An analysis of the academic majors of 123 undergraduate and 48 graduate deaf students in an integrated program at California State University, Northridge for Fall, 1976, indicated that deaf graduate students were heavily represented in the School of Education and deaf undergraduates in the School of Humanities.
A Comparison of the Majors of Deaf and Hearing Students at
California State University, Northridge
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Campus Services for the Deaf
California State University, Northridge
Since 1964 when two deaf students enrolled in a graduate program in educational administration, California State University, Northridge (CSUN) has offered an integrated college experience where deaf students pursue their education in the company of hearing students. With 171 deaf students registered for the Fall semester, 1976, CSUN has become the nation's largest integrated liberal arts program.

This educational format is consistent with the contemporary concept of "mainstreaming," i.e., educating handicapped people in public institutions where they and non-handicapped individuals can freely associate with each other.

Among the approximately 27,000 students who registered at CSUN for the Fall semester of 1976 were 123 undergraduate and 48 graduate deaf students. In a typical class there is a deaf student or two, perhaps 25 hearing students, a professor, and an interpreter. The interpreter translates the spoken word of the professor into sign language for the benefit of the deaf student, and "reverse-interprets" the signs of the deaf person into spoken language for the benefit of the professor and the hearing classmates. In addition to interpreting, other support services include notetaking, counseling, and tutoring. Support services are administered through a sub-unit of the Center on Deafness at CSUN, Campus Services for the Deaf.

Campus Services for the Deaf is supported by the California university and college system, the California State Department of Rehabilitation, and Bureau of Education for the Handicapped (Office of Education, Department of Health, Education, and Welfare). The mix of state and federal funds reflects the demographic make-up of the deaf student body as about half are
from California while the other half are from 32 states, the District of Columbia, and several foreign countries.

The California state university and college system supports certain administrative costs of the Center on Deafness, of which Campus Services for the Deaf is a part. In 1976, the contract with the California State Department of Rehabilitation was for $150,000, whereas the grant from Bureau of Education for the Handicapped was for $318,05. Funding levels are not directly contingent upon a per student formula, but are arrived at through submission of annual proposals and a negotiation process.

While this report covers 171 deaf registrants during the Fall semester of 1976, it should be noted that 270 individual deaf students were served by Campus Services for the Deaf during calendar year 1976 through the Spring semester, two summer sessions, the Fall semester, and extension division courses.

The support services delivered to deaf students are considered "excess costs," i.e., special expenses over and above the usual cost of instruction. Since the program follows the integrated model there are no special teachers, nor separate classes (one exception is a class in freshman English) exclusively for deaf students.

Working closely with counselors (two of the four are themselves deaf) in Campus Services for the Deaf, deaf students make course selections and preregister in advance of the other students on campus.

Deaf students select their courses in conjunction with academic counseling, and indicate a preference for either an interpreter or a note-taker. Some voluntarily elect no service. Generally, a "no service" selection is made by a hard-of-hearing rather than a deaf, student and is
typically made in a physical education class. During the Fall semester, 100% of student requests for service were met. Deaf students registered in 463 classes, or about 10% of all classes offered by the university during this semester.

The university is a major training center for interpreters and more than 300 hearing students enroll each semester in a 14 unit sequence of sign language and interpreting courses. A pool of about 100 part-time interpreters are available to meet the service needs of the deaf students. They are paid by-the-hour, at rates between $3.50 and $8.50 per hour.

We have met some challenging situations. A deaf student in a health science class was required to observe in the emergency room of a busy Los Angeles hospital between 1:00 A.M. and 5:00 A.M. An interpreter was available to him for the entire time.

In addition to the pool of interpreters there are also pools of part-time notetakers (about 70), and tutors (about 30). Notetakers are generally beginners in sign language who aspire to become interpreters as their skills develop. Tutors may be fellow deaf students, or hearing students with or without a knowledge of sign language. An interpreter is assigned to a tutoring situation, if requested. Four counselors with special training in deafness staff a "Student Personnel Services" section of Campus Service for the Deaf.

The model of integrated postsecondary education for the deaf is relatively new, dating back perhaps to the early 1960's. Initially, there was concern that the inherent language problems associated with deafness may not allow deaf students to compete academically with hearing persons in a "regular" university. There was also concern that the medium of sign
language may not be sophisticated enough to convey college lectures. However, recent research by Murphy (1976) has shown that CSUN deaf students achieve academically at about the same rate as their hearing peers, and a study by Jacobs (1976) has demonstrated the efficiency of sign language as a medium to convey college lectures. Perhaps a more definitive answer is to be found in the numbers of deaf persons who have earned degrees at CSUN over the years: during the period January 1, 1964-September 1, 1976, 47 deaf students had earned bachelor's degrees and 198 deaf students had earned 202 master's degrees (four deaf students earned two master's degrees each).

PURPOSE

The purpose of this study was to compare the academic majors (by school) of deaf and hearing students registered at CSUN for the Fall semester of 1976.

This information may be of interest to the following:

1. Registrars and admissions officers of colleges and universities where deaf students may be enrolled. Deaf students at CSUN come from more than 30 different states; 64% of the undergraduates have had previous postsecondary experiences in 58 different institutions of higher learning across America, and 77% of the graduate deaf students earned their undergraduate degrees at institutions other than CSUN. This information clearly points out that deaf students are matriculating in a surprisingly large number of colleges and universities, and may be invisible to college registrars and admissions officers.
2. **Student personnel administrators.** Colleges and universities are seeing a rapidly increasing number of deaf and other handicapped individuals, consistent with the national trend of "mainstreaming."

Descriptive information from such pioneer programs as CSUN could be incorporated into the long-range educational and occupational plans of deaf students currently enrolled in other institutions.

3. **Deaf students themselves, their parents, and high school guidance counselors.** The information presented here may be especially helpful in the advisement of individual deaf students who are at this time in high school or college programs.

Ideally, all persons with professional responsibilities for academic and career advisement of deaf students should be aware of the various community college, liberal arts, and vocational/technical opportunities open to deaf students today.

**METHODOLOGY**

Departments and Schools

Majors of deaf and hearing students registered for the Fall, 1976 semester were grouped under eight schools of the university. Another category is "Special Major," a separate designation for academic programs which cross several schools and which students negotiate with several departments as highly individualized courses of study. Also, many students simply state "Undecided" as a choice.

The distribution of departments within each school is as follows:

1. **School of the Arts.** Departments: Art General Studies, Art History, Art Three-Dimensional Media, Art Two-Dimensional Media, Music, and Theatre.
2. School of Business Administration and Economics. Departments: Accounting, Business Law, Economics, Finance, Real Estate and Insurance, Management, Management Science, Marketing, Office Administration, and Business Education.


7. School of Science and Mathematics. Departments: Biology, Chemistry, Geosciences, Mathematics, Physics and Astronomy.


Information was obtained from the CSUN Admissions and Records Office showing the distribution of all registered students in each category. Campus Services for the Deaf had records of the majors of 171 deaf students.
and the two lists were analyzed together in order to arrive at Table 1 as follows:

Insert Table 1 about here

Discussion

An analysis of Table 1 clearly points to a number of trends. The most striking of these is in the School of Education at the graduate level where a significantly greater proportion of deaf than hearing students are enrolled. This may be so for the following reasons:

1. CSUN has a national reputation for an outstanding graduate program in the Department of Special Education which attracts deaf and hearing students alike to train as teachers of the deaf.

2. The Department of Educational Administration offers additional graduate training for teachers who wish to become administrators and is the host department to a prestigious national scholarship program, the National Leadership Training Program in the Area of the Deaf. This program attracted the first two deaf students to campus in 1964.

3. Today, qualified deaf teachers of the deaf are very much in demand in the educational job market. In fact, a recent study by Jones (1975) shows that 93% of the deaf graduates of the CSUN teacher preparation program find appropriate employment.

It can also be seen that a significantly greater proportion of deaf than hearing undergraduate students enroll in the School of Humanities. Of the 21 deaf students enrolled in this school, 19 are enrolled in the Department of Liberal Studies. About \( \frac{1}{2} \) of the 2,130 hearing undergraduates enroll in the same department.
This finding is clearly related to the one cited above, in that the liberal studies program is the usual undergraduate preparation for those wishing to pursue graduate work in the School of Education. The general pattern of courses in liberal studies is prescribed by the Teacher Preparation and Licensing Law of 1970 for multiple-subjects (elementary) credential.

Table 1 indicates that a significantly lower proportion of deaf than hearing graduate students are in the "Undecided" category. This is probably explained by the popularity of the teacher training program in attracting deaf persons who have previously made a firm career decision to become teachers of the deaf.

Also, the data point out that deaf undergraduates seem more undecided about a major than their hearing peers, but at the graduate level, hearing students are more undecided than are deaf students. It would seem that undergraduate deaf students take a little longer time to declare an undergraduate major, but when they do, they apparently decide on a career in education, and prepare for this at the undergraduate level through course work in the School of Humanities. By the time they reach the graduate level, they major to a great degree in the School of Education.

Again, the data indicate that a significantly higher proportion of hearing than deaf students enroll at the undergraduate level in the School of Business. Again, it appears that the preference for a career in education is an explanation for this finding. Also, a traditional pattern of employment of deaf persons (Crammattee, 1968) seems to be in evidence, as deaf college graduates are more likely to find employment in the public social service field, rather than the private, profit-making sector. Most deaf persons work for a governmental agency of some
sort(school districts, federal agencies, etc.):

The business world offers a hearing person with a bachelor's degree a more likely opportunity of obtaining employment. While the same opportunity ideally exists for deaf people, it is not, at present, a reality. While deaf people have successfully found employment in such fields as teaching and counseling, and to a lesser extent such technological fields as chemistry, engineering, and microbiology, big business remains relatively untouched.

Deaf and hearing students enroll in about the same proportion at the undergraduate level in these schools: Arts, Communication, Engineering and Computer Science, Science and Mathematics, and Social and Behavioral Sciences. No deaf students have settled on a "Special Major" at either the undergraduate or graduate level.

CONCLUSIONS

Deaf students at CSUN are heavily oriented toward a career in education and, in fact are attracted to CSUN because of an excellent program in teacher preparation. They tend to major in the School of Humanities at the undergraduate level, where they receive preparatory work required for graduate work within the School of Education. The School of Business does not at this time attract deaf students in any significant numbers.

Since it is clear that the integrated model, in conjunction with such support services as interpreting, leads to academic success and appropriate occupational placement in the area of education, there is every reason to believe that significant strides could also be made in other areas, especially in the School of Business. This should be strongly explored and tested in the near future as the employment opportunities in education may soon reach a "saturation point."
As qualified, well-trained deaf persons sought and found greater employment opportunities in education, there is every reason to believe that deaf persons trained in business fields, particularly at the graduate level, may find greater occupational opportunities.
REFERENCES

Murphy, W. J. Comparative Studies of academic achievement between hearing impaired and non-hearing impaired students at California State University, Northridge. American Annals of the Deaf, 1976.


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### Table 1
Comparison of the Majors of Deaf and Hearing Students at CSUN

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<th>School</th>
<th>Undergraduate Students</th>
<th>Graduate Students</th>
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<td>Communication</td>
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* In California, a student may major in Education only at the graduate level.