicating with hearing impaired workers. Also, hearing impaired workers are having difficulties in adjusting work environment and having relationship with other workers due to limited communication.

Since most enterprises do not have sign language interpreter, misunderstanding and miscommunication happens a lot in work place. So, government intervention such as supporting sign language interpreters is in need.

Due to high turnover rate of hearing impaired workers for jobs, some enterprises are

unwilling to hire hearing impaired. This can be disadvantageous for hearing impaired workers to keep developing their career and to get a promotion.

IV. Legislation and system for the employment of the Disabled in Korea

■ Legislation

- 「Law on Employment Promotion for the Disabled」 (Jan. 13, 1990)
- 「Employment Promotion and Vocational Rehabilitation Act for the Disabled」 (Jan. 29, 2001)

■ Employment Quota System

Korea has adopted the employment quota system for the disabled, which forces employers who hire more than a certain number of regular laborers to employ more than a certain ratio of the disabled.

The Employment Promotion and Vocational Rehabilitation Act for the Disabled stipulates the obligation of the state and the head of local governments to hire 2% or more of the quota of civil servants attached to them.

■ Polices & Programs for the employment of the disabled

- Subsidies for the encouragement of disabled people's employment
- Supportive grants and loans
- Support Convenient Facilities for the employment of the disabled
- Support with employment management expenses for the disabled
  (Sign language interpreter/ Work life Counselor/ Job coach etc.)
- Financing of Independent Business establishment funds
- Financing for purchasing automobiles for commuting of the disabled

■ Introduction of Korea Employment Promotion Agency for the Disabled (KEPAD)

As an unique government agency supporting employment opportunities, vocational rehabilitation and vocational independence for the disabled, KEPAD was established on September 1, 1990 in order to professionally perform vocational rehabilitation projects for the disabled. These include vocational guidance, job placement, vocational training, provision of vocational rehabilitation information, survey, study and Minister of Labor entrusted projects.

KEPAD have 13 local branch offices, 5 vocational training centers, Employment Development Institute and Assistive Technology center and has been providing the disabled with vocational rehabilitation services ranging from training to job placements.

Further, KEPAD has a close relationship with various enterprises engaged in the training and employment of the disabled and is in collaboration with universities.

■ **Programs and Courses in Vocational Training Centers of KEPAD**

Programs		Details
Vocational Training Courses	Training for nurturing Technicians	Mechanic / Electronic / Information Technology/ Computer Design / Printed Media/ Animation/ Arts & Crafts / Bakery
	Training for Specific Disability Type	Visually Impaired / Hearing Impaired Mental Retarded / Brain Disorder
	Career development program for the employed	Lifelong Learning through On-line Education (Cyber MBA/ Accounting/ IT etc.)
	Re-training for Re-employment	Training for the unemployed
	Customized Training	Coop with Employer form training to employment (Telemarketing / IT / QC etc.)
	Training for Self-employment	On-line mall / Auction Site Business
Rehabilitation Programs	Evaluation for Vocational Ability & Counseling	Career Exploration / Job analysis Physical & Psychological Test / Competency Assessment
	Supported Employment program for the severe Disabled	Car Washing / Care taker/ Food Service Assisting job for the Mentally retarded
	Duty-Experiencing Program	-
	Physical Ability Improvement program	Stretching Program

※ **Custom-made Training with Enterprises**

: " Custom-made Training" is a vocational training on the basis of a contract concluded between a training institute and business entity on overall training matters such as particular technology, training job, education level, method and employment after completing the training.

□ Cases
- Hyundai Oil-Bank Inc. : Car Washing job for Mental Retarded
- SK Telecom Inc. : Training for Telemarketing job
- ASE Korea(ex)Motorola Korea)Inc. : Training for Semiconductor QC job
- Hyosung Tele-Service Inc. : Training for Customer Service job

■ Graduation & Employment of 5 Vocational Training Centers of KEPAD

Year	Total					Deaf and Hard of Hearing				
	Graduate	Employed		Unemployed		Graduate	Employed		Unemployed	
		Number	Rate	Number	Rate		Number	Rate	Number	Rate
1992	137	-	-			0	-	-		
1993	153	-	-			13	-	-		
1994	190	-	-			38	-	-		
1995	238	-	-			56	-	-		
1996	222	-	-			35	-	-		
1997	194	-	-			24	-	-		
1998	195	-	-			36	-	-		
1999	225	-	-			56	-	-		
2000	282	226	80.1	56	19.9	55	49	89.1	6	10.9
2001	360	244	67.8	116	32.2	47	41	87.2	6	12.8
2002	392	309	78.8	83	21.2	50	44	88	6	12
2003	495	368	74.3	127	25.7	48	43	89.6	5	10.4
2004	635	488	76.9	147	23.1	74	64	86.5	10	13.5
2005	809	586	72.4	223	27.6	73	57	78.1	16	21.9
총계	**4,527**	2,221	**75%**	752	25%	**605**	298	**87%**	49	13%

☐ **Services after Graduation**

- Continuous Services for Career Development & Guidance
- Recall system for those who need re-training for re-employment
- Regular Follow-up Survey for the Graduates
- Local branch offices of KEPAD provide job placement services, and host job fairs for the disabled.

How De La Salle-College of Saint Benilde (DLS-CSB) administration, School of Deaf Education and Applied Studies (SDEAS) industry experts, educators and advocates of the Deaf, Post-Secondary Education Network-International (PEN-Int'l), and the Filipino Employers and Supervisors helped in the Education and Employment of the Filipino Deaf and Hard of Hearing Students: The Impact of Partnerships and Support[1]

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Abstract

This paper briefly reviews the general situation of Deaf and Hard of Hearing in the Philippines based on general data about education and employment of People with Disabilities. The paper highlights the importance of three important elements in the education and employment of the Deaf. The elements of Academic Preparation, Holistic Formation of the Person, and Developing Partnerships are critical in the preparation of the Deaf student trainees and employees as well as in the preparation of employers for internship and employment. All these three areas have evolved as a result of four key groups that served as mentors and partners in refining the elements that are critical in career guidance and employment support of Deaf students. These groups are the following: One, DLS-CSB administration; two, SDEAS core faculty composed of industry experts, educators, and advocates of the Filipino Deaf culture who are both Deaf and hearing members of the Filipino Deaf community; three, PEN-International lead team and NTID experts; and Filipino Employers and Supervisors. The experience of DLS-CSB SDEAS in the career preparation and employment of its Deaf and hard of hearing students shall be illustrated in detail.

EDUCATIONAL SITUATION OF THE DEAF AND HARD OF HEARING IN THE PHILIPPINES

There are 84.4M people in the Philippines. The universal estimate for children with disabilities is about 13% to 20% of the total population. Given this estimate, there are 10.9M to 16.8M Filipino children with disabilities (http://www.aed.org/ToolsandPublications/upload/Disabilities_Brief.pdf).

How many of these children receive appropriate education? As of Academic Year 2004-2005, only 159,298 Filipino children with disabilities go to school (http://www.deped.gov.ph/quicklinks/quicklinks2.asp?id=34). Of this number, only 3,028 are enrolled in mainstreamed arrangements, and the rest in self-contained classrooms (http://www.deped.gov.ph/cpanel/uploads/issuanceImg/mainstream.pdf). 11,597 of those enrolled in self-contained classrooms are deaf and hard of hearing students. On the other hand, only 321 deaf and hard of hearing students are enrolled in mainstreamed arrangements (http://www.deped.gov.ph/cpanel/uploads/issuanceImg/types.pdf).

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[1] Paper read at the First International Conference on Career Planning and Employment for Students with Deafness or Hard of Hearing in Post-Secondary Level, Special Education College of Beijing Union University, Beijing, China, 20 March 2006.

[2] The author would like to express deep gratitude to Professor Mateo Navalta, Professor Ninfa Lilia Viernes, and Professor Giselle Montero of DLS-CSB SDEAS for their assistance in providing significant data used in this paper

Among the young adults, there is no existing data that would show the percentage of 34.4M Filipino youth have disabilities and are currently pursuing post-secondary education. However, for those without disabilities, there are at least 158,682 are enrolled in some form of post-secondary education, and about 2.3M are attending college education http://www.census.gov.ph/data/sectordata/fl03_sacy.html).

The Philippine Magna Carta for the Rights of Disabled People (1992) was passed into a law. In one of its provisions it states that no PWD shall be denied access from pursuing quality education by reason of handicap or disability. However, the absence of data on the population of PWDs enrolled in any form of post-secondary education raise questions as to why there is no such record available. This provides information that PWDs' presence in post-secondary education is not yet significant to gain attention. This can be further interpreted to mean that post-secondary education is not yet fully accessible to them.

In recent developments, the National Council for the Welfare of Disabled People, Inc, a Philippine government agency that takes the lead to steer the course of program development for persons with disabilities and the delivery of services to the sector, held a meeting with various private and public organizations advocating and supporting the PWDs (C.L. Fermin, personal communications, January 11, 2006). The agenda tabled for discussion was "to formulate policy recommendations on education-related issues concerning PWDs...this shall serve as foundation for program development...it is spearheaded...to propose admission policy package to tertiary educational institutions for each type of disability". This gives basis that 14 years after the law was passed, appropriate provisions for higher education for PWDs are not yet in place.

Post-Secondary Education for the Deaf in the Philippines

As mentioned earlier, access to higher education is often limited to many PWDs. However, for the Filipino Deaf youth, it is slightly available as particular institutions have specialized in providing post-secondary educational opportunities to the Deaf.

De La Salle-College of Saint Benilde (DLS-CSB)

A two-year certificate course in bookkeeping and accounting was opened in 1991 at DLS-CSB and only fifteen Deaf students were accepted at that time. The department that offered a pre-college program for hearing students also handled the Deaf program. A four-year degree program was eventually opened for the Deaf students in 1996 and it was handled by a newly created School of Special Studies, one of the five academic schools of DLS-CSB. The degree program was the Bachelor in Applied Deaf Studies (BAPDST) and its end goal was to train Deaf teachers (Dela Torre, 2001). Both the certificate course and degree program were offered in a self-contained set-up.

In Academic Year 2000-2001, extensive consultation was done involving the Deaf students, faculty, and local and international educational consultants. The results gave new direction to the school. Some of the developments that resulted from this initiative were the following:

- the degree program was revised from a teacher training focus to a Deaf Studies focus with specialization in an applied arts or business;
- incorporation of formation or non-academic programs for students' development in the academic school, and
- the academic school was re-named to what is known today- School of Deaf Education and Applied Studies (SDEAS).

It was at the latter part of this academic year when PEN-International began its own evaluation of the readiness of SDEAS to be a member of the network. In January 2002, we became an official member of the network.

Other Educational Institutions for the Deaf

DLS-CSB is only one of six institutions that offer postsecondary options to Deaf high school graduates. At present we have about 128 Deaf students in a campus of about 8,000 hearing students. The others, four of which are within the vicinity of Metro Manila, are: Miriam College (MC), Manila Christian Computer Institute for the Deaf (MCCID), Bible Institute for the Deaf (BID), and the College Assurance Plan School for the Deaf (CAP). The fifth institution, Laguna Christian College for the Deaf (LCCD) is found further south of Manila. All of these are day programs, four of which are self-contained institutions (MCCID, BID, CAP, LCCD); one is self-contained in an institution for hearing students (DLS-CSB), and the other is mainstreamed (MC).

Generally, certificate course/vocational and degrees in computer technology, business and accountancy are the typical courses offered by the different schools to its Deaf students (Clemena, 2005). One area of uniqueness that DLS-CSB has over the others is that aside from training Deaf graduates to be proficient and effective in a field of expertise in business or computer applications, the study of their Deaf identity, culture, and language is given weight to develop their readiness to be leader-advocates in their work and community environment. Their own work performance, the value-laden attitudes they bring with them in their work and community are the very tools for advocacy that are intended to bring about positive change in the education and employment of Deaf people.

EMPLOYMENT SITUATION OF THE DEAF AND HARD OF HEARING IN THE PHILIPPINES

Aside from right to appropriate education, the Filipino PWDs are also beset with issues on how to have access to gainful employment and that appropriate accommodations are duly placed in their work environment. Since access to post-secondary education is limited,

inadequate or non existent to most of the PWDs, it easy to conclude that many of the employable PWDs are under-employed or unemployed. Interview results of Navalta with Milbeth Cortez, division chief of Bureau of Local Employment under the Department of Labor and Employment yielded information that there are only 20 listed companies providing some form of employment to PWDs (Navalta, personal communications, January 30, 2006). This is just a list and did not include information on other important data related to profile of employers, a profile on the type of work the PWDs have, and other data.

The 2005 paper presentation of the National Council for the Welfare of Disabled People (NCWDP) in Tokyo, Japan (NCWDP, 2005), has confirmed this reality. The major reasons cited for the PWDs' underemployment and unemployment were:

- lack of skills and educational qualification
- services and opportunities needed for support are limited or inadequate, and
- existence of social and physical barriers

In the same 2005 paper, the NCWDP presented their recommendations to resolve the issues faced by the PWDs. I have reviewed and analyzed these recommendations and I have found that the following general themes reveal critical components to the career preparation and employment of PWDs :

1. increase ***awareness and advocacy*** among service providers, private and government agencies, employers, trainors/educators, and even among the PWDs themselves about the needs, laws, implementing guidelines and appropriate accommodations for PWDs in order to succeed and meet the challenges of work, society and life, ,
2. improve ***competencies*** of both the PWDs and personnel responsible for key services needed to appropriately train, employ and support the PWDs;
3. improve ***facilities and programs*** for training and placement of both the PWDs and service providers responsible for appropriate accommodations, placement and support for PWDs;
4. improve ***support system*** among PWDs, service providers, and other agencies;
5. increase ***funds*** for the operation and implementation of programs, training, facilities, and advocacy.

The Background Situation of the Employment Initiatives of DLS-CSB SDEAS for its Deaf Students

DLS-CSB problems were not far behind from the cited reasons for the unemployment situation of the PWDs. Aside from the needed matching of industry based competencies, the other critical components needed for successful career preparation and employment of our Deaf students were areas that DLS-CSB SDEAS faculty was not confident to do. The reason is largely a result of a lack of know how on interventions for appropriate preparation for

work place transition of both the students and the hearing employers and co-employees in the work setting. While efforts were being made, there was no reference for its accuracy and effectiveness. Furthermore, we also did not know what appropriate system to set up in the work setting to lessen physical and social barriers from undermining the right of the Deaf to work, contribute to the success of the employment site, and pursue their career direction.

These observations and the results of the 2000 consultation raised the urgency for SDEAS to review the curriculum and set up alternative options to improve students' employable skills. Eventually, efforts became more concrete and directive as successive video-conferencing meetings with PEN-International team and NTID experts were conducted and further paved the way for a serious assessment of the current situation and concerns, as well as formulation of alternative interventions based on solicited feedback and advice (Dela Torre, 2002).

Consequently, revisions and innovations on the curriculum were explored and applied. The appropriate preparation and support system needed to make on-the-job training more enriching for both the student and employer, and creation of new offices and programs that served as basis for the continuity of the innovations and unique services were by products of these actions.

Role of Partners and Consultants in the Education and Employment of the Deaf

The interventions created and implemented were products of collaborations that involved sharing of expertise, creativity, and feedback of different types of consultants. The consultants served both as partners in the formulation and implementation of interventions, as well as mentors giving guidance and direction. Gathering feedback, direct observations and critique of interventions were some of our tried and tested tools that helped us determine impact of interventions as well as the needed tasks to be done to improve target outcomes and facilitate further development.

These consultants were the following: DLS-CSB lead administration and educational consultants from other academic schools; SDEAS faculty core composed of faculty consultants with exposure and training in Deaf community advocacy work, teaching the Deaf, and sign language, or have exposures to professional training and expertise in the field of multimedia arts, design and business; PEN-International lead team and their experts from NTID; and Filipino Employers/Supervisors.

DLS-CSB key administration and consultants

The growing support of our administration and core experts from other academic schools contributed to the crystallization of the target outcomes for our curriculum, the interventions needed to be put in place, and the link we had to establish and ensure the successful transition of our graduates in the work setting. This facilitated the growing core of faculty from the industry who initially started as consultants for various purposes, who eventually became part of the faculty core of SDEAS.

SDEAS Faculty Core: Partnership with industry teaching professionals, Deaf and hearing advocates & educators

The SDEAS Faculty core has its own share of industry experts. The call for a more responsive curriculum inspired these experts to get further involved with SDEAS and contribute in the transformation of the curriculum. Their professional background and expertise helped SDEAS define the expectations of industry and how these can be infused into the curriculum that will produce the competencies needed for gainful employment.

SDEAS also pursued authentic bridging of the Deaf community experiences, language and culture into the lives of our students. More Deaf adults were hired into the faculty core as experts or partners in various initiatives. Hearing adults who are also advocates and shared aspirations of the Deaf community were also included into the core.

The presence of the industry experts, the faculty experts in Deaf culture, and the growing Deaf representatives in the academic school all contributed in the initiatives of SDEAS to create more responsive opportunities for Deaf students to have better options for improved life.

Post-Secondary Education Network-International (PEN-International)

As mentioned earlier, extensive consultation meetings with experts, exposure to best practices and intensive discussion with the PEN-international lead team extensively helped SDEAS in its efforts to improve its curriculum and other services. Learning opportunities were made available through the following: video conference discussions, visits to NTID and intensive meetings with NTID experts, participation in international conferences and extensive discussions via email. These greatly helped us in our local initiatives to further clarify the issues we were faced with and the array of potential interventions we can develop and employ, as well as the needed competencies of the faculty core to hasten the improvement of our interventions and programs.

Filipino Employers and Supervisors

The Filipino Employers and Supervisors became our learning partner in building the appropriate bridging program to help Deaf trainees and employees prepare for and succeed in their jobs. In the same effort, we have created with them an appropriate bridging program to help the hearing employers and employees gain the necessary orientation and competencies to facilitate better communication and working relationship with their Deaf trainees and employees. Part of that bridging program is scanning the work environment for potential barriers that may prevent the Deaf trainee/employee from working effectively on their jobs. The employers played a major role in guiding SDEAS to create the appropriate bridging

program. As a result, the major contributions of our employer partners that helped us in our work are the following:

- stating clearly their interest to hire Deaf people only if they match the competencies they were looking for
- expressed willingness to work with SDEAS but in the context of non-negotiable expectations such as following company policies, evidence of attitudes and values deemed important by the employer and company, and
- accepted their role as consultant to the SDEAS employment team, and accepted the role of the team as a partner in the creation of appropriate employer-trainee support system that will yield higher success rate in the selection and hiring of the future Deaf employee, as well as ensure positive performance of the employee in the employer's company.

The selection, training, placement and work performance of the Deaf trainee became a collaborative effort between the interested employer-consultant and the SDEAS faculty-consultants setting up the employment support system.

DLS-CSB SDEAS Organizational Structure Provides Support to the Education and Employment Preparation of the Students and Employer Partners

As a result of the extensive collaboration, we have realized that two important areas needed to be fully supported in order to facilitate greater success of our Deaf graduates to find jobs that will yield satisfactory feedback of employers, as well as create the strengthened support of the same employers to become SDEAS partners in advocating employment of Deaf people. These areas are preparation of the students to be placed in the work environment, and the preparation of the employer and the work environment that will work with the Deaf employee.

Student Preparation

Preparation for successful employment begins with the curriculum that the student is part of. The SDEAS curriculum envisions Deaf graduates to be leader-advocates with competitive skills and expertise needed for gainful employment; and use their skills and expertise in their employment setting or community involvement to directly or indirectly contribute in advocating for the improvement of life circumstances of Deaf people (SDEAS Primer, 2005). The academic and formation programs offered by SDEAS are the two key elements in the education of the Deaf college students. These elements prepare the students to become more confident with themselves and their capabilities as they develop and improve their academic and career-related work skills, as well as develop the necessary personal qualities and values of a self-assured person comfortable and confident of their being a Deaf person, and a a professional. Core to this preparation is consistent effort to instill a deep respect and value for their socio-cultural identity.

These two elements, the academic and formation programs, are managed by two separate offices of SDEAS that work in close collaboration to achieve the target outcomes.

The first element: Academic Preparation. The Office for Academic Programs (O-AP) is responsible for the academic curriculum, supervision of faculty towards a learner-centered teaching, and address academic needs of students through various support services such as advising, tutoring, etc. The programs under this office are the the following:

- Pre-college studies: Deaf Learners' Preparatory Program
- Short-term Certificate course: Filipino Sign Language Program
- Baccalaureate degree: Bachelor in Applied Deaf Studies
    - General Education and Deaf Studies Program
    - Elective Studies in Multimedia Arts or Business
    - Internship Program

The first three years of study of Deaf students would involve Pre-college, general education and Deaf studies. Elective studies for multimedia arts or business are introduced on their second year and gradually increase in concentration on their third and fourth year. The Internship program is introduced on the latter part of their fourth year of study.

The second element: holistic formation of the person. The Office for the Deaf Esteem and Formation (O-DEAF) is responsible for the formation experiences of the students to help them "develop self-esteem and acquire knowledge, skills, attitudes and values necessary to achieve their educational and life goals by deepening their faith, strengthening their sense of uniqueness, confidence, self determination, and concem for others" (SDEAS Draft Manual, 2005) . The programs managed by this office are:

- Support Formation Program
    - Guidance and Counseling Services
    - La Sallian Ministry or the Spiritual Development Program

- Student Activities Program
    - Performing Arts Program
    - Sports Development Program
    - Social Outreach Program
    - Student Leadership Program

The support formation program is an ongoing program across all four years with each having a particular emphasis on a developmental need of the young Deaf adolescent. The Guidance and Counseling Services is a priority area and thus have the most number of personnel to attend to the psycho-emotional needs of our students. One (1) full time and three (3) part-time counselors provide individual and group counseling, group guidance workshops, among others. Spiritual development of the students is also a priority area and extensive spiritual

services for religious celebrations and group prayer are part of the daily experiences of the Deaf.

The student activities program is introduced on their 2nd year of academic study, giving students options for self-development through sports or the arts. Students are also given opportunities to do community service through short and long term involvements with other Deaf children or youth from other schools in the country.

All these programs interplay in the 4-year academic study of the students. All these contribute in building the necessary competitive skills and personal qualities needed to effectively fulfill leader-advocate roles and work excellently for gainful employment in the mainstreamed environment.

The SDEAS Faculty core involved in these two elements is both Deaf and hearing professionals or para-professionals. They are industry practitioners, teachers, formators, and interpreters. The SDEAS administration seek out professionals who are advocates of the Deaf culture and have gained some level of involvement with the Deaf community and thus have competency in the Filipino Sign Language. Those who are not at this level are also mentored to develop the necessary orientation and competencies.

As we collaborated with the consultants a third element evolved and found to be critical in increase greater success of Deaf people to achieve their various goals in the mainstreamed environment. The third element is development of partnerships with the hearing and Deaf people involved in various environments where the Deaf students are partially or fully part of, such as in educational institutions, greater community, and the employment setting.

Preparation of the Mainstreamed Environment

The Deaf students in DLS-CSB pursue their education in self-contained classrooms and programs. However, we value the presence of the mainstreamed environment as a rich resource of interventions and opportunities that when used appropriately will enrich the life experiences of the Deaf students, and improve their confidence and competence to become leader-advocates and work excellently in their work and in the bigger community that are often found in the mainstreamed environment.

Initially, we felt that our work should prioritize only those that directly involve our Deaf students, and that appropriate interventions can only be done in a self-contained setting. While this is correct most of the times, certain personal issues and difficulties can only be resolved within the mainstreamed setting. We have realized that in order for our students to become confident and competent to work and interact in the mainstreamed environment and therefore succeed in gaining access to opportunities to improve their lives, we needed to help the mainstreamed environment, the hearing people in the environment to be equally confident and competent to work and interact with the Deaf people. This was necessary so that they too will have access to opportunities to learn from the Deaf, and consequently, become the partner-advocates to lay down the necessary interventions and opportunities that

will provide appropriate accommodations to Deaf people. The third element evolved out of this understanding. Developing partnerships with the mainstreamed environment is necessary in our work to improve Deaf lives.

The third element: developing partnerships. The Office for Partnership and Development (O-PD) was created to help the mainstreamed environment recognize and positively respond to certain types of needs that are brought about as a result of having Deaf learners in the mainstreamed for purposes of education, interaction, employment, etc. The O-PD is tasked to assist and equip those in the mainstreamed environment with the necessary orientation and skills in order to help put in place appropriate accommodations for Deaf people so that barriers imposed by the physical set-up and negative attitudes are lessened and eventually eliminated (SDEAS Draft Manual, 2005). This is done through three different programs. These are:

- Communications and advocacy program;
- program on outreach for education and community advancement of the Deaf; and
- Program for Employment and Business Opportunities.

This office is an outcome of the extensive collaborations done with the four types of consultants, and particularly the involvement of PEN-International. A big portion of the operation costs involving personnel, programs and facilities of the O-PD is through the generous support of the PEN-International through The Nippon Foundation of Japan. DLS-CSB provides additional support for its operation.

While the first two elements ensured competent and value-laden Deaf professionals, necessary interventions in the mainstreamed environment must be put in place to provide the bridge needed by the Deaf professionals and the hearing or Deaf people in the specific environment to work together for whatever purpose that they both hold important (such as education, service, employment, etc). The third element, developing partnerships, serves as that bridge. In the succeeding section, the collaboration of the 3 elements shall be illustrated in the student and employer preparation for internship and employment of the Deaf.

Programs for Students and Employer Preparation

Before we discuss in detail the work involved to set up and run these programs it is important to explain how all these programs came about.

Foundation of the Students and Employer Preparation Programs and Services

The role of the partner-consultants has considerably assisted DLS-CSB SDEAS improving its services and programs. The DLS-CSB administration partners provided the mandate and support to many of our preliminary initiatives.

Faculty-consultants of education and from Deaf culture strengthened our socio-cultural orientation on deafness. Faculty-consultants from the industry and administration have contributed in accurate matching of the industry expectations and the curriculum. The Faculty consultants from industry also laid the grounds for preliminary interventions for developing partnerships with employers to ensure that Deaf students get the appropriate training in the work site so that they learn more and be more prepared to work in the mainstreamed environment.

The partner-consultants of the PEN-International lead team and NTID experts have mentored the SDEAS faculty core through insightful comments and suggestions, providing materials and guidance for best practices and role models in all areas, and various learning opportunities for improved knowledge and expertise in education and employment initiatives.

The lead partner-consultants among the SDEAS faculty industry experts involved the full participation of two employers, one was the owner and president of a manufacturing company specializing in candle making, and the other was a supervisor of a legal transcription services company. The collaborative partnership that evolved between these employers and our SDEAS faculty industry experts has led SDEAS to the improvement of its employer education necessary support mechanism implemented.

The two employers approached SDEAS and immediately wanted to hire Deaf people. Since SDEAS was just beginning to work on its employment program, the SDEAS team requested four things:

- First, define the work output expected and the job competencies needed to produce the work output;
- Second, requested for understanding and patience for the program we were to implement. The SDEAS team honestly explained to the employers that the job placement work was being done for the first time and did not have any tried and tested strategies to help the employers make sure they will get the right graduate to do the job;
- Third, that since SDEAS was just on its beginning stages, SDEAS recommended that instead of immediate hiring of the Deaf graduate, a trial period be made through on-the-job training and give the employer the liberty to test the capabilities of the Deaf trainees and enforce company policies in case their expectations are not met;
- and fourth, because SDEAS was not part of the company, major support of the employer or target supervisor to work closely with us to ensure that the Deaf trainee will undergo the appropriate training and supervision to meet the target expectations.

Instead of presenting to them the arrangements of what SDEAS wanted to take place, the team sought their assistance to help us create a system that will ensure that we will be able to provide the qualified worker they were looking for. It was at this point that we communicated the crucial role of the employers as partners in building the right environment and support

that will lead to the success of finding the right Deaf graduate to meet their company expectations.

It was also during this time of planning with the employers, that PEN-International funded the three-week visit of Dr. Sid McQuay, faculty expert of NTID responsible for teaching and internship training of Deaf students in his program. This visit was very significant in our efforts as Dr. McQuay served as our in-house mentor as we worked with our employers and Deaf trainees. Based on a recently held meeting (Dela Torre, Navalta, Montero and Viemes, 2006). The following were some of the realizations that helped us in our partnership development efforts:

- The students' skills must be fully developed before they are fielded in target placement sites.
- To ensure these skills are well developed, critical measures must be enforced earlier in their academic training and that when these are not met, the students must not be fielded in the placement sites.
- The performance of the Deaf students fielded for the 1st time in a workplace will give foundation to the first impressions of the employer. A positive or negative impression will strongly influence the employer to support or deny support for employment initiatives for Deaf people.
- A positive impression will convince employer to be more flexible and supportive in succeeding initiatives involving internship and placement of Deaf students. Either increase employment opportunities within one's company, or serve as advocate in convincing others to support the Deaf
- A negative impression will lower the chances of Deaf people being hired again in that company; and the employer may serve as a catalyst to convince other employers not to consider employing Deaf people.
- marketing and advocacy are critical interventions to help convince employers
- Sell the competencies of the Deaf students and not their deafness.
- Help employer understand their concerns and respond to these concerns appropriately.
- Encourage employer to enforce company policies even to Deaf trainees. If at any point the Deaf trainee did not measure up to the expectations of the employer, the usual policies for similar situations should be enforced (such as suspension or being fired)

All these served as foundation in our work that led to the creation of various programs that supported the preparation of our students and employers.

There are three main programs that are implemented independently by a particular office, or in partnership with each other. Those involving the Deaf students undergo the INTERNSHIP PROGRAM for both business and multimedia arts students. For the graduates seeking employment we have the EMPLOYMENT SUPPORT PROGRAM and for those seeking entrepreneurial direction, we have the BUSINESS OPPORTUNITIES

SUPPORT PROGRAM. For employer-partners that would involve both these types of students we have the EDUCATION FOR PARTNERS OF THE DEAF.

Internship Program

As mentioned earlier, the Internship program is taken on the last year of the students' 4-year study. The Internship program is responsible for preparing students for work through various training opportunities and is managed by an Internship coordinator.

Pre-Internship Activities

Internship opportunities of the students begin with the subject entitled "PRACTICUM" that the students enroll in. Before actual placement, students undergo workshops prepared by their teacher, with the Internship coordinator or in collaboration with the Guidance & Counseling team of the Office for Deaf Esteem and Formation (O-DEAF).

The nature of preparation involves series of guidance and career seminars, laboratory experiences that introduce students to professional work attitudes, dos' and donts' in job interview and work setting. Aside from these workshops, students attend group sessions where Deaf professionals share their experiences and work challenges, as well as how they dealt with these challenges. In addition, they also participate in study tours, exposure trips, trade fairs and exhibits that will provide them additional learning and hands- on experience.

Through the partnership of the PRACTICUM teacher and the Internship Coordinator, students are assessed as to their readiness for placement in target work setting outside the college. Professional competencies, work attitudes and confidence of the students are assessed to determine their readiness for placement. In instances where the students are deemed not yet ready, in-house practicum is provided under the strict supervision of the teacher and internship coordinator. Once ready, they are placed in work settings outside the college. Students pursuing business are placed in actual business settings involving operations, production and service.

Employer preparation during pre-internship period. It is important to note here that the employer-partners also undergo a certain type of preparation and the SDEAS Employment team, composed of the PRACTICUM teacher, INTERNSHIP coordinator and the EMPLOYMENT and BUSINESS OPPORTUNITIES Team, work on that preparation by providing workshops and consultation sessions with the employer and identified supervisor. These activities are focused on building employer and employee confidence to communicate, interact and work with the Deaf trainee, as well as establish and strengthen teamwork relations between the SDEAS employment team and the employers or employees so that there is a readily available support for the hearing people at the work place as they work with the Deaf trainee.

Internship Activities Related to Actual Work Activities

Activities in SDEAS that support internship experiences of students. Once placed in the work setting, the students report to their teacher on various work experiences and share these with their classmates. Problems encountered in the work environment, competencies needing improvement and other topics are discussed in class. The Internship coordinator works with the faculty and collaborates very closely with the assigned supervisor of the designated work setting of the employer-partner. Feedback about student performance, general work observations in relation to the Deaf student and the interaction with the hearing supervisor or co-workers are also discussed. The information are shared with the teacher and discussed in class, or discussed with the concerned student. Part of these discussions involve assessment of how support services are found effective or ineffective, and what are the probable interventions that may be employed in the future to improve the experiences of the students and the hearing people involved in the work setting where the Deaf students are being trained.

Activities in the workplace that support the internship experiences of the students and the experiences of the employer and employees. The employer preparation support provided to facilitate the entry of the Deaf trainee is designed in such a way to develop trust and appropriate mechanism as venue for feedback and problem solving. The Internship coordinator's regular presence in the work place, the follow-up meetings organized with the PRACTICUM teacher, and the regular meetings of the supervisor with the Deaf trainee in the presence of the internship coordinator, all serve as venue to ensure the employer or supervisor are given the support to provide appropriate supervision for the Deaf trainees to ensure excellence in their work.

This venue is also a big help for the SDEAS team to be on guard with regards to the work performance, attitudes and behaviors of the Deaf trainees, of certain dynamics that may be occurring needing immediate attention, and a venue for developing interventions to address immediate concerns that later are inputted as part of pre-arranged interventions to prevent such concerns from occurring.

Post-Internship Activities for Graduating Students

Students who graduate are still invited to take part in a post-college internship. These are offered to students who seek out more training opportunities out of their own need and interests, or have been recommended by the practicum teacher or the internship coordinator to undergo more training opportunities. Special projects that DLS-CSB SDEAS are involved in are opened to these graduates and the faculty assigned in the projects serves as the supervisor and works very closely with the internship coordinator so that the set objectives for the graduate-trainee and the project outcomes are both achieved. These same projects are also opened to younger students who have been hired as student assistants in offices or laboratories. Student volunteers also take part in these arrangements.

Graduates' Assistance for Employment and Business

Graduates who are ready to seek out job placements are assisted by a team in charge of the program for Employment and Business Opportunities (EBO) and managed by the Office for Partnership and Development (O-PD). This program together with the Communications and Advocacy Program and in partnership with the Internship Program, handles the employer education before a Deaf trainee is introduced into the work setting of the identified organization. This particular service is quite similar to the one provided to the Internship sites.

Graduates have active file in the Office for Partnership and Development (O-PD). Important contact details and other information are kept. Employment opportunities are made available through two options, one through advocacy work of the O-PD, or through graduates' own search. The EBO team establishes contact with the target employer and provides the necessary employment and employer assistance.

Assistance for Employment

Assistance provided is in terms of establishing contact with the employer to facilitate appropriate accommodations for application, tests and interview, and work placement. For interview and actual first day work orientation, an interpreter is provided. Just like the internship arrangement, the Employment team works very closely with the employer and the Deaf graduate to make sure that confidence and competence of the Deaf employee is built through appropriate orientation, set up of appropriate accommodations, and employer expectations are clearly understood. Likewise, the employer and employees' confidence and competence to work with a Deaf co-worker is also attended to quite similarly done in the internship arrangement.

Employment Situation of the Deaf Graduates of DLS-CSB

To date, we have about 65 graduates of the degree program. 52 of these students or 80% of the total graduates are employed in the following categories: 11 are in education or social development work; 30 are in multimedia related work; 5 are in office administration work; and 6 are into business. Some are employed full time, most are on a part-time basis but working for at least 2 organizations, and those into business are into cooperative partnerships where they are both owners and employees of their business (Navalta, 2006).

There are 20 organizations that serves as internship sites for our students, and 12 of which have directly hired these interns, or other graduates. The profile of these organizations is mostly privately-owned businesses, although one of these is a big organization that operates on a national scale, and the other is an umbrella organization of all corporate foundations that have operations also on a national scale.

DLS-CSB SDEAS is more than hopeful for the future of employment of its graduates. Only four (4) years into the PEN-International partnership, we have grown in leaps and bounds. We are confident that with the continued support of our partners and mentors DLS-CSB administration, SDEAS faculty core, PEN-International lead team and NTID experts, and the Filipino Employers and Supervisors, we can contribute further in improving programs and services for Deaf people on a national scale. Together with our mentors and partners, we have our graduates to work with us in improving life circumstances of Deaf people through education and employment.

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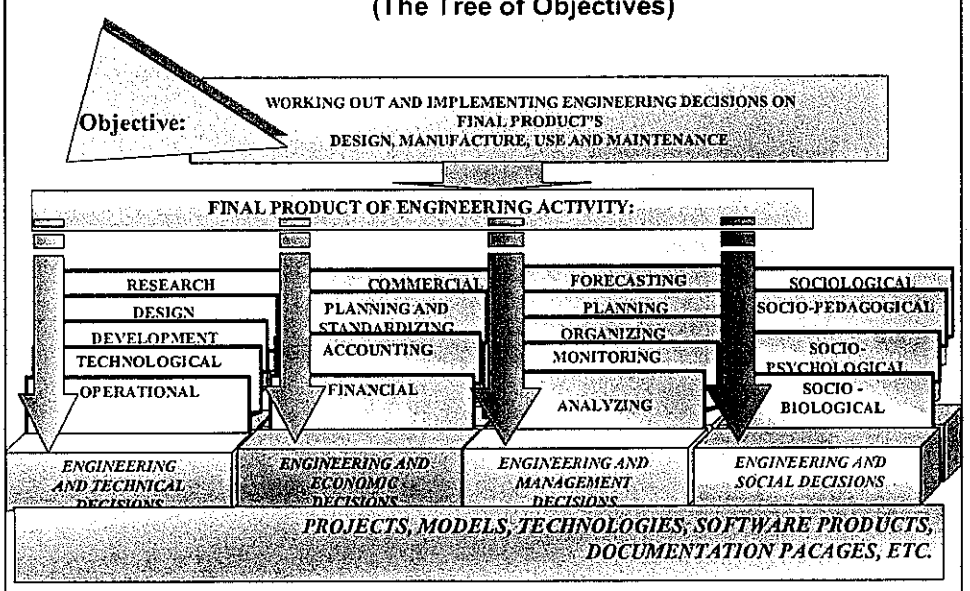
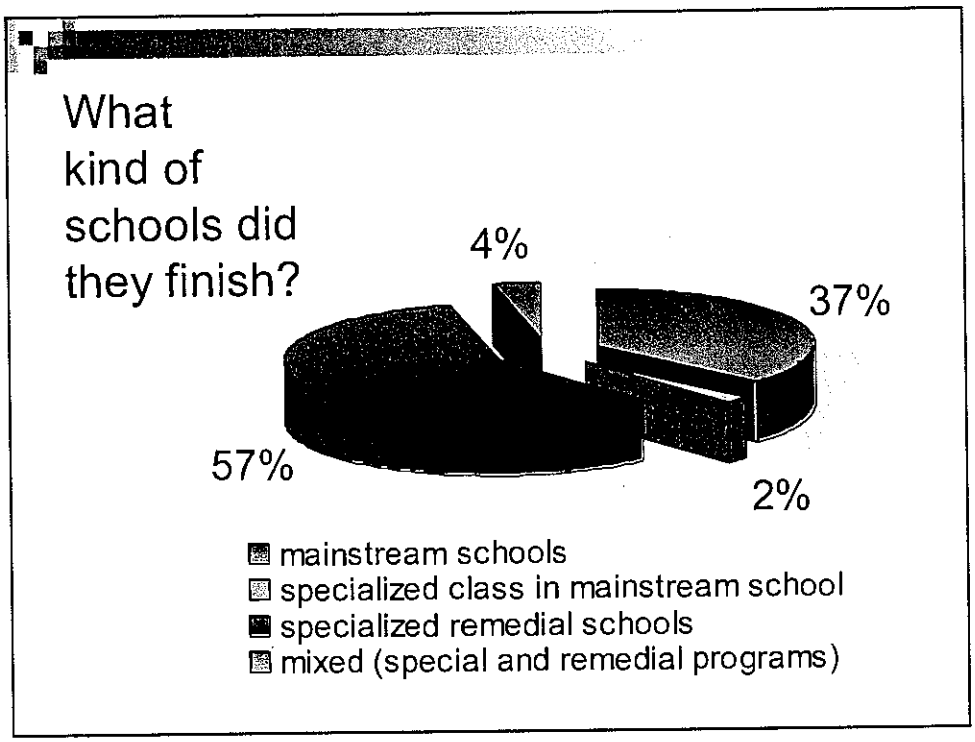
Theoretical and Methodological Aspects of the Problem of (Creating a System of) Improving Employment Opportunities for Deaf and Hard-of-Hearing Graduates of Engineering Universities

Alexander G. Stanevsky

Integrated Structural Model of Engineering Activities (The Tree of Objectives)

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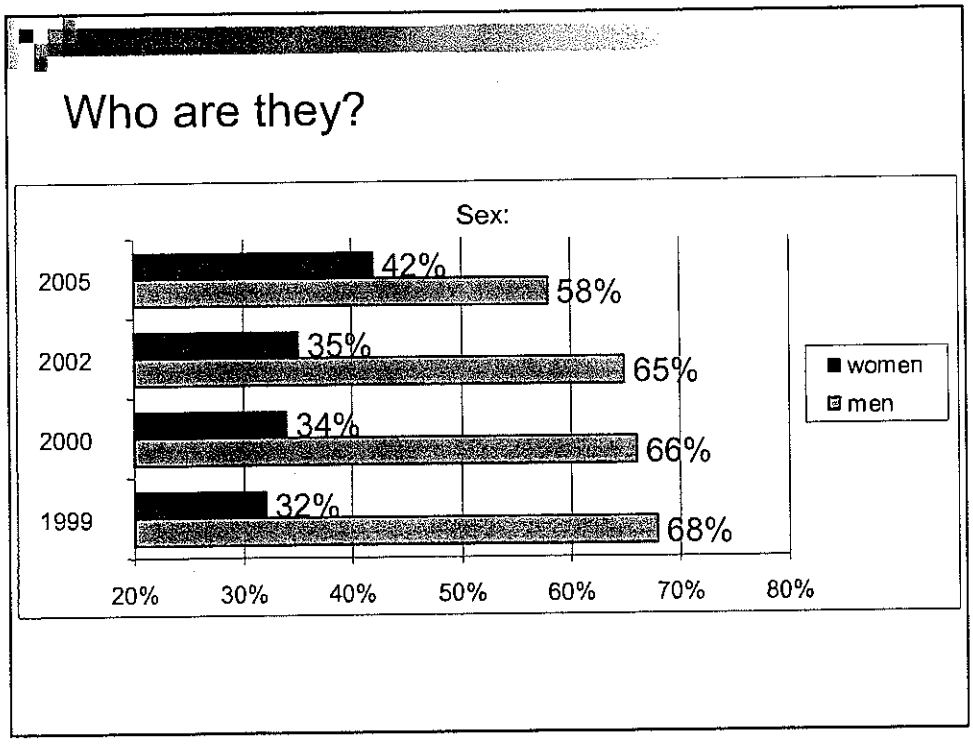
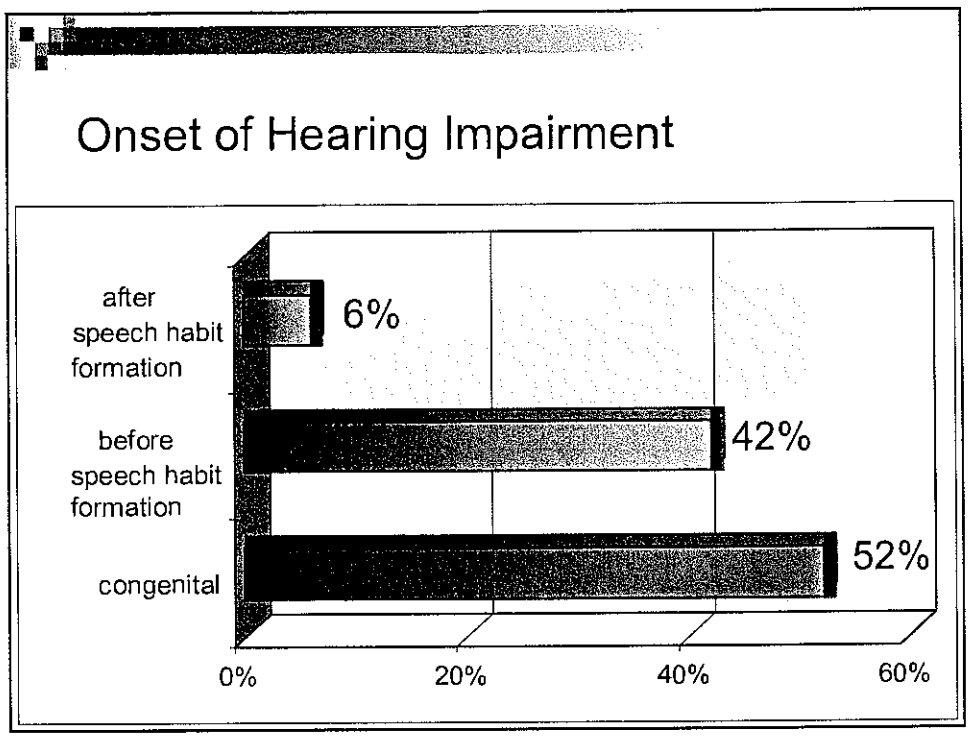
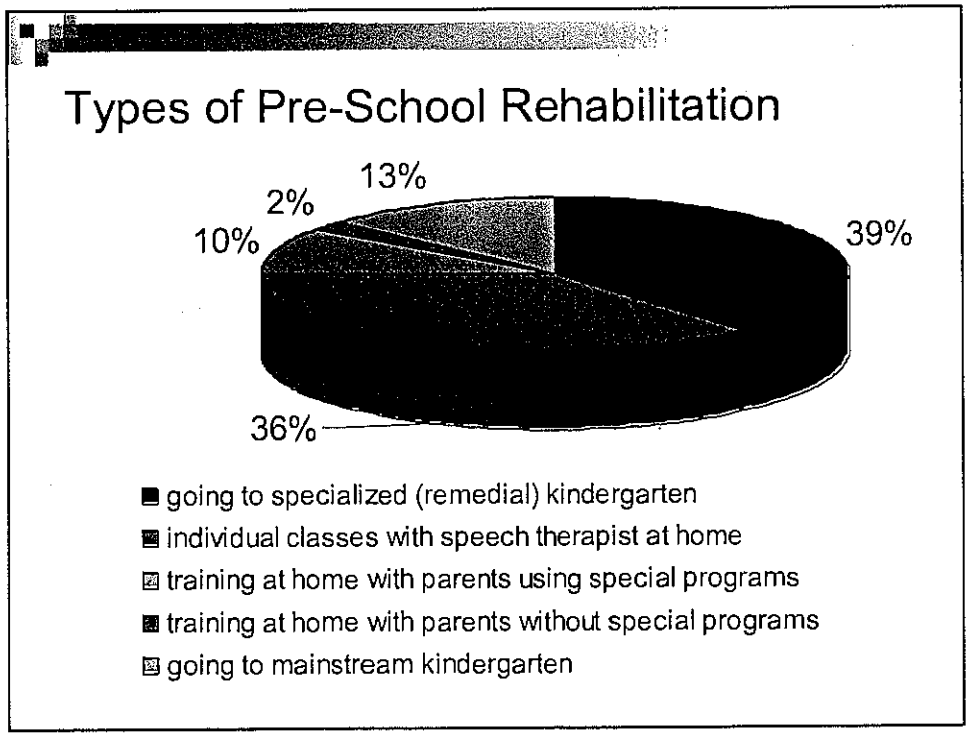
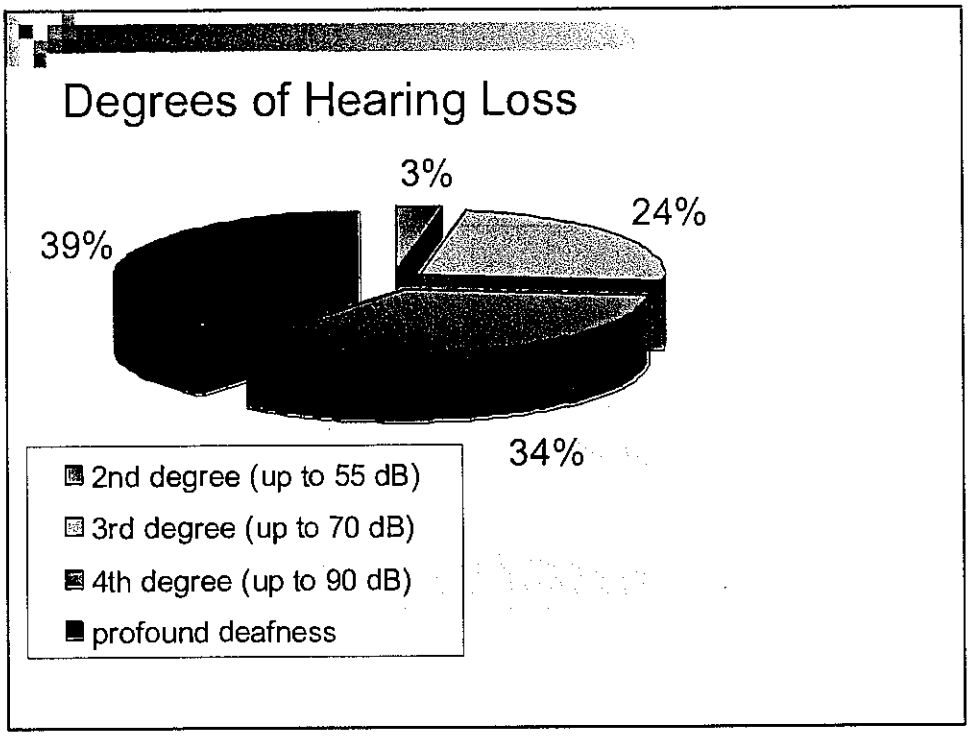
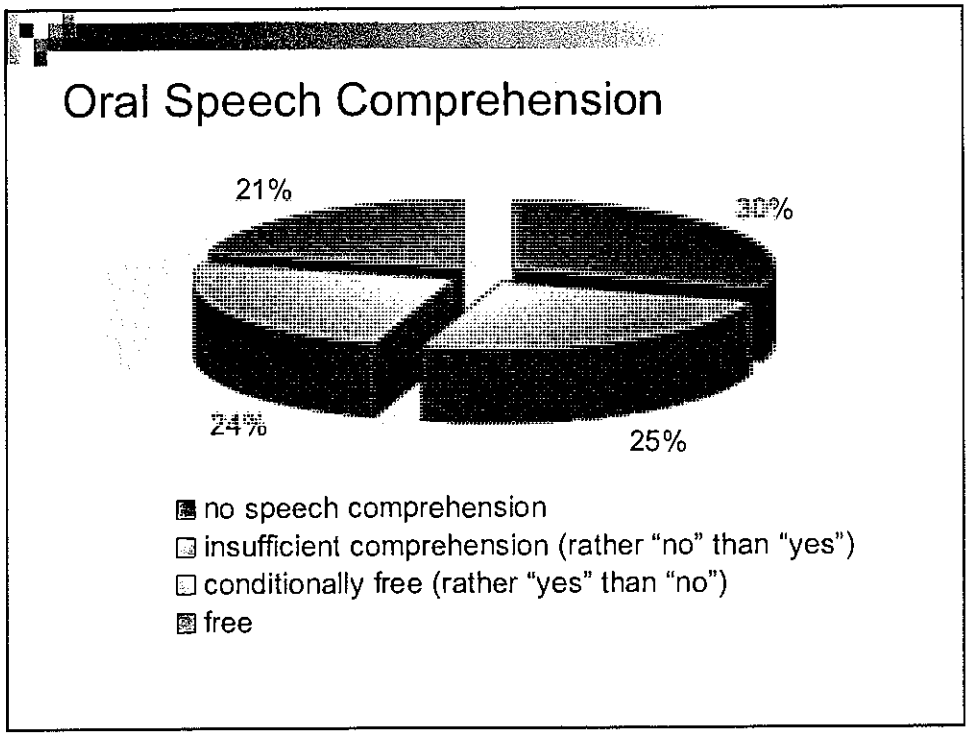
4%
37%
57%
2%
mainstream schools
specialized class in mainstream school
specialized remedial schools
mixed (special and remedial programs)

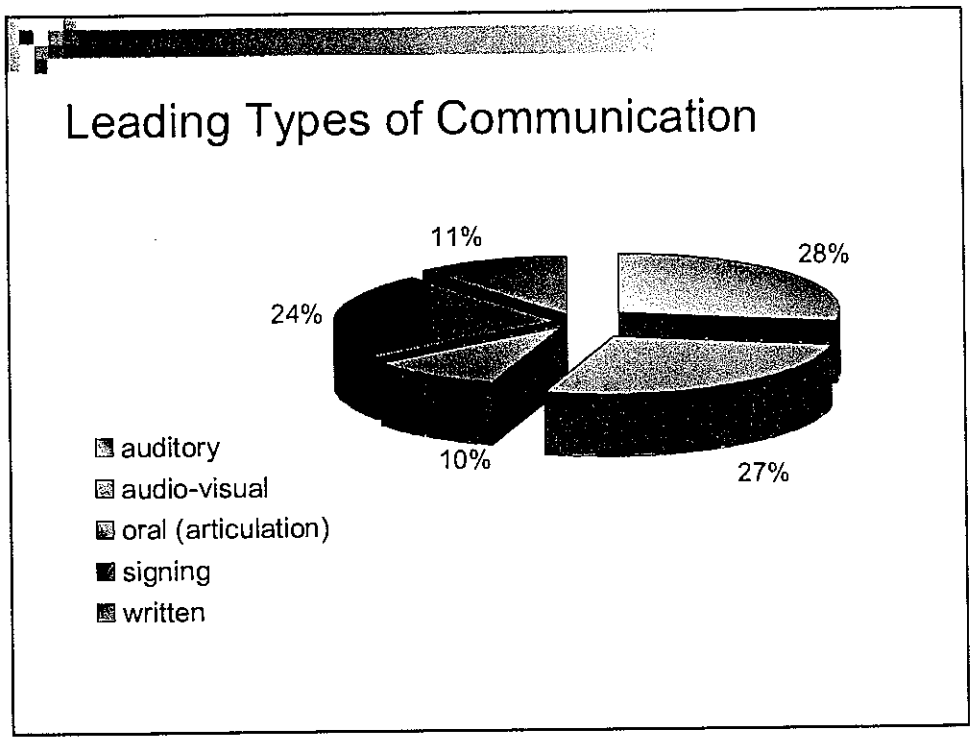

Who are they?
Sex:
2005
42%
58%
2002
35%
65%
2000
34%
66%
1999
32%
68%
20%
30%
40%
50%
60%
70%
80%
women
men

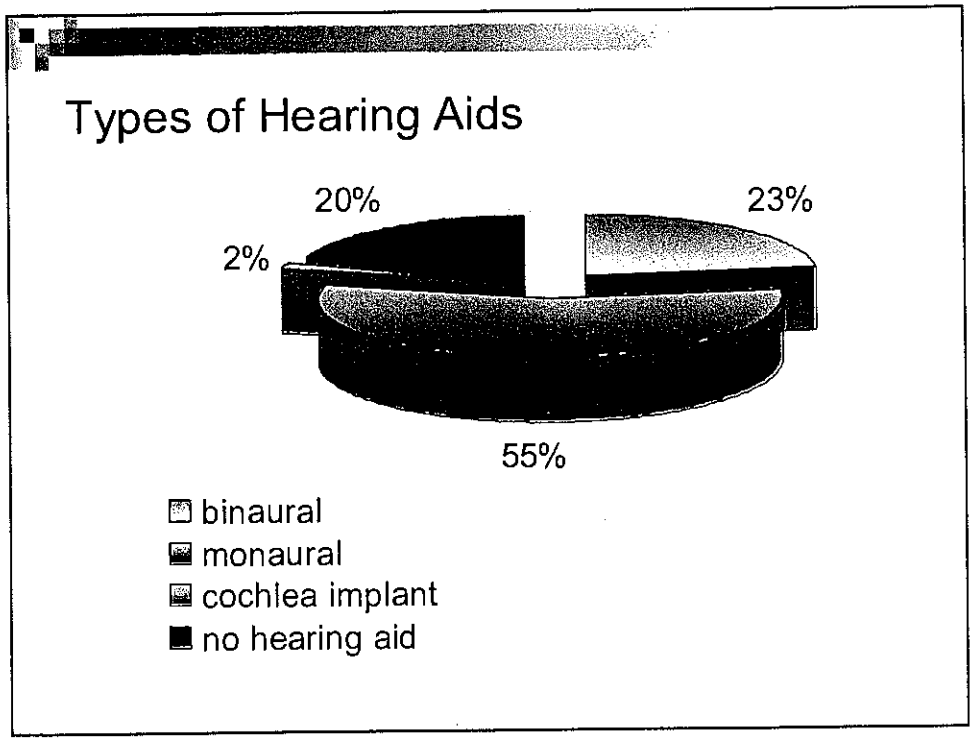

Onset of Hearing Impairment
after speech habit formation
before speech habit formation
congenital
6%
42%
52%
0%
20%
40%
60%


Types of Pre-School Rehabilitation
13%
2%
10%
39%
36%
going to specialized (remedial) kindergarten
individual classes with speech therapist at home
training at home with parents using special programs
training at home with parents without special programs
going to mainstream kindergarten


Degrees of Hearing Loss
3%
24%
39%
34%
2nd degree (up to 55 dB)
3rd degree (up to 70 dB)
4th degree (up to 90 dB)
profound deafness


Oral Speech Comprehension
21%
30%
24%
25%
no speech comprehension
insufficient comprehension (rather "no" than "yes")
conditionally free (rather "yes" than "no")
free


Leading Types of Communication
11%
28%
24%
10%
27%
auditory
audio-visual
oral (articulation)
signing
written


Types of Hearing Aids
20%
23%
2%
55%
binaural
monaural
cochlea implant
no hearing aid

Law on Social Protection of People with Disabilities: Vital Activity Limitations and Technical Aids and Facilities; Social Services for the Hearing-Impaired

- Self-service:
- Training:
- Orientation:
- Communication:
- Employment:
- Travel:

- Assistance in organizing and providing for everyday needs and food;
- Assistance of a sign language interpreter;
- Protection aids and facilities;
- Warning appliances;
- Special instruments and appliances for receiving and transmitting information;
- Vibrotactile devices;
- Structural elements of living quarters;
- Architectural facilities and aids;
- Organizing leisure activities;
- Special communication groups;
- Facilities and aids for leisure activities, physical training and sports.

Specific Education Problems:

- Underdevelopment of verbal and written speech, limited knowledge, skills, moral and ethical ideas and concepts, inadequate situational and conceptual judgment;
- Practically no skills of communicating and cooperating with a teacher;
- Lack of self-identification as a subject of integrated university community;
- Insufficient development of skills of establishing and understanding temporal, spatial and cause-and-effect links and relationships between interacting subjects and between objects and phenomena;
- Difficulty in understanding forms of address and fulfilling instructions, expressing requests or wishes, addressing other people, answering questions, reporting on the work done or being submitted;
- Insufficient skills of knowledge actualization due to underdeveloped long-term memory;
- Low efficiency of verbal visual-articulatory perception of teaching material;
- Limited set of means for logical analysis and low capability for independent productive reasoning;
- Low mental work efficiency, social infantilism.

STRUCTURE OF TRAINING AND REHABILITATION PROGRAM FOR THE HEARING-IMPAIRED

Rehabilitation (vocational)

Education (specialist)

TRAINING
Acquiring the knowledge system

- Fundamental knowledge
- Basic vocational knowledge
- Special vocational knowledge
- Knowledge of technologies of providing access to training programs and efficient knowledge acquisition

Simulation and transformation

Formation of methodological culture

- Methods of cognitive activity
- Methods of professional activities
- Methods of axiological and communicative activities
- Methods of creating unimpeded vocational space of vital activity

Reproduction and production

Formation of self-cognition, self-development and self-actualization

- Spiritual and moral culture
- Socio-psychological culture
- Physical and psychic culture
- Culture of life with a disability (culture of social integration)

Functioning and development

PROFESSIONAL REHABILITATION OF A DISABLED PERSON

[redacted] of Systematic Design of Engineering University Education Content: Programs of Training Specialists

Knowledge acquisition programs

	Program Formula															
Fundamental knowledge	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s
General vocational knowledge	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s
Special vocational knowledge	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s
Knowledge of technologies of providing for access to training program and efficient knowledge acquisition	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s

- s (simulation) – levels of knowledge acquisition ensuring the solution of typical tasks
- a (transformation) – levels of knowledge acquisition ensuring efficient activity in problematic situations

Programs of forming methodological culture of a specialist (professional) in a handicapped individual

Methods of cognitive activity	R	R	R	R	R	R	P	P	P	P	P	P	R	R	P	P
Methods of engineering activity	R	R	R	R	P	P	R	R	R	R	P	P	P	P	P	P
Methods of communicative activity	R	R	P	P	R	R	R	R	P	P	R	R	P	P	P	P
Methods of creating unimpeded vocational space of vital activity	R	P	R	P	P	R	R	P	P	R	R	P	R	P	P	R

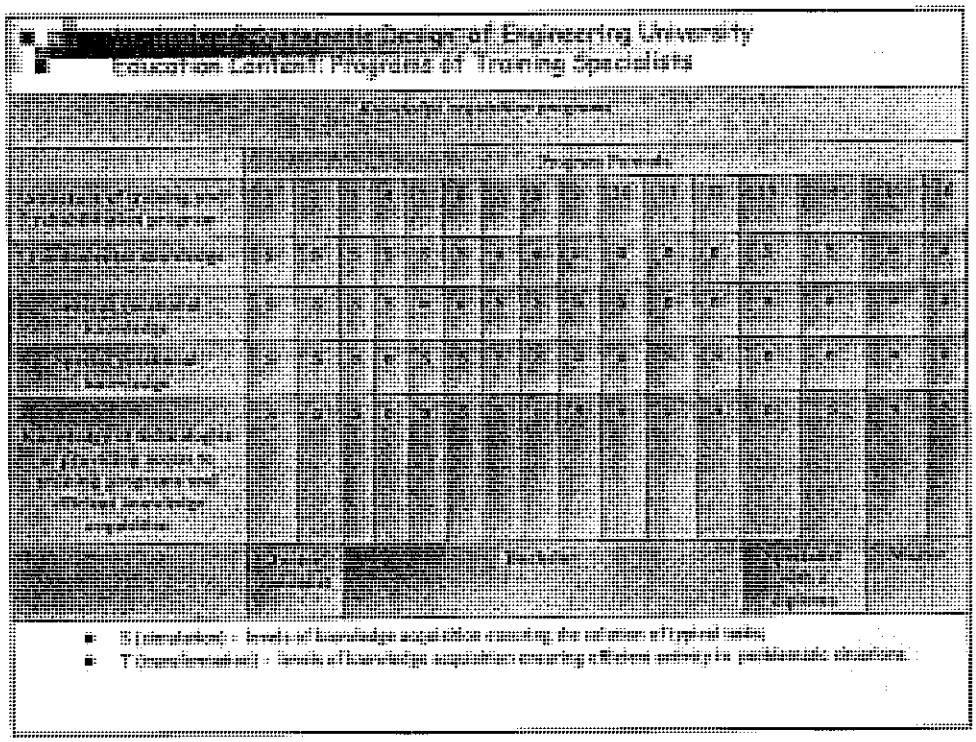
- (*) Method – knowledge as a means of cognition and activity
- R – reproductive activity P – productive activity

Programs of self-cognition and vocational self-actualization of a handicapped university graduate

Spiritual and moral culture	F	F	F	F	F	F	D	D	D	D	D	D	F	F	D	D
Socio-psychological culture	F	F	F	F	D	D	F	F	F	F	D	D	D	D	D	D
Physical culture	F	F	D	D	F	F	F	F	D	D	F	F	D	D	D	D
Culture of life with a disability (culture of social integration)	F	D	F	D	D	F	F	D	D	F	F	D	F	D	D	F

F (functioning) – incentive to professional functioning and adaptation of an individual to professional activities
D (development) – incentive to developing professional skills and creative development of a profession and an individual within it

	Junior specialist	Bachelor, credit hours – 7,200 or more	Specialist with a diploma, 10,000 hours or more	Master, 11,000 hours or more



Methods of Systematic Design of Engineering University Education Content: Programs of Training Specialists

Programs of forming methodological culture of a specialist (professional) in a disabled persons

	Program Formula															
Structure of training and rehabilitation program	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Methods(*) of cognitive activity	R	R	R	R	R	R	P	P	P	P	P	P	R	R	P	P
Methods of engineering activity	R	R	R	R	P	P	R	R	R	R	P	P	P	P	P	P
Methods of communicative activity	R	R	P	P	R	R	R	R	P	P	R	R	P	P	P	P
Methods of creating unimpeded vocational space of vital activity	R	P	R	P	P	R	R	P	P	R	R	P	R	P	P	R
	Junior specialist		**Bachelor**										**Specialist with a diploma**		**Master**	

- (*) Method– knowledge as a means of cognition and activity
- R – reproduction
- P– production

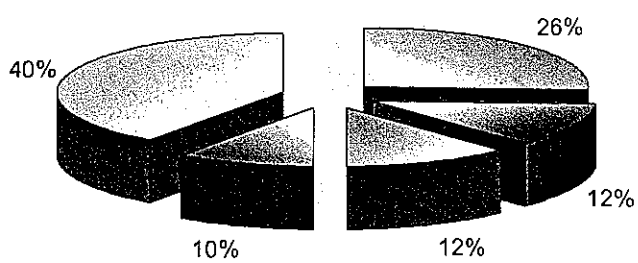
Methods of Systematic Design of Engineering University Education Content: Programs of Training Specialists

Programs of self-cognition and vocational self-actualization of a university graduate from among disabled people

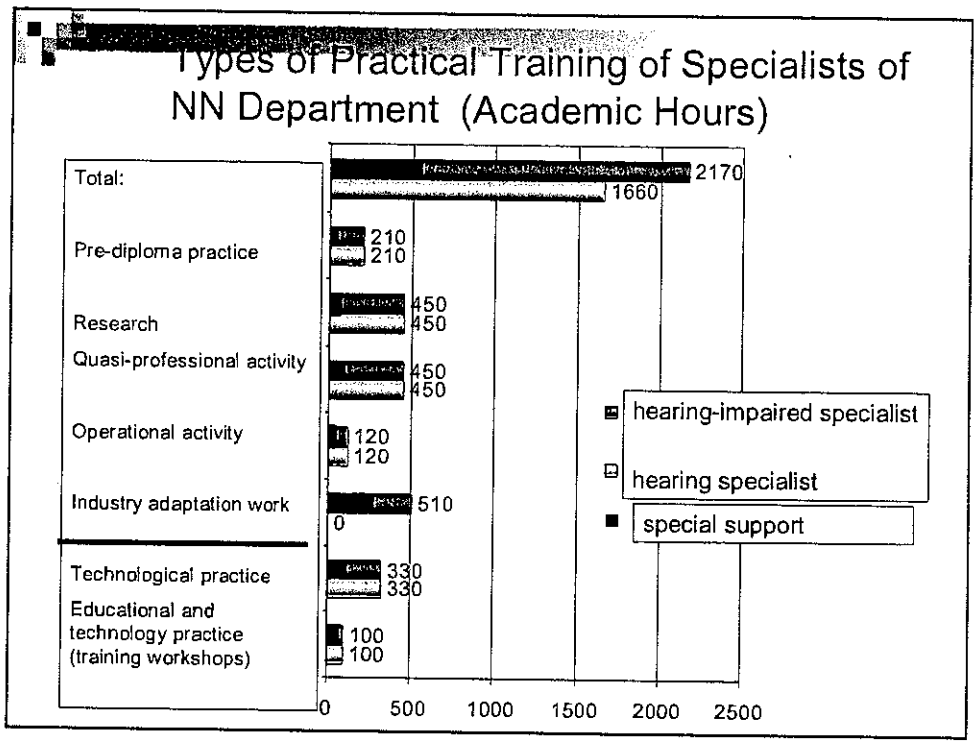
	Program Formula															
Structure of training and rehabilitation program	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Spiritual and moral culture	F	F	F	F	F	F	D	D	D	D	D	D	F	F	D	D
Socio-psychological culture	F	F	F	F	D	D	F	F	F	F	D	D	D	D	D	D
Physical culture	F	F	D	D	F	F	F	F	D	D	F	F	D	D	D	D
Culture of life with a disability (culture of social integration)	F	D	F	D	D	F	F	D	D	F	F	D	F	D	D	F
	Junior specialist		**Bachelor**										**Specialist with a diploma**		**Master**	

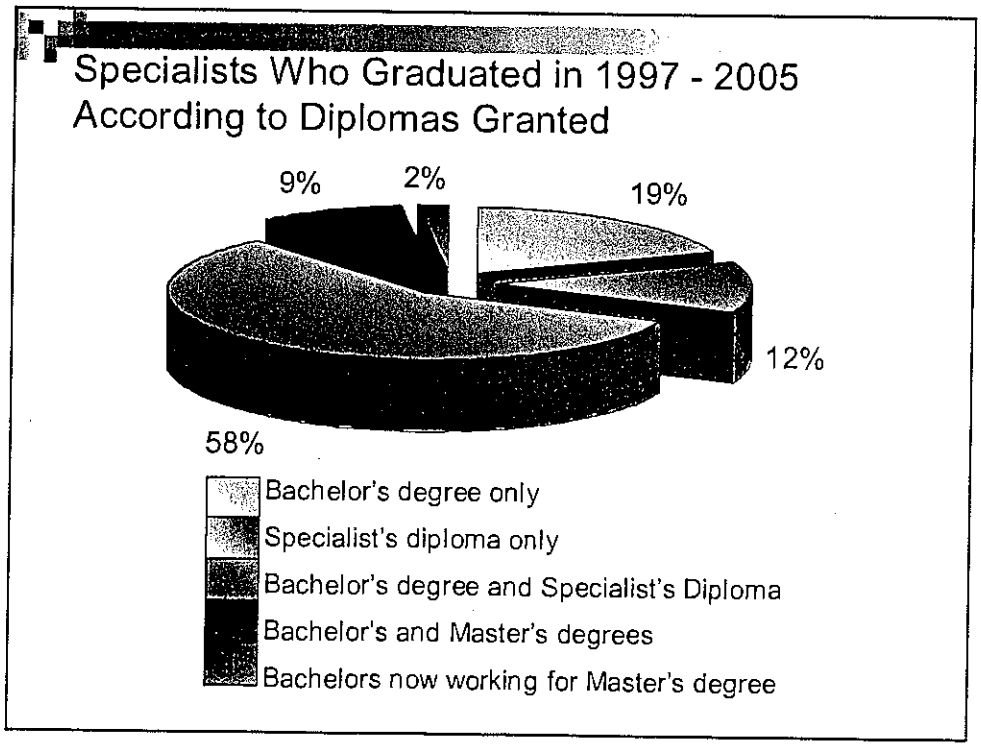
F (functioning) – incentive to professional functioning and adaptation of an individual to professional activities;
D (development) – incentive to developing professional skills and creative development of a profession and an individual within it.

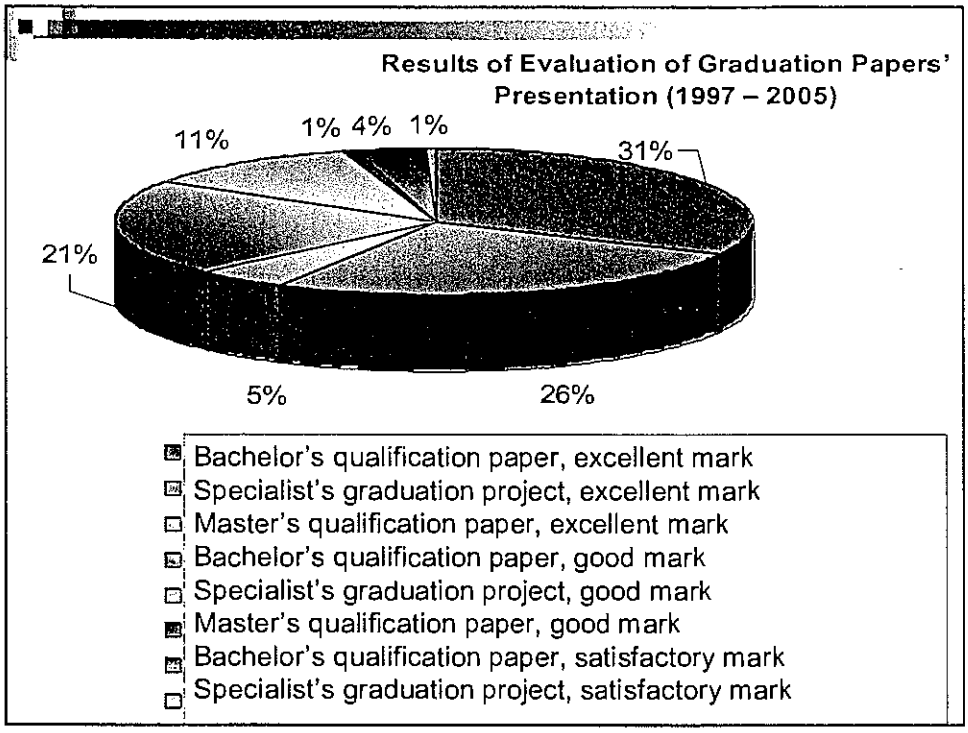
Types of "Training Credits" (Load) of a Hearing-Impaired Specialist of NN Department



- theoretical studies
- practical training
- laboratory classes
- professional practical training (fieldwork)
- individual work


Types of Practical Training of Specialists of NN Department (Academic Hours)
Total:
Pre-diploma practice
Research
Quasi-professional activity
Operational activity
Industry adaptation work
Technological practice
Educational and technology practice (training workshops)
2170
1660
210
210
450
450
450
450
120
120
510
0
330
330
100
100
0
500
1000
1500
2000
2500
hearing-impaired specialist
hearing specialist
special support


Specialists Who Graduated in 1997 - 2005 According to Diplomas Granted
9%
2%
19%
12%
58%
Bachelor's degree only
Specialist's diploma only
Bachelor's degree and Specialist's Diploma
Bachelor's and Master's degrees
Bachelors now working for Master's degree


Results of Evaluation of Graduation Papers' Presentation (1997 – 2005)
11%
1%
4%
1%
31%
21%
5%
26%
Bachelor's qualification paper, excellent mark
Specialist's graduation project, excellent mark
Master's qualification paper, excellent mark
Bachelor's qualification paper, good mark
Specialist's graduation project, good mark
Master's qualification paper, good mark
Bachelor's qualification paper, satisfactory mark
Specialist's graduation project, satisfactory mark

VI. Employment of the Deaf and Hard-of-Hearing at Postsecondary Education Institutions and Guidance/Support for Workplace Adaptation

"Employment of Graduates from the 3-Year Tsukuba College of Technology and the 4-Year Tsukuba University of Technology"

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Tsukuba University of Technology,
Faculty of Industrial Technology
yoshi@a.tsukuba-tech.ac.jp

In October last year, the Tsukuba College of Technology (3-year program) became the Tsukuba University of Technology (4-year program). The Auditory Department (related to the deaf and hard-of-hearing) became part of the Faculty of Industrial Technology and the Visual Department (related to the blind) became part of the Faculty of Health Sciences.

18 years ago, because it was the first of its kind in Japan, we started as a 3-year college, although we had already planned to create a 4-year university. We are extremely proud of the nearly 100% employment rate of our graduates and the workplace evaluation that has led to establishing the university.

This paper analyzes the employment situation of the college graduates, which was continuously satisfactory, and describes the concept of the Faculty of Industrial Technology, Tsukuba University of Technology, which will be enrolling its first students in April this year.

1. Employment Situation of College Graduates

1-1. Graduation and Employment Situation

The departments and capacities of the division for the hearing Impaired at the 3-year Tsukuba College of Technology are as follows:

Deaf-related	Department of Design (10 persons/year)
	Department of Mechanical Engineering (10 persons/year)
	Department of Architectural Engineering (10 persons/year)
	Department of Information Science and Electronic
	Electronic Engineering Course (10 persons/year)
	Information Science Course (10 persons/year)

We enrolled the sixteenth entrants as the last students of the College in April 2005 and we presently have some 160 students. We have enrolled about 800 students so far with about half

coming from schools for the deaf and the other half coming from high schools.

- About 75% graduate in three years.
- About 20% graduate in 4-6 years.
- About 5% leave the college.

Most students graduate 3 years after entry. As basic learning abilities in science and mathematics are required to learn technology, some of the students need longer to master the expertise and technology required to graduate.

By March last year, about 600 students had graduated, 95% of whom are employed and about 5% of whom continued with their studies (moving to other universities).

The positions acquired upon entering companies depend on the employers' wishes.

- Special industrial high school graduate + 1 year ◘ Career positions
- 2-year college graduate, high school graduate + 3 years ◘ General positions
- No classification ◘ Merit system

Although the treatment differs somewhat, an increasing number of employers are using the merit system, giving graduates positions in accordance with their abilities and conducting annual reviews based on work performance. In all cases, workers should promote their existence in the workplace, i.e. perform their assigned roles (jobs) accurately, and realize that computer literacy alone is not sufficient. It is important to have the ability to "fully utilize expertise and computer skills as job tools."

Table 1 shows the whereabouts of graduates in fiscal 2004 (the 13th entrants). Many of them are employed by well-known companies and are engaged in professional jobs (special engineers, CAD/CAE operators). The graduates from the 1st to the 13th entrants are 100% employed, continuously recruited by the same companies and maintaining stable positions, a situation that exceeds our original expectations.

1-2. Achieving a Good Employment Rate

While we cannot discount the Law for Promoting Employment of the Disabled, we have our own reasons for how the good employment rate is achieved.

- Available areas of specialty
- Job seeking method
- Curriculum levels
- Educational method (consideration in guidance)

In addition, the structure of Japanese industry contributes to the good employment rate. The details are described below.

1) Available areas of specialty (Science, engineering and technology)

Generally, graduates of liberal arts engage in accounting, personnel affairs, marketing, purchasing and benefits/welfare. Marketing and purchasing are particularly difficult for the deaf and hard-of-hearing because of daily negotiations with many people as well as considerable information exchange.

On the other hand, science/technology graduates engaged in special engineering positions can negotiate and exchange information through computers; a person with a hearing impairment can demonstrate their full abilities in technical positions that utilize their specialties.

2) Job seeking method (Recommendations from the college)

University students seek jobs through the free application system and school recommendations. Many students of the Auditory Disabled Department obtain employment through school recommendations.

Professors in charge of employment issue letters of recommendations in response to corporate requests based on a relationship of trust with universities (science and technology in particular) specifying a certain quota of jobseekers. The professors consider the requests and students' qualifications to determine which students to recommend. The employment ratio is high despite several recruitment tests.

Employment of students in liberal arts depends on the free application system in many cases. Before reaching the recruitment tests, students should visit companies, participate in employment forums, and submit applications to several firms by Internet or mail. They should also undergo testing available on the Internet, interviews at forums, and documentary examination. They should send applications to 10-20 companies to reach the stage of recruitment tests, which makes their job-seeking activities considerably difficult.

Before determining and selecting the firms at which they want to be employed, many students participate in internship programs. This helps them to understand the necessity of learning at the college and to experience the working environment and human relations. Firms can take the opportunity to consider the deaf and hard-of-hearing in engineering and other appropriate positions. Corporate internship realizes mutual understanding between the students and firms (workplaces), which favorably affects employment and stability ratios.

3) Curriculum levels (Ensuring the content and level of specialized education)

To ensure the necessary content and level of specialized education at a three-year college, some of the freshpersons undergo supplementary education in high school mathematics and physics and improve their basic learning abilities by selecting subjects appropriate to their learning history.

We also offer subjects related to auditory disability (auditory disability and its social aspects) to strengthen their understanding of their disability, which is not available at other universities.

4) **Educational method (Consideration in guidance)**

We are able to closely respond to the students by maintaining the principle of fewer than 10 students per class. In teaching, we utilize disability compensation systems such as visual information systems in each class. We also offer direct education without the help of sign language interpreters and note takers. Therefore, various communication methods are available, including audio systems, oral language, sign language and written language.

The science/technology curriculum includes systematic subjects. We provide numerous practice sessions and experiments for steady understanding of what students have learned from professional lectures.

5) Industrial structure

There are about 550,000 university graduates per year in Japan, which include some 22% science/technology graduates (about 120,000 persons*[1]). On the other hand, the total number of employees is 63.37million, of which about 28% (17.86million) are engaged in construction and manufacturing*[2]. It is estimated that the percentage roughly coincides with the demand of various industries for university graduates. University graduates in science and technology roughly correspond to the specific demand for human resources in the Japanese industrial structure or the demand is higher than the number of jobseekers. The university graduates in science and technology employed by major companies in heavy machinery, automobiles, electronics and information equipment account for about 80% of the newly recruited graduates. This coincides with the good employment rate of the auditory disability departments of science and technology.

2. Tsukuba University of Technology, Faculty of Industrial Technology

The Faculty of Industrial Technology for hard-of-hearing people has the following objectives: professional workers that can respond to the sophistication and combination of industrial technologies needed by society, promotion of social participation/contribution through information processing, manufacturing, creation of a living environment, development of research/education methods for each subject and disability compensation instruments and systems for improved education.

We have two departments: the Industrial Information Department (enrollment limit 35 students) and the Integrated Design Department (enrollment limit 15 students). Figure 1 shows the relationship between the 4 departments and 2 majors in the college.

*1: University Subgroup, Central Education Council, Ministry of Education and Science, gist of the proceedings (38th), Material 6-2.

*2: Employment and Unemployment Trends in October, Outline of October 2003 Survey of Workforce, Ministry of Internal Affairs and Communications

Freshpersons undergo education in liberal arts and basic specialties. They undergo professional education from the 2nd year (Fig. 2, basically 5 persons per course). Rather than deciding the professional subject before entrance, we determine the courses (professional subjects) after one year of learning, taking into consideration the student's wishes, adaptability and scores.

Graduates must take 96 units for graduation from the 3-year college, but the 4-year university requires an additional 28 units or 124 units in total. As shown in Table 2, 18 units of liberal arts subjects and 10 units of professional subjects were added. In addition to the thematic education subjects (philosophy, literature, etc.) that were offered at the college, we newly created comprehensive liberal arts subjects dealing with combined themes (firms and society, history of natural science, etc.). We added and improved disability-related subjects (auditory disability, etc.) as well.

In professional education, we increased the number of selectable subjects, improving selectability, by introducing the course system. In highly professional subjects for the 3rd and 4th years, we increased the number of 5-person classes. In terms of content, we organized a curriculum for advanced utilization of computers for human development offering such courses as programming, data analysis, information analysis, computer aided design (CAD), computer aided manufacturing (CAM), simulation, computer aided engineering (CAE), and computer graphics (CG).

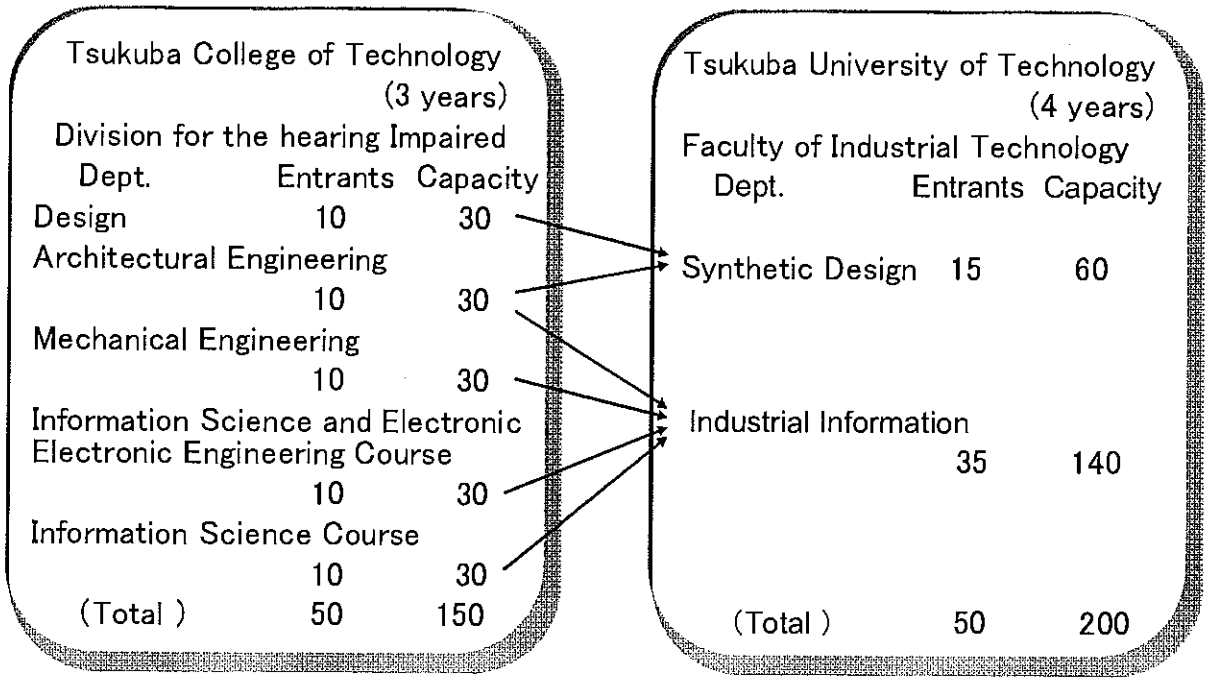

Fig 1 Comparison of subjects

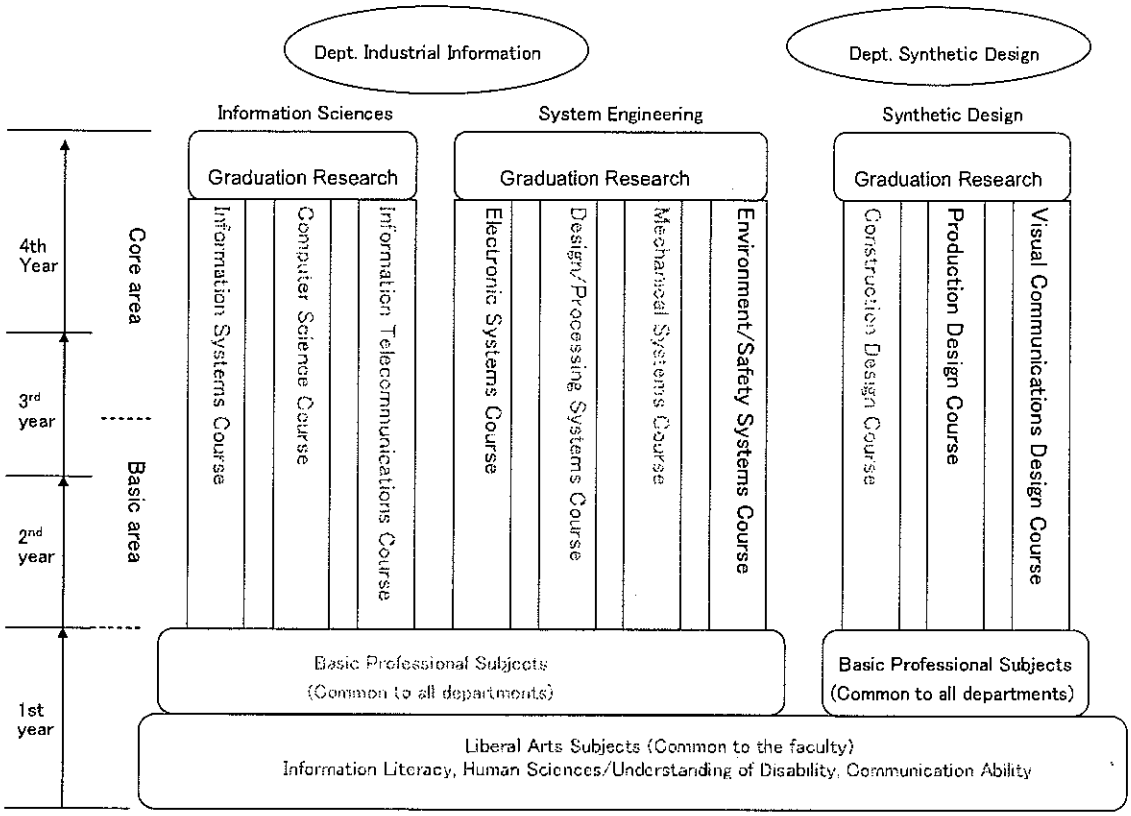

Fig. 2 What students learn in the Industrial Technology Department

Table 1 Whereabouts of graduates in fiscal 2004 (the 13th entrants)

●Design		●Mechanical Engineering		●Architectural Engineering		●Information Science and Electronics			
						- Electronics Engineering Course -		- Information Science Course -	
RECRUIT MEDIA COMMUNICATIONS CO., LTD	1	MITSUBISHI HEAVY INDUSTRIES., LTD	2	SHIMIZU CORPORATION	1 (1)	SHARP CORPORATION	1 (1)	NAMCO LIMITED	1
Nihon Keizai Shimbun. Inc.	2 (1)	TOSHIBA MEDICAL SYSTEMS CORPORATION	1	Daiwa House Industry	2 (1)	Panasonic Mobile communications Co., Ltd.	1 (1)	JTB Data Service Co., Ltd.	1 (1)
Nihon Building Services Co., Ltd.	1 (1)	SUMITOMO BAKELITE Co., Ltd.	1	TAISEI CORPORATION	3 (1)	Ricoh Software Inc.	1 (1)	Panasonic Mobile & System Engineering Co., Ltd.	1
PLUS CORPORATION	1 (1)	Shin Nikkei Company, Ltd.	1	JTB Data Service Co., Ltd.	2 (1)	JTB Data Service Co., Ltd.	1	NTT Advanced Technology Corporation	1 (1)
Nissan Motor	1 (1)	SHINRYO CORPORATION	1	Daito City Hall	1	TOSHIBA CORPORATION	1	TOSHIBA CORPORATION	1 (1)
YKK AP Inc.	1 (1)	SANKI ENGINEERING Co., LTD.	1	NIPPON KAYAKU CO., LTD	1 (1)	MEIDENSYA CORPORATION	1	NEC Corporation	1 (1)
ACCESS CO., LTD.	1 (1)	Hitachi, Ltd.	1	ASANUMA CORPORATION	1	Transcosmos inc.	1	SHARP CORPORATION	1
CENTRALSPORTS CO., LTD.	1	OMRON Corporation	1	NTT CLARUTY CORPORATION	1	NEC Nexsolutions, Ltd.	1 (1)	Yahoo Japan·Corporation	1
YAMAHA MOTOR CO., LTD.	1			Maeda Corp.	1 (1)	NTT CLARUTY CORPORATION	1		
Matsushita Electric Works	1								

Table 2 Comparison of required units between college and 4-year university education

Subjects			College Auditory Division Division for the hearing Impaired	University Faculty of Industrial Technology
Liberal Arts	Seminars and comprehensive liberal arts subjects		6 more	5 more
	Subjects by themes			4 more
	Language and Information	Foreign Language (English)	6	8
		Foreign Language (other)	—	2 more
		Japanese Language	3	4
		Information Literacy	—	3
	Disability Related Subjects		3	8 more
	Health and Sports		3 more	5 more
	Total		21 more	39
Professional Education	Basic Professional Subjects		12～16.5	16～22
	Professional Education Subjects (Basic area) (Core area)		58.5～63	63～69
	Total		75 more	85 more
Units required for graduation			96 more	124 more

Joint Efforts of Colleges, Universities and Social Communities for the Employment of Deaf College Students

– Overview of the employment of Chinese deaf college graduates

I. General Status of the Chinese Deaf Population and Deaf College Students

China has a population of 20.57 million individuals with hearing and language handicaps. 25.47% of these live in cities and towns, and 74.53% live in the countryside, representing a rough ratio between the two groups of 1:3. Throughout the country, there are 2,000 deaf students enrolled in colleges, accounting for 1/10,000 of the nation's total deaf population. However, the social impact has far more implications than these figures may indicate. The employment of deaf college students involves 30 provinces, autonomous regions and municipalities. Currently, Chinese institutes of higher learning have set up undergraduate and postgraduate programs open to deaf applicants, with disciplines in the liberal arts, the sciences, the arts and etc.

II. Employment Status of Chinese Deaf College Students

As stipulated in China's *Constitution*, the government and social communities shall help facilitate the employment, daily lives and education of blind, deaf, dumb and other disabled citizens. In 1984, China implemented *The Law of the People's Republic of China on the Protection of Handicapped Citizens*, which marks the legislative confirmation and guarantee of the rights and interests of disabled people. According to the stipulations of national laws, all enterprises and institutions within China's jurisdiction shall employ handicapped people at a rate of no less than 1.17% of their total employee population. Statistics indicate that some 80% of the Chinese deaf population has found jobs. Over the span of some 20 years since China's higher education for the deaf was initiated, some 1,000 college graduates have found gainful employment.

III. Form of Employment and Industries Employing Chinese Deaf College Graduates

According to current economic development and China's market economy

regime, deaf college graduates are employed in: (1) companies, enterprises and institutions according to the required percentage of disabled hiring; and (2) private companies that recruit deaf college graduates for centralized employment on a small scale. At present, deaf Chinese college graduates are mainly employed in two ways: first, concentrated employment and second, scattered employment according to the required proportion.

They are employed in the fields of: advertising (computer 2D design), gardening and flowers (planting and care), computers and etc.

IV. Form of Job Hunting

Colleges and universities provide employment services to deaf college graduates, and recommend them to enterprises and institutions. Through various general job fairs or special job fairs for the disabled, employers and handicapped college graduates have two-way contact.

Furthermore, deaf college graduates have timely access to job opportunities through college job information websites and job fairs hosted by individual colleges and universities.

V. Methods and Efforts Adopted and Committed to by Colleges and Universities

1. (a) Set up a working regime with unified leadership, hierarchical management, cross-agency coordination and the full participation of all personnel. School officials are the first to be responsible for the employment of deaf students; (b) set up a college graduate steering office managed by ad hoc personnel for job recommendations, guidance and etc. for deaf students.

2. Develop appropriate majors with excellent quality. Majors for deaf students must be tailored to market demand, local economic goals and the features of each college.

In setting up majors and curricula for deaf students, teachers must take into consideration their students' physical and learning characteristics, develop students' work skills and independent living abilities, increase students' vocational skills and independent learning skills, make students' knowledgeable in a wider number of areas,

assist students' in becoming adaptable to and competitive in the market, and improve the quality of the available higher education.

3. Set up a "socially supported employment mechanism" for deaf students. Colleges and universities have set up coordinative relations with disabled persons' associations, personnel institutions, labor agencies and news media, and the disabled persons' associations provide guidance to the government. Together with disabled persons' associations, colleges and universities convene special job fairs for disabled students and make online information available. With the help of media, social attention and aid will be brought to these graduates

4. Enhance education and guidance for deaf students

First, set up job guidance courses in the curriculum that include psychological preparation, job hunting tips and etc.

Second, provide more job guidance for deaf students, and help students become more competitive. Individual and concentrated tutoring will be conducted to give guidance on job hunting skills, employment psychology, procedures, role adaptation, etc., and to help students adopt a realistic attitude which allows them to be less selective in their first jobs and try to set up their own businesses if possible in the future.

5. Enhance liaisons with the government, various disabled persons' associations, as well as enterprises. Through participating in job fairs and the extensive contacting of employers, we can open to more opportunities for deaf students. In addition, students will be allowed to seek jobs as early as during the writing of their graduation theses. Employment centers will be set up and constantly improved, and colleges will dispatch staff to seek job information in various provinces and cities. Internships and employment centers, as well as cooperation between enterprise and colleges, will be explored and developed so as to train deaf students in practical talents.

6. Make full use of modern information technology and set up a job information network for the deaf students.

VI. Future Prospects

1. The government will actively publicize the welfare of the disabled people to

the public, with the purpose of creating a social atmosphere of care and support for the disabled population. The public will also know about disabled employment policies, understand the difficulties that the disabled face and support those with disabilities it the search for jobs.

2. Develop legislation by formulating and improving policies and regulations on the employment of the disabled. Employment of disable people will be incorporated into administrative law enforcement and the labor supervision of local governments. An ad hoc enforcement agency for job supervision and inspection for the disabled will be set up.

3. Increase investment in special higher education so as to better its ability to turn out more competitive deaf students as job seekers.

4. Increase support for the employment of the deaf population. Develop special job opportunities suitable for deaf people and host specific job fairs. Enhance vocational training to improve job skills. Give career guidance, and set up deaf students' internship and training centers. Establish a business fund to help deaf people start up their own businesses.

5. Improve and enhance job information networks for the disabled in various provinces and cities, which serve as an online job information platform.

PEN-China: Technical College for the Deaf, Tianjin University of Technology
Special Education College, Changchun University
Special Education College, Beijing Union University
The Deaf Art Design College, Zhongzhou University

March 2006

Displays the Specialized Superiority, And Open the Employment Ways Wildly for Deaf Student Who in Postsecondary Level.

Art and Design College for Deaf
--Yu Huijian, Meng Fanling

Abstract: Displaying the Specialized Superiority, paying attention to the profession construction, and opening the employment ways wildly for deaf student who in postsecondary level is the emphasis on deafness postsecondary education. According to the advantage of the area and college,establish the sciencific target and project to develope the talented person,build the solid platformfor deaf employement. At the same time, based on the regularity of postsecondary education for deaf student, we should use many ways in professional teaching. taking up employment smoothly for the deaf student, making them become the real creator of the social spiritual civilization and the material civilization.

Key Word: the Specialized Superiority, open wildly, deafness, employement

The art and design college for deaf which in ZhongZhou University was recruit the deaf student from 2001, now, there are 269 deaf student studies in the college. The college sets up four Profession for deaf students, they are decoration Arts ,Ancient Architecyuredrawing, photograph, sign language interpretation. For helping to carry out their ideal of " equality, participation, share" and realize the target of sustainable development , we always put the work of displaying the Specialized Superiority and opening the employment ways wildly for deaf student who in postsecondary level on the important situation. According the postsecondary education, develop them having the Cultural cultivated manners, professional skills, independent ability of living, and participating society competition equality, making them become the real creator of the social spiritual civilization and the material civilization, also making them to be the examlpe of deafness.

I Rely on the advantage of area and college to set up the specialty.

Art and design specialty with ZhongZhou University is the demonstration of educational reformation in Henan Province. The college accumulate some human and material resource in the process of running a school, have the fresh and clear special features,and the sense of vision art has no obstacle to deaf student. Therefore, the art and design college for deaf rely on the advantage of Zhongzhou University to set up the specialty. At the beginning of founding the college, it set two specialties of decoration arts and Photography. For making the college standing at higher terrace in the beginning of the college development, establish a good foundation for deafness postsecondary education. At the same time, according to the advantage constitution speciality of the place. Henan Province is the origin place of the Chinese nation culture. The investigation demonstrated, the number of underground cultural in Henan Province is the first in whole country, a preceding context is the second in whole country, 1/8 Collection cultural relic of China is in Henan Province, there are four ancient capital in Henan Province which is the Chinese eight ancient capital. The long history accumulated abundant history cultural inheritance, relying on the development tour in the cultural object historic monument is one of a economical pillars of Henan. Henan is an important Province of cultural relic, a great deal of cultural object of historic monument needs to protect, repair, rescue, having vast talented person needing market. According to the understanding, the cultural object repair troops of the existing historic monument is the people basically working troops, they did not be subjected to the professional training, lack the cultural knowledge of the necessity and appreciate beauty the ability. Therefore, according to our marketing analysis, we establish the Ancient Architecture Drawing specialty, developping the speci cultural object repair al professional technical ability for student, Also developing professionaltalented person of cultural object repairing. According to the marketing need, the place economy development target and the advantage of the school, lays the solid foundation for deaf students employementis the basic basis of our speciality. Accurate profession establishment Will build the good foundation for the next employment.

II Strengthens the specialized construction, develop the professionalskills and exist independend survivng abilities.

Establishing the sciencific target and project to develope the talented person , Prominenting school characteristic, Strengthened teaching process management, developing the senior applies the talented person who have the certain esthetic ability and the cultural accomplishment and special specialized skillsand knowing the new craft, new material and related laws is our professional target.

First is rely on human and materal resource and reform in education result which in Art college of Zhongzhou University , Follow the regulation of deafness education and draw up the talented person's development project. The first, pay attention about deaf students' mind world, liberated them from the psychology of slef-confining. Set up the decision of strong, self-confidence, independence. The college have orgnized many kinds of collective activitys, built various communication satges,and made them dissolve into the hearing student. For example: The art college and the art and design college for deaf put the student association and each kind group organization together,two college students take part in the same sports and paintings competetion.They participating and working together. Making the deaf students dissolve into hearing person from working ,studying to living. The second, establised the development the college have drawn up a professional syllabus for deafness teaching in last two years. The third, establish the work system+ design company system in first step, and the teaching mode of producing and learning cooperative education. The fourth, establish apple sketch design work station, flat surface printing laboratory, the adornment art laboratory, numerical art center, deaf students video frequency multi-media laboratory and other school laboratories. The fifth, establish several outside school's experiment practice base, construct the bridge which lead to the society. The sixth, built up a professional teacher's troops. All of abiove lay the good foundation for professional technical ability and overall characters that develop the deaf person

III Three, according to characteristics of deaf students who is in postsecondary level, set up theleading course of employment

We set up the teaching plan of 《 deaf person and society 》 course in September 2003. The course guides the student to study the related laws, knowledge and rights by disable person, raise the ability of knowing and orientation, develop the healthy personality and mental states. Employment guide include employment psychology preparation, occupation programming, independence to start a business design, methods of seeking jobs, slef-understanding etc., total 72 learn for hour. According

this course, make the students set up the right employment view and the self-confidence and ideal, develop the ability of sustainable development.

IV Strengthen the contact with the government and all levels disable union, design company, the welfare business enterprise and related place, Open the employment ways wildly

In the last years, we always to build up agood relation with related section and units, strengthenning the exchanges and communicating, and publicizeeing the advantage deafness professional technical ability in several levels. Befor every December , The college sents the personal information of the graduate student to each disable person's employment service center where the provinces or cityes belonged by deaf student. According to attend each kind of employment job advertisement meeting, build the terrace and bridges for the deaf student. At the same time, contact uses person's unit in many ways, adopt" the order form " development, put the graduation designing and employment together, making student enter into person's unit early, professional teacher and person's unit undertake the graduation design and practice together, strengthen the understanding of person's unit, promote students' employment.

V Periodically convene the parent meeting, guides the parent understanding employment situation and to help the students taking up employment.

It can't neglect the influence of deaf student's parent, they can help the deaf stuudents setting up the important idea of employment. So we are designing to convene the parent meeting, study the laws and special policy about disable person employment, let parents understanding the students' study condition and the advantage of professional technical ability, guide the employment direction, raise the understanding level by student's parent, make them use the right way to guide student employment. Create the beneficial condition for graduating smoothly by deaf student.

VI Found the sign language interpretation speciality, develop specialized talented person for promoting deaf students employment.

Along with the development of the society civilization and cognitive exaltation of disable person by whole society, especially a lot of welfare business enterprises wishes to employ abundance deaf personspecial,but the communication also is an obstacle. Face this actuality, we set up the sign language interpretation speciality from

2004, developping the professional interpreting talented person for society, promoting the development of the disable undertaking.

All in all, the employment of deaf student who is in postsecondary level needs the effort and concerns of the whole society,also needing to develop their professional ability and professional characters, according to the university education, to make them set up the living courage and confidences. We will investigate and pursue continuously in lasting workdays, strengthen the exchanges and communicating, continuously perfect employment mechanism in the innovation, Open the employment ways wildly for deaf student who in postsecondary level, struggle with the whole seciety in creating harmonious society and changing the destiny of the deaf crowd .

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Zhengzhou

Postsecondary Education's Role in Increasing the Employment and Earnings of Persons who are Deaf or Hard-of-Hearing

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Abstract

Literature documenting the economic status of deaf and hard-of-hearing persons in the United States has consistently indicated that these disabled persons are employed at lower rates and earn significantly less than their non-disabled peers. In the last quarter of the 20th century federal legislation sought to eliminate discrimination based on disability, and required reasonable accommodation in school and in the workplace. One result of this legislation has been increased access by deaf and hard-of-hearing persons to colleges and universities in the United States. This paper reviews the literature on employment of deaf and hearing persons and reports on a study of the alumni from the National Technical Institute for the Deaf who have graduated and those who have not graduated. Results indicate that college graduation significantly benefits deaf and hard-of-hearing persons by increasing employment and earnings, when compared with alumni who have not graduated. It also appears from this study that college graduation aids in reducing, but not eliminating, the gap between the earnings of deaf persons who have a college degree and hearing persons who have a college degree

Introduction

The second half of the 20th century has been one of the most active periods in the history for postsecondary education in the United States. During this time, postsecondary education has, without question, been a "growth Industry." The initial impetus resulted from federal legislation which enabled large numbers of World War II veterans to attend colleges and universities. Subsequently, the sons and daughters of these same veterans began entering post-secondary institutions in large numbers during the 1960's and early 1970's prompting massive expansion in staffing, facilities, and curricula. Fueled by demand for higher education, community colleges expanded, opening the doors of postsecondary education to large numbers of individuals who would otherwise not have had access to traditional higher education.

Growth during this same period was also fueled by societal changes in attitudes regarding college attendance. Driven by the launching of *Sputnik,* the goal to put a man on the moon, and the civil rights movement, societal goals for education at the collegiate level were focused on issues of *access to* and *training in* the technologies. Technological advancements following World War II, preparedness during the Cold War, and the race to put a man on the moon, resulted in the demand for highly trained specialists in areas such as engineering, mathematics, computer science, and communication technologies. The demand for these skills has resulted, by the beginning of the 21st century, in increased emphasis on more education by the general population.

Access to postsecondary education and choice of school by individuals initially centered on the issue of college opportunities for children from low-income families, but extended to disabled individuals with the passage, in 1973, of Section 504 of the vocational Rehabilitation Act.

> *No otherwise qualified handicapped individual in the United States...Shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal assistance. (Public Law 93-112: Section 504)*

This provision was extended by passage of the Americans with Disability Act of 1990.

> *No qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any such entity. (American with Disabilities Act of 1990, Section 202)*

Efforts at the state and federal levels in support of these acts have taken a variety of forms, including financial support for the elaborate network of community colleges and expanded state university systems. In addition, increased

financial aid to students has improved access, while contributing to the ability to choose one's school.

These societal efforts to provide access to higher education have markedly influenced the numbers of hearing-impaired persons seeking post-secondary education and the access services they receive. A 1999 study by the National Center on Education Statistics (U.S. Department of Education, 1999) estimated that, in 1997-98, 48 percent of the nation's 5,040 2-year and 4-year post-secondary education institutions enrolled students with a hearing impairment. The total number of students reported was 23,860, not including the 2,500 enrolled at Gallaudet University and the National Technical Institute for the Deaf. Assuming continued growth in enrollments of hearing-impaired persons in postsecondary education, and adding the students enrolled at Gallaudet and NTID, there are probably more than 30,000 enrolled today.

These same institutions provide a wide variety of support services for disabled students. Almost all (98 percent) of the institutions provided at least one support service or accommodation for students with disabilities. Table 1 provides a breakdown of services that were provided for hearing-impaired students in 1998.

Table 1

Percent of U.S. colleges providing specific support services for hearing-impaired students

Type	Sign Language	Adaptive Technology	Notetaker	Tutor	Altered Exam Formats	Career Placement
All Institutions	**45%**	**22%**	**69%**	**77%**	**88%**	**22%**
Public 2yr	**66%**	**81%**	**82%**	**87%**	**94%**	**32%**
Private 2yr	**10%**	**30%**	**18%**	**51%**	**55%**	**10%**
Public 4yr	**68%**	**80%**	**93%**	**82%**	**100%**	**34%**
Private 4yr	**29%**	**39%**	**66%**	**75%**	**90%**	**10%**

Source: National Center for Education Statistics (U.S. Department of Education, 1999)

It is clear that the majority of institutions were providing altered examination formats, tutor and notetaker services, while fewer were providing sign language interpretation, adaptive technologies, and special career placement services for their hearing impaired students.

The door to postsecondary education has been opened for deaf and hard-of-hearing persons in the United States. What impact has this access to higher education had on the lives of those who choose to attend college. This historical perspective sets the stage for the topics discussed in this paper: namely, employment and earnings of deaf and hard-of-hearing persons in the United States, and most specifically for those with a college degree.

Employment attainments of graduates should therefore be a key element of outcomes assessment for postsecondary institutions. What is the employment rate of graduates? How do their salaries compare with those of people without degrees? These are the questions we will address in this paper. But first, let's explore what the literature tells us about employment of deaf and hard-of-hearing persons in the United States.

Employment Rates

As with non-disabled persons, work plays an important part in defining the self-image of deaf and hard-of-hearing individuals, and contributes to a person's sense of order and self. Given this importance, what is known about the employment rates of deaf and hard-of-hearing people in the United States?

Early studies (Lunde & Bigman, 1959; Boatner, Stuckless & Moores, 1964; Quigley, Babbini, & Marshall, 1969; Schein & Delk, 1974; Terzian, 1982; Welsh & Walter, 1988; Welsh,1991) found that labor force participation rates of deaf and hard-of-hearing people did not differ greatly from those of hearing people. In some cases, they were nearly equal, and when there were differences, deaf and hard-of-hearing people were generally in the labor force more often than their hearing peers. Schein and Delk (1974) reported that 83 percent of deaf males were in the labor force, compared to 80 percent of the general population. The status for deaf females presents a dramatically different picture. For females, 49 percent were in the labor force, compared to 44 percent of the general population.

More recent studies, however, indicate that the employment status of deaf and hard-of-hearing persons has changed. As shown in Table 2, McNiel (2000) reports on results from the Census Bureau's Survey of Income and Program

Table 2

Employment of the severely hearing impaired from the Survey of Income and Program Participation, 1991, 1993, 19995, and 1997, 2001.

	Percent Employed				
	1991	**1993**	**1995**	**1997**	**2001**[1]
U.S. Population	75.1%	75.1%	76.2%	78.2%	74.6%
Difficulty Hearing	63.7%	65.4%	64.4%	62.3%	60.1%
Severe	58.7%	53.3%	59.7%	48.5%	47.0%

Source: McNiel (2000) Employment, Earnings, and Disability.

[1] Percentages for 2001 were calculated by the author from the SIPP data set.

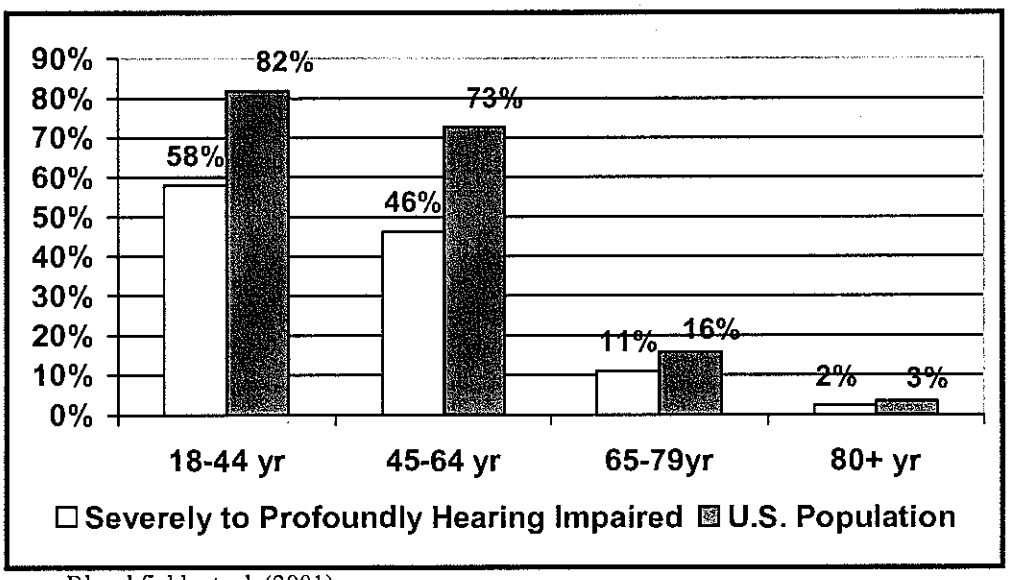
Participation (SIPP) for the years 1991, 1993, 1995, 1997, 2001. During these years, only 56 percent of individuals with severe difficulty hearing, between the ages of 21 and 64, reported being employed. This finding compares to an overall rate for the general population of 76 during the same period.

Analysis of disability data from the National Health Interview Survey by Blanchfield et. al. (2001) found significant differences between the severely to profoundly hearing impaired and the general United States population, especially for working age adults between 18 and 64 (Figure 1). Specifically, only 58 percent of those with severe to profound hearing impairment between the ages of 18 and 44 years were working compared to 82 percent of the general population. Approximately 46 percent of those age 45 to 64 years were in the labor force compared to 73 percent of the general population.

Houtenville (2002) pooled data from the National Health Interview Survey (NHIS) from 1983 through 1996, and reports an employment rate of 75 percent for non-institutionalized working age men, 25 to 61 who are deaf in both ears. This figure compares to 89 percent for all working age men. Rates for deaf females are 50 percent compared to 69 percent for the general female population.

Figure 1

Percentage of the population in the labor force by age and hearing status.



Source: Blanchfield, et. al. (2001)

Schroedel & Geyer (2000) from a longitudinal follow-up of 240 deaf college graduates reported that 85 percent of the sample was in the labor force, but that 5 percent was unemployed. This results in an 81 percent employment rate for their group of subjects as a whole. The authors do not report their results by gender.

Walter, Clarcq & Thompson (2002) report on the results of a joint study with the Social Security Administration that compares the post graduate economic status of 6,965 individuals who attended or were denied admission to the National Technical Institute for the Deaf between 1980 and 1996. Deaf college graduates

report labor earnings (a proxy for employment) at higher rates than individuals with no college degree.

Nearly all males who graduated with a bachelor's degree found jobs. The percentage reporting no earnings never exceeded 10 percent during the 16 years covered by this study. Non-reporting rates are somewhat higher for male sub-bachelor graduates who are deaf or hard-of-hearing, averaging between 10 and 20 percent. For withdrawals and those with no college, between 20 and 45 percent reported no earnings during the 16 year period covered by the study.

For females who obtained a bachelor's degree almost all find jobs shortly after graduation but the percentage reporting no-earnings increases over the time span of this study, until, by age 40, one-third of deaf and hard-of-hearing female bachelor graduates report no income. For female sub-bachelor's graduates the rate doubles from 20 percent shortly after graduation to 39 percent at age 40. By age 40, 45 percent of withdrawn, and 59 percent of females with no college reported no labor earnings.

All things being equal, a college degree substantially increases labor force participation rates (as measured by those reporting income) for individuals who graduate over those who do not graduate. For males, labor force participation rates generally persisted throughout the span of this study, while increasing numbers of females reported no income.

Earnings

As with employment rates, earnings of deaf and hard-of-hearing workers have been consistently reported to be lower than the earnings of workers in the general population. Schein and Delk (1974) report that deaf individuals' median income was 72 percent below that of the general population, with the effect much greater for deaf females than deaf males.

In an analyses reported by McNiel (2000) from the 1997 Survey of Income and Program Participation, the median income of individuals 21 to 64 with severe hearing impairment was only 87 percent of the individuals making up the general population. Data for the 2001 Survey of Income and Program Participation was analyzed by the author. In this updated analysis, individuals with severe hearing impairment earned 86 percent of what hearing individuals earned.

Blanchfield, et.al. (1999), reporting family income information from National Health Interview Surveys 1994 and 1995, indicate that the severely to profoundly hearing-impaired population are poorer than other Americans. Fifty-three percent of the study population reported family incomes of less that $25,000 compared to only 36 percent of the general U.S. population. These differences amount to family incomes of deaf citizens that are approximately 82 percent of the general U.S. population.

Houtenville (2002) pooled results from the National Health Institute Survey for the years 1992 — 1996 and reports the household income of non-institutionalized working age deaf civilians (ages 25 to 61) to be 72 percent less than the general population for males and 61 percent less for females. These

figures are in line with the findings reported by Schein & Delk (1974) from 20 years earlier.

Schroedel & Geyer (2000) report that income for college graduates is strongly influenced by the level of college degree deaf individuals attain. They report that associate degree recipients earned 86 percent, bachelor recipients 56 percent and individuals with postgraduate degrees 75 percent as much as their hearing peers. Using these reported values of earnings, and the numbers of subjects in each group, earnings of their deaf subjects are calculated to be 70 percent of their hearing peers.

Walter, Clarcq, & Thompson (2002) examined the differences between a matched sample of deaf and hearing bachelor graduates of the Rochester Institute of Technology. Deaf and hard-of-hearing RIT bachelor's graduates earn less than their hearing counterparts. Sixteen years after graduation, males earn only 72 percent and females 76 percent of their hearing peers. Over a lifetime the authors project that male deaf and hard-of-hearing bachelor's graduates will earn only 68 percent of their hearing peers. For female bachelor's graduates this figure is 71 percent. These figures are in keeping with the differences reported in earlier studies.

Taken together, results from these studies consistently indicate that deaf and hard-of-hearing persons earn 25 to 30 percent less than their hearing peers. One goal of special postsecondary programs that provide access and accommodation for deaf and hard-or-hearing students is to not only increase earnings of individuals but to reduce the societal differences in employment and earnings levels between disabled and non disabled individuals.

Effect of education on employment and earnings

The higher the degree the greater the gap between the earnings of college graduates and high school graduates. In the U.S. workforce, a person with an associate degree can expect to earn 22 percent more than a high school graduate who is working, and a graduate with a bachelor degree can expect to earn 62 percent more than a high school graduate (U.S. Census Bureau, 2004).

College graduation also has a significant impact on increasing the economic status of deaf and hard-of-hearing persons by lessening the handicapping effects of an early onset of serve to profound hearing impairment. Welsh & Macleod-Gallinger (1992) report a 34 percent difference between sub-bachelor graduates and college dropouts, and an 80 percent difference in earnings between bachelor graduates and college dropouts. In a more recent study, Schroedel and Geyer (2001) report earnings differences of 26 percent between associate and bachelor graduates from a national longitudinal study of deaf and hard-of-hearing college alumni.

Findings by Walter, Clarcq, & Thompson (2002) indicate that graduation from college results in major economic benefits for deaf and hard-of-hearing persons. They estimated that deaf baccalaureate graduates will earn about 68% more over their working lives than students who attended but withdraw without a degree. Sub-baccalaureate graduates will earn 29% more than those who

withdraw. These figures are in keeping with national statistics for the general population.

Walter, Clarcq & Thompson (2002) also report on the effect of gender on earnings. Salaries of deaf females are about 75 percent of deaf male salaries at graduation and are only about 60 percent at age 40. This fact needs to be tempered by the differing career choices made by males and females. For example, in the bachelor degree cohorts, 73 percent of male graduates majored in business, science, applied science and other higher paying majors. Conversely, 58 percent of females received their bachelor's degree in imaging arts and liberal arts, while only 27 percent of males received degrees in majors where lower salaries are often a market condition (Barnartt & Christiansen, 1996, MacLeod, 1992; Schroedel, 1976). Additionally, because of social forces, deaf women participate in the workforce at a lower rate than men. These differences are not unique to deaf and hard-of-hearing graduates, and are further exasperated by institutional bias in the workforce that affects all women (Horn & Zahn, 2001; Ehrenberg & Smith, 1994).

The above findings suggest that the economic handicapping effects of severe to profound hearing impairment are somewhat reduced as one achieves higher levels of education beyond high school. The next section of this paper explores the impact of postsecondary education by considering data from a recent study conducted at NTID.

Study Methodology

To gather data about earnings and numbers of alumni reporting earnings, NTID negotiated a contract with the U.S. Social Security Administration (SSA). Under this contract, NTID provided the SSA with data about individual alumni, and the SSA returned tabular information about NTID alumni.

The SSA followed strict confidentiality guidelines in providing NTID with information. No data about individuals who made up the pool of subjects were reported. NTID made no requests of individuals to furnish any information and no personal information on individuals by way of name or address was used in data analysis.[2]

In August, 2004, NTID forwarded a data file to the SSA from which they matched the records for 10,196 individuals: 5,127 who had entered but withdrew, 5,069 who had graduated. SSA matched the cases with an historical annual earnings file they maintain in collaboration with the Internal Revenue Service. From the extracted data about individuals, the SSA created tables summarizing the numbers of individuals reporting earnings for tax year 2003, and the average

[2] The Privacy Act of 1974 as amended by U.S.C. Section 552a (b)(5) states that disclosures may be made to a recipient who has provided the agency with advance adequate written assurance that the record will be used solely as a statistical and reporting record, and the record is to be transferred in a form that is not individually identifiable.

annual earnings of these individuals. These data provided the basis for the analyses reported in this paper.

The deaf subjects in this study represent the universe of individuals exiting NTID from 1969 to the spring quarter of 2003. This sample was retrieved from the RIT Student Record System and thus is not intended to be representative of deaf and hard-of-hearing persons in the United States.

Fifty-nine (59) percent of the cases were male and 41 percent female. The number and percentage of male subjects exceeded female subjects at all age levels. Fifty-two (52) percent of the subjects attended NTID, but withdrew before receiving a degree; 48 percent graduated with a degree. The median age was 37 for females and 38 for males; graduates had a median age of 39 and withdrawals a median age of 36.

Percentage Reporting Earnings from Work

Information received from the Social Security Administration included the number of alumni reporting earnings to the Internal Revenue Service for the 2003 tax year. These data were used as a proxy for number of individuals in the labor force, since we can assume that, if a subject had earnings from wages and salaries, they were employed during the year.

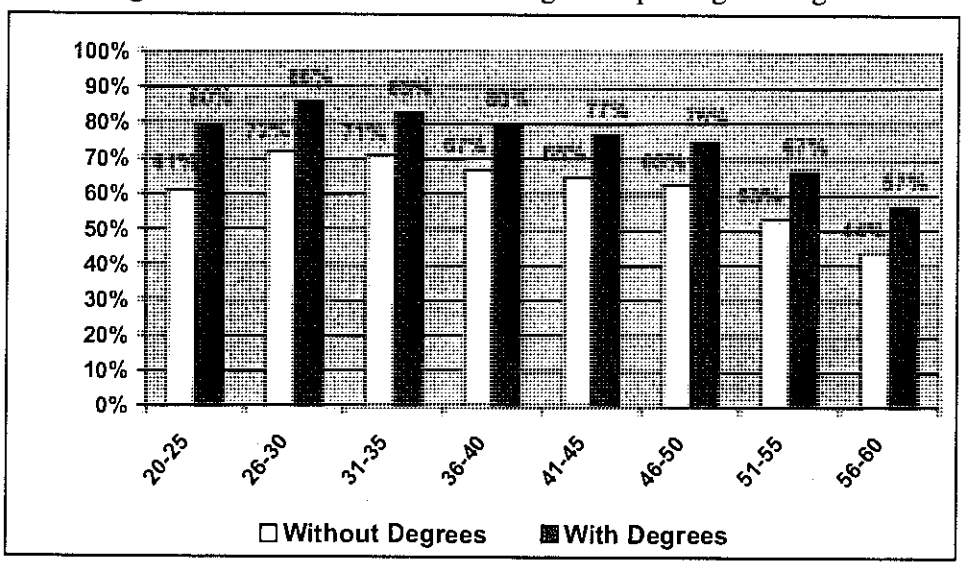
Figure 2 compares the percentage of alumni reporting earnings in 2003 for students who withdraw before completing a degree versus all students who graduated. The figure clearly demonstrates the advantage of graduation at all age levels. For graduates, employment appears to peak at 86 percent at about age 30 and then declines steadily until, at age 60, only 57 percent of graduates report earnings from work. Alumni without degrees peak at 72 percent and decline until at age 60 only 44 percent are employed.

Overall (Figure 3), 78 percent of deaf and hard-of-hearing individuals with a degree reported earnings in 2003 while only 65 percent of those without a degree did so. Significantly more deaf and hard-of-hearing graduates reported earnings from work in 2003 than non-graduates. The 78 percent of employed deaf and hard-of-hearing graduates compares to 87 percent for a national sample of graduates who earned either an Associate or a Bachelor degree[3]. The smaller comparative difference between the deaf and hard-of-hearing graduates and the

[3] Calculated by the author from the 2003, Current Population Survey, March supplement, U.S. Bureau of the Census.

Figure 2.

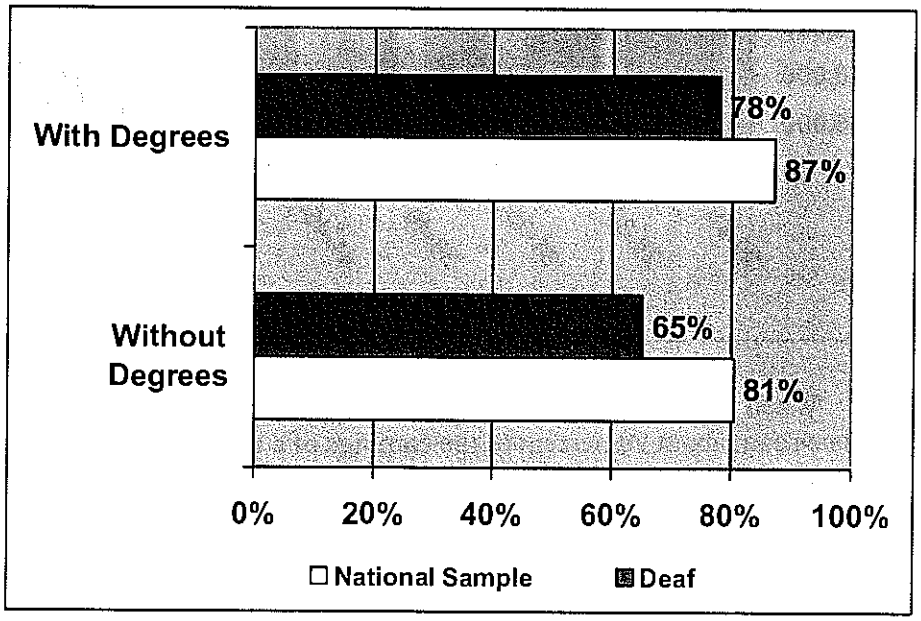
Percentage of alumni with and without degrees reporting earnings in 2003.



national sample of graduates (9 percentage points) and the deaf and hard-of-hearing non-graduates and the national sample of non-graduates (16 percentage points) indicates that graduating from a postsecondary education program decreases the employability gap between deaf and hearing workers.

Figure 3

Percentage of deaf college graduates and non graduates reporting earnings in 2003 compared with rates for a national sample of working age adults.

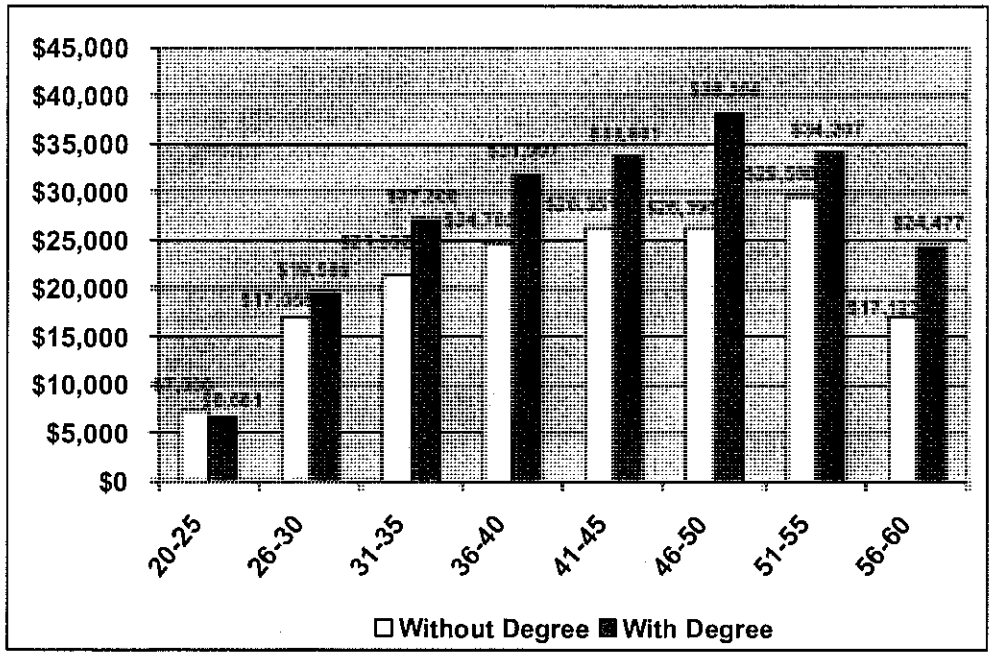


Amount of Reported Earnings

In addition to information about the percentage of alumni reporting earnings, the Social Security Administration reported the 2003 dollar amount of those earnings. These are earnings from work, and do not represent additional income realized by individuals from sources such as investments, pensions, and public assistance such as SSI and SSDI. The median earnings displayed in Figure 4 are only for individuals who reported any earnings during 2003. Individuals reporting no earnings are not included in the income calculations.

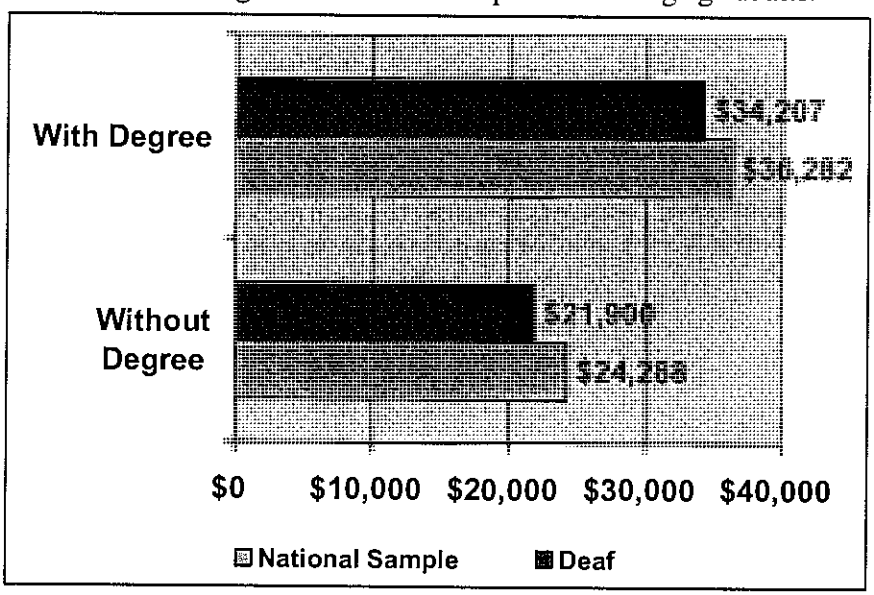
Figure 4 compares the dollar amount for alumni reporting earnings in 2003 for all withdrawals and all graduates. The figure clearly demonstrates the advantage of graduation from college. Overall, students who graduated had median earnings of $34,206 in 2003 compared to only $21,900 for students who withdrew before graduating. Looked at another way, graduates earned 56 percent more in 2003 than non-graduates.

Figure 4.
Median 2003 earnings of graduated and withdrawn alumni.



When compared to national statistics (Figure 5), deaf and hard-of-hearing graduates earn about 90 percent of the earnings of a national sample of workers. This is somewhat better than the approximate 70 percent differential reported in the studies sited earlier in this report, and strongly supports the investments made in education for deaf and hared-of-hearing persons.

Figure 5
2003 earnings of deaf college graduates and non graduates compared with earnings for a national sample of working age adults.



Conclusions

Graduation from college results in major economic benefits for deaf and hard-of-hearing persons when compared with their peers who withdraw before earning a degree. For those reporting earnings, graduates earn 56 percent more than their fellow alumni who without a degree. Thirteen percent more graduates report earnings from work than those alumni who do not graduate. The increased employment rates and subsequent increased earnings for graduates translates into increased contributions to government treasuries by way of additional taxes. In addition, it reduces the dependence of these individuals on government welfare to sustain a minimum standard of living.

In addition to these individual economic benefits there are apparent social benefits from a postsecondary education for deaf persons. It appears that a college education decreases the employment and earnings gap between deaf and hearing persons. For the subjects in this study, the gap between those who did not graduate from college and a national sample of hearing persons who have some college but no degree is 16 percentage points, while this same comparison for graduates is only 9 percentage points.

From an earnings perspective, the difference in earnings for graduates is 6 percent less than a national sample of college graduates, while the difference for those with no degree is 10 percent. It appears that not only are more graduates employed but their degree helps to reduce the gap between the earnings of deaf and hearing persons that have consistently been reported by researchers since the mid 1970's.

Finally, the reader should not consider the economic gains reported here as the only outcome from a college education. Research has demonstrated that college has other valuable outcomes such as a better informed citizenry, a more creative employee, and one who is more committed to their job and their employer. Witmer (1978) eloquently states this caution:

> *And anyone who invests in higher education merely to realize a monetary return will have missed the central point that the products of higher education -- which are as varied as the students and their programs of study – promote the general welfare through the development of whole persons to the limit of their capacities. Monetary rates of return merely indicate market valuation of some of the resultant products in the world of work, which almost never match the valuation of any one person."* (p. 57)

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Present Status of Deaf or Hard of Hearing People in Japan and Support Services for Employment at TUT

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Present status of Deaf or Hard of hearing people in Japan

School enrollment rate from elementary school to post-secondary school

Japan has a system of compulsory education which requires children from 6 to 15 years of age to attend school (elementary school from 6 to 12 and junior high school from 13 to 15); and during this period, almost all handicapped children attend school. Although post-secondary school education is not compulsory, nearly 100% of the children enter a senior high school after graduation of a junior high school.

Students who are deaf and hard of hearing have a higher advancement rate in post-secondary school compared to students with other handicaps. The following data for individuals who are deaf or hard of hearing is based on a survey of graduates of schools for the deaf only. The advancement rate in post-secondary school of mainstreamed students is higher than this figure, so the average percentage for students who are deaf or hard of hearing is estimated to be between 44 and 74%.

Table1 School enrollment rate from elementary school to post-secondary school in Japan (%)

	Country	Handicapped overall	Deaf or hard of hearing
Elementary school	100%	100%	100%
Junior high school	100%	100%	100%
Senior high school	98%	96%	98%
Postsecondary school*	74%	4%	44%

*Data from schools for deaf-mutes only (mainstreamed students excluded)

Types of post-secondary schools which students who are deaf or hard of hearing enter

Table2 shows the types of post-secondary schools which students who are deaf or hard of hearing enter. As with Table 1, this data is based on a survey among graduates of schools for the deaf only. The advancement rate in university or college (4 years) combined with mainstreamed students is estimated to be over 30% because the rate of mainstreamed students exceeds this figure. Incidentally, the overall advancement rate in university or college (4 years) and junior college (2 or 3 years) was 47.3% in 2005.

Table2 Types of post-secondary schools which students who are deaf or hard of hearing enter (%)

Types of schools	
University or College (4 years)	13%
Junior College (2 or 3 years)	21%
Specialized Course in School for the Deaf*	63%
Others	3%

*Data from schools for deaf-mutes only (mainstreamed students excluded)

Special laws or programs for the deaf or hard of hearing to guarantee education and welfare

The Law for the Welfare of Physically Disabled Persons forms the centerpiece of policies for handicapped people in Japan. On the basis of this law, a physical disability certificate is issued, in which the level of disability is classified from the first grade to the sixth grade according to the type of handicap. The holder of the certificate is certified as legally eligible to receive the welfare services listed below. Mentally retarded individuals and those with mental disorders receive benefits under the Law for the Welfare of Mentally Retarded Persons and the Law related to Mental Health and Welfare of the Persons with Mental Disorder, respectively.

- Basic disability pension
- Medical care subsidies
- Child-rearing allowances
- Tax abatement
- Transportation discounts (railways, buses or domestic flights)

- Toll road fare discounts
- Cell-phone charge discounts
- Assistive device benefits
- Household-goods benefits
- Economic aid system
- Sign-language interpreter dispatch
- Other

Employment status of the handicapped in the country

Country's population

According to the 2004 census, the population of Japan is estimated to be 127,619,000. In the future, it is expected that the population will decrease and the ratio of elderly people will grow.

A breakdown of population by type of handicap

Table3 shows the total handicapped population aged 18 or over in 2001

The Overall Handicapped represents the number of people who are legally certified as handicapped, or hold a physical disability certificate. The mentally retarded and the mental disorders categories are counted as separate groups. According to "V Mental and Behavioural Disorders" of the ICD-10, mental disorders represents the number excluding the mentally retarded, and the number of epilepsy and Alzheimer patients are added to it.

Table3 Handicapped Population

Overall handicapped	3,516,000
Mentally retarded	459,000
Mental disorders	2,584,000

Table4 shows the population breakdown by type of handicap. In this 2001 survey, the figures do not include 189,000 hospital or treatment facility in-patients.

Table4 Population by type of handicap

Type of handicap	Population	
Hearing impaired, speech and language disorders	361,000	11%
Visually impaired	306,000	9%
Physically handicapped	1,797,000	54%
Internal organ disorders	863,000	26%

Employment status of the handicapped overall and individuals who are deaf or hard-of-hearing

Fig.1 shows the employment rates for the whole population and handicapped individuals by age.

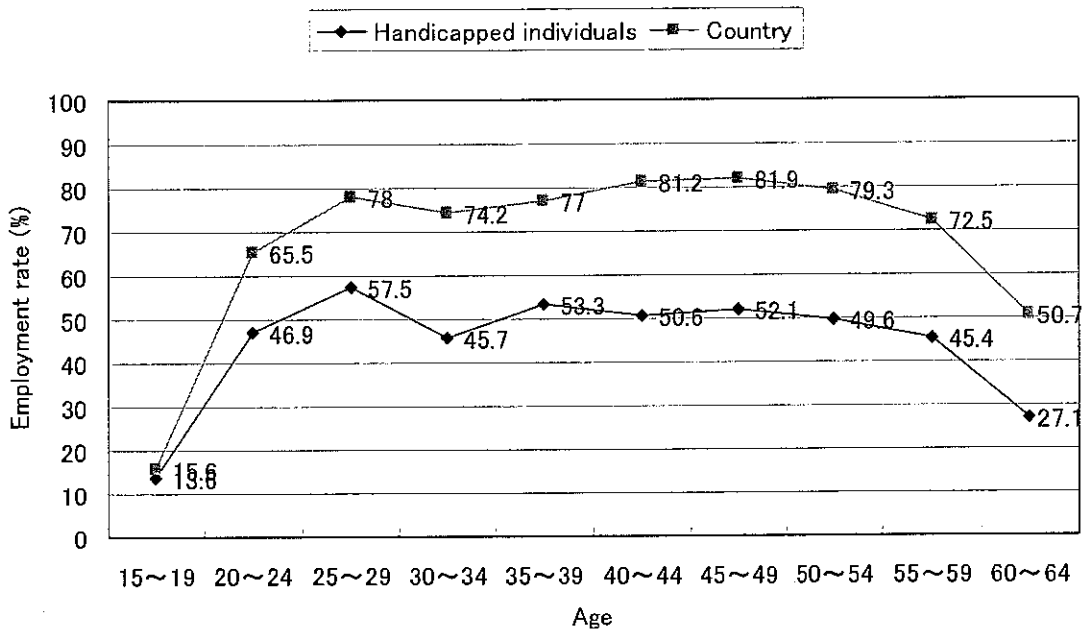


Fig.1 Employment rate by age group (%)

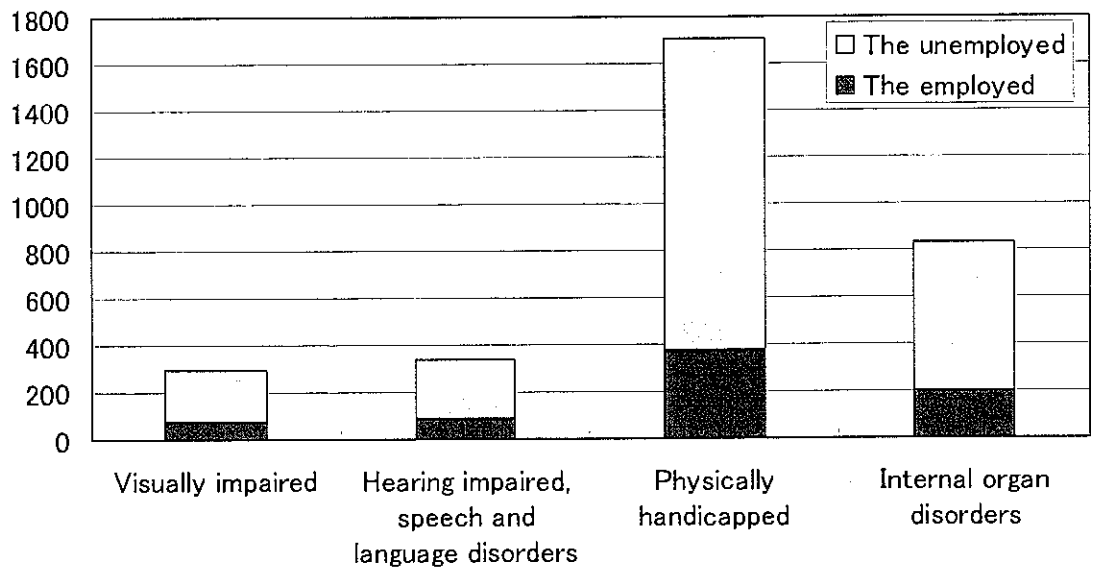


Fig.2 The status of employment/unemployment by type of disability

Fig.2 shows the status of employment /unemployment by type of disability. Because 61.8% of those who answer the investigation is people of 65 years old or more, the value of the employment rate is low. In other statistics, the population ratio of the hearing impaired to the total handicapped population is 10.0%, while that of employed hearing impaired to the total employed handicapped population is 15.2%. This shows that the hearing impaired have a higher employment rate than any other handicapped group.

Main employers of individuals who are deaf or hard of hearing

Although there are no reliable statistical data, the following can be cited as a recent trend among individuals who are deaf or hard of hearing.

Individuals who are deaf or hard of hearing mainly find employment with companies, particularly large or middle-sized companies with 300 or more employees.

As for the type of job, the majority of individuals are employed as skilled labor on factory production lines and as clerical workers at banks or other financial institutions. Recently, however, the number of individuals who work as computer engineers is on the increase. On the other hand, the number of individuals who work in the fields of dressmaking, craftwork or hairdressing, once major types of employment, is decreasing.

Governmental policies for employment of the handicapped

"Law for Employment Promotion, etc. of the Disabled" stipulates that companies, governmental organizations and local public entities should employ handicapped people including the deaf or hard of hearing at a fixed rate.

This law obliges private companies to employ handicapped individuals at a rate of 1.8% or higher of the total number of employees and public offices to employ handicapped individuals at a rate of 2.1% or higher.

The law also obliges the national government and local pubic entities to assist the handicapped in finding employment and improve work rehabilitation facilities and the environment for these individuals.

Workplace adaptation of graduates and support services for employment at Tsukuba University of Technology

Situation of New Students

Tsukuba College of Technology (TCT) was reorganized last year into a university from a three-year junior college and renamed Tsukuba University of Technology (TUT). The following is a report on the status of individuals who have enrolled or graduated from TCT.

For 14 years since its opening, about 700 hearing-impaired students have graduated from TCT.
Fig.1 shows the hearing level of the students who have enrolled in TCT during the past five years. Most students suffer from "severely" or "profoundly" impaired hearing.

Nearly half of the newly enrolled students graduated from high schools for the deaf, and the remaining came from mainstream schools.
Enrollee hometowns are scattered all over the nation, and 80% are living in a student dormitory on the campus grounds.

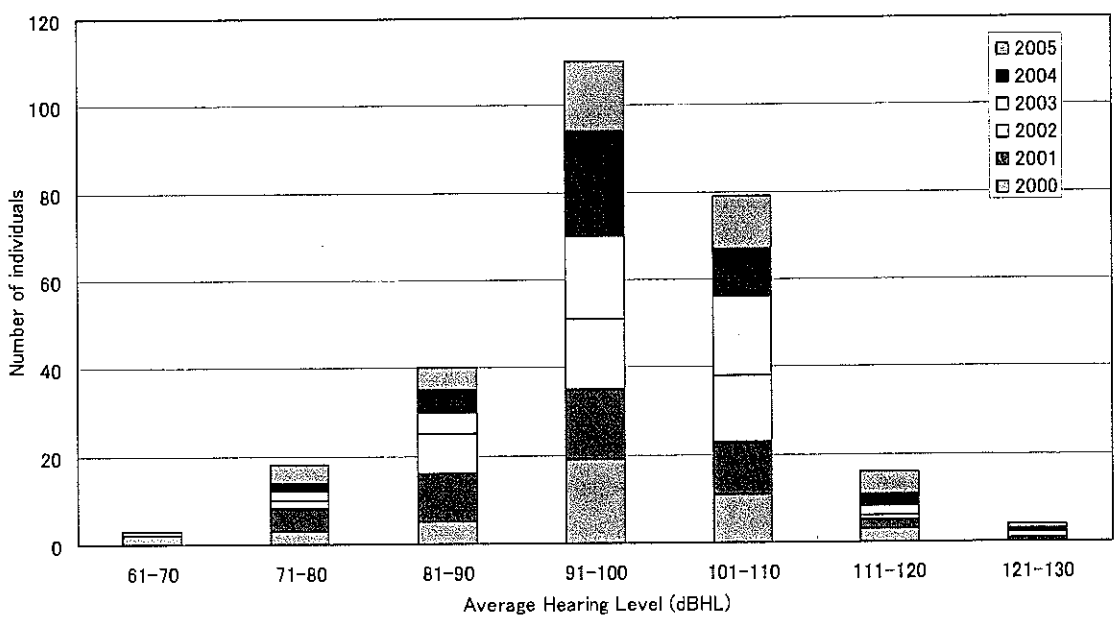


Fig.1 Average Hearing Level of Students

Employment Status of Students and Work of Graduates

Table 1 shows the types of employment gained by last year's graduates. Every year, approximately 90% of the university's students find employment and approximately 10% transfer to four-year institutions. Most students find employment with companies, in which many hold positions related to their major fields of study.

Table 1 Types of employment after graduation (2005)

Employment	Manufacturing	45%
	Construction	16%
	Information services	14%
	Newspaper/Advertising	3%
	Tourism	7%
	Entertainment	2%
	Government service	2%
Transfer to other institutions		10%
Undecided		2%
		100%

Fig.2 - Fig.4 are sections of the survey on employment among graduates of the class of 1999.

As for the content of work, many respondents seem to believe that they can make use of their knowledge and skills in their current jobs. (Fig.2) On the other hand, negative responses to the question asking whether bosses and coworkers showed an understanding of their hearing impairment handicaps increased slightly. (Fig.3) Supporting this finding, about 50% of all respondents indicated that there was no support system in place for their handicap at the workplace. (Fig.4)

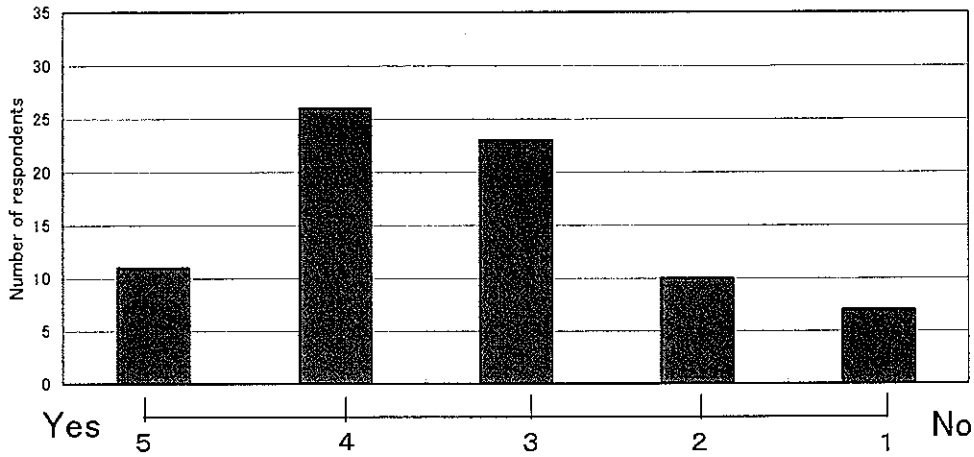


Fig.2 Can you make use of your knowledge/skills in your current job?

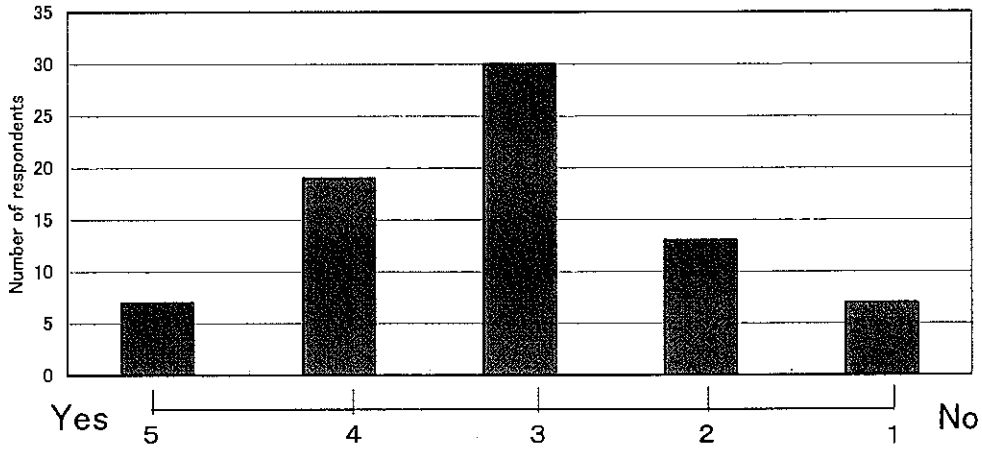


Fig.3 Do you think your boss/coworkers show an understanding of your handicap?

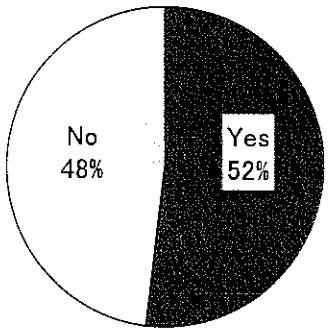


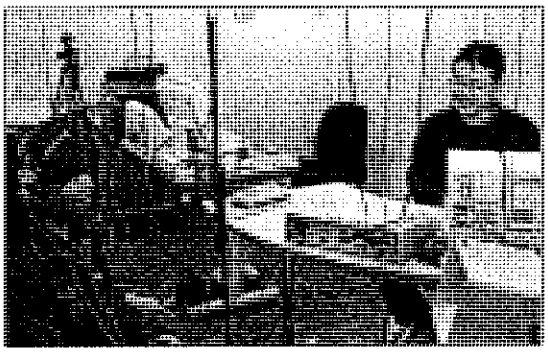
Fig.4 Is there any support system in place for your handicap at the workplace?

Services of Research and Support Center on Employment and Workplace Adaptation

The Research and Support Center on Higher Education for the Hearing Impaired offers support not only to the students or graduates of Tsukuba University of Technology, but also to hearing-impaired students of other colleges, hearing-impaired in the work force, people involved in hearing impairment education and mainstreamed hearing-impaired children.

The services that this center offers are as follows.

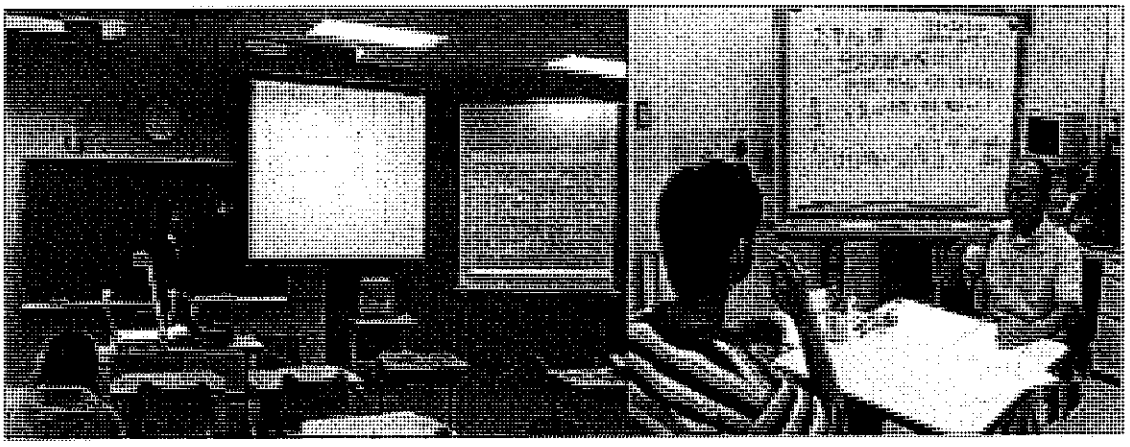
(1) To provide guidance and advice to improve sign-language and oral/aural communication skills for students and faculty



Hearing test of students

Sign-language guidance for new faculty

(2) To develop adaptive technologies such as real-time speech-to-text translation and voice recognition



Class utilizing a real-time speech-to-text translation system

Guidance on communication skills for Job interview

(3) To supervise sign-language interpreters, note-takers and tutors for the support of such students

(4) To provide guidance and services related to work, such as employment, workplace adaptation and career development

Details of (4) are as follows:

Guidance on job hunting and workplace adaptation

The first guidance is provided in the year prior to graduation. In the year of graduation, many types of guidance, such as group interviews, corporate information, information about corporate employment systems, preparation of documents required for job hunting, employment examinations and interviews, and communication in the workplace are provided in classes within the curriculum.

Guidance on communication skills in on-the-job training and interviews

Communication skills are considered to begin developing, in any environment, at a very young age. However, many hearing-impaired individuals are poor at communicating through "language (Japanese)," and employers point out this problem.

The Research and Support Center provides communication guidance individually just before on-the-job training and interviews, where students are encouraged to improve their language and communication skills. This guidance teaches individual students about their choices of communication methods and how best to combine these methods according to the situation, and about the hearing-impaired-paced conversation, when in oral communication with hearing individuals in the workplace.

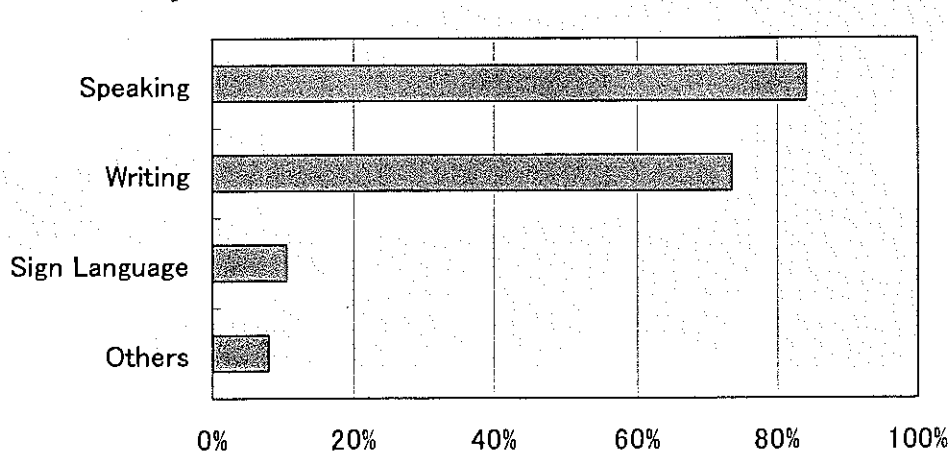


Fig.5 Methods of communication with bosses used to express information (research among graduates)

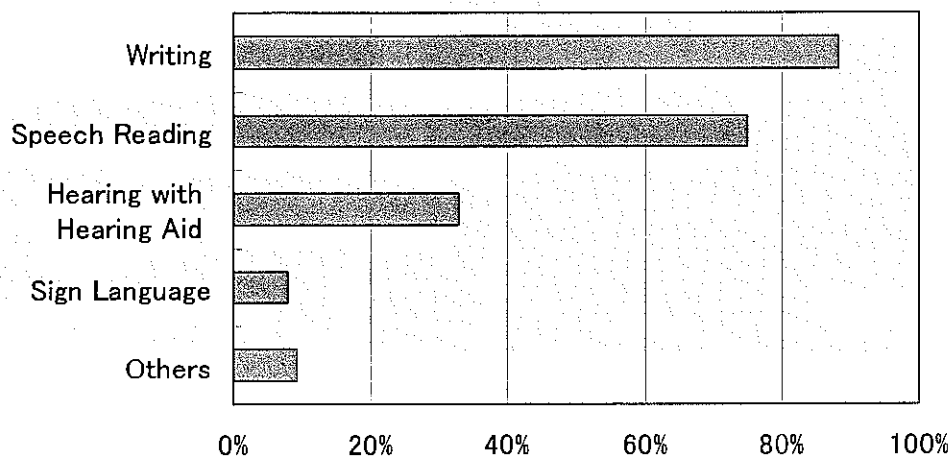


Fig.6 Methods of communication with bosses used to receive information (research among graduates)

Employment trial examination

Most companies conduct an employment examination on general intelligence, job aptitude, technical knowledge and so on. In preparation for this, the center conducts a trial examination in the year prior to graduation to teach students what to do in the last year in order to get a desirable job.

Cooperation with companies

The center, with its key members from the employment committee composed of hearing impaired division faculty, holds a college briefing every year. The main purpose of this briefing is to develop relationships with companies and increase jobs that are suitable for the aptitudes and abilities of students. Another purpose is to make companies understand the problems resulting from hearing impairment, and encourage them to improve the working environment.

Course on demand

Many graduates want to participate in workshops or seminars to acquire new knowledge and skills for their jobs. Other types of courses, such as general education, social life, health, handicap compensation, or hobbies are also popular among. Although various workshops are held in many parts of the nation, not all of them offer services including sign-language interpreters and real-time speech-to-text translation.

Course on the utilization of automatic real-time speech-to-text translation

course on health and sports

The Research and Support Center has conducted courses for graduates and the hearing-impaired in the region in cooperation with the alumni association since last year. Because Tsukuba, where TUT is located, is far from Tokyo and Osaka, where many of the graduates are living, the courses are conducted by TUT faculty visiting those cities.

In addition, the center provides workplace adaptation and career development counseling for individual students in cooperation with the faculty of the hearing impaired division.

The First International Conference of Career Planning and Employment for Students with Deafness or Hard of Hearing in Post-secondary Level IN CHINA

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