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OCCUPATIONAL STATUS OF THE YOUNG ADULT DEAF OF NEW ENGLAND AND THE NEED AND DEMAND FOR A REGIONAL TECHNICAL-VOCATIONAL TRAINING CENTER.

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TO INVESTIGATE THE UNDEREMPLOYMENT OF THE DEAF, FOUR OBJECTIVES WERE STUDIED--(1) THE CURRENT OCCUPATIONAL STATUS OF YOUNG DEAF ADULTS IN NEW ENGLAND, (2) THE CURRENT FORMAL VOCATIONAL PREPARATION AVAILABLE TO THEM, (3) THEIR VOCATIONAL ASPIRATIONS, APTITUDES, AND OPPORTUNITIES, AND (4) THE NEED AND DEMAND FOR A REGIONAL TECHNICAL-VOCATIONAL TRAINING CENTER. QUESTIONNAIRES AND INTERVIEWS WERE USED TO COLLECT THE DATA FROM 177 JUNIORS AND SENIORS AND 236 FORMER STUDENTS IN NINE NEW ENGLAND SCHOOLS FOR THE DEAF BETWEEN 1957 AND 1963. RESULTS SHOWED THAT, ACCORDING TO THE CRITERION OF WAGE, THE OCCUPATIONAL STATUS OF THE YOUNG DEAF ADULT WAS LOW. ONE HALF HELD UNSKILLED OR SEMI-SKILLED POSITIONS. OVER 80 PERCENT WERE SATISFIED WITH THEIR PRESENT JOB, ALTHOUGH ONLY ONE THIRD HAD OPPORTUNITY FOR ADVANCEMENT EVEN WITH EXTRA TRAINING. THE GENERAL APTITUDE TEST BATTERY SHOWED THAT THE DEAF COULD BE SUCCESSFUL IN 753 OF 840 OCCUPATIONS LISTED BY THE U.S. DEPARTMENT OF LABOR. MOST OF THESE REQUIRE EXTENSIVE TECHNICAL OR VOCATIONAL TRAINING. SINCE NO SCHOOL FOR THE DEAF IN NEW ENGLAND HAS A COMPREHENSIVE TERMINAL VOCATIONAL EDUCATION PROGRAM, IT IS CONCLUDED THAT A REGIONAL TECHNICAL-VOCATIONAL TRAINING CENTER IS NEEDED AND ACCORDING TO THE RESPONSES RECEIVED, MANY DEAF ADULTS WOULD ATTEND, GIVEN THE OPPORTUNITY. THE QUESTIONNAIRES AND SAMPLE RESPONSES ARE PRESENTED IN THE APPENDIXES. A LIST OF 15 REFERENCES IS INCLUDED. (MW)

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E. B. BOATNER, E. R. STUCKLESS AND D. F. MOORES

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AMERICAN SCHOOL FOR THE DEAF
WEST HARTFORD, CONNECTICUT

Occupational Status of the Young Adult Deaf of New England and the Need and Demand for a Regional Technical-Vocational Training Center

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Finally, this project could not have been undertaken without the cooperation of hundreds of parents, young deaf people, and employers. We hope in return this project will have made a contribution to them by bringing the occupational status of young deaf people into focus and recommending courses of action designed to elevate their status and permit them to become more productive members of the economic community.

E. B. Boatner
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Forward

It has been a professionally satisfying experience to be associated with Dr. Boatner and Mr. Moores, and with the American School for the Deaf, during the conduct of this investigation.

The American School for the Deaf, since its inception in 1817 as the first permanent school for the deaf in this country and in fact the first institution for the education of exceptional children, has provided continuing leadership in the education of the deaf. The vision of its administration and faculty was instrumental in the establishment of two major professional organizations of educators of the deaf and the development and early operation of the American Annals of the Deaf, now the oldest ongoing educational publication in the country. The list of early contributions could continue indefinitely.

Under the present administration of Dr. Boatner, the American School for the Deaf has continued in its leadership role. "Captioned Films for the Deaf", for example, was conceived on the American School campus. That program was nurtured by the American School for a decade until the passage of Federal legislation in 1959 vested responsibility in the U. S. Office of Education for its maintenance and further development. A dictionary of idioms prepared specially for the deaf is now under development at the American School with the support of the Vocational Rehabilitation Administration.

The present report reflects the consciousness of the American School for the Deaf of the need for continuing efforts in the education of the deaf student. To Harvey B. Barnes and others goes the credit for their early vision in proposing centers for the training of young people in occupations consistent with their abilities. To Dr. Boatner goes the credit for refining the concept and conceiving this investigation to test its feasibility.

Too often those of us engaged in the education of deaf children are prone to look only at the deaf student and not at the deaf adult. Our reponsibility remains not to prepare the deaf student for graduation but for maximum involvement in adult society. This is the only valid criterion for success in educating the deaf child. For this reason we must concern ourselves with the vocational preparation of young deaf people. We must draw upon our knowledge of the needs of the adult deaf to support the finest programs in vocational education for the deaf possible. It is hoped that this report will suggest directions for such programs.

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I. Introduction

A. Background

a. Deafness and learning

Deafness is a handicap of communication. The person in whom deafness is prelingual, experiences tremendous difficulties in developing language skills. This person has become deaf before learning to utter and comprehend the spoken word. If he has remnants of hearing, the probability of his developing communication skill of a high order is increased. Nevertheless, the communication handicap cannot be totally eradicated.

Ineffective communication skills have a major effect on learning. Information which we gain through the auditory process must come to the deaf person through another channel. A premium must be placed on vision. Manual communication and lip-reading are two substitutes for sound. However, they remain less than totally efficient substitutes even for the most adept.

In recognition of the special learning needs of the deaf child, specialized educational services have been available for 150 years in this country. Approximately 30,000 deaf children throughout the country are being serviced in special schools and classes for the deaf. Teachers receive extensive training, much of it underwritten by the Federal Government, to acquire the skills necessary to teach the deaf child effectively.

Educators of the deaf hold to the ideal of total habilitation of the deaf child, to give him the skills necessary for complete absorption into the social and economic mainstream. The fact remains, however, that relatively few deaf persons are totally absorbed. The extent of absorption is restricted to a level dictated by degree of skill in communication.

Extensive research is currently being conducted to provide improvement in the area of communication. New techniques for accelerating speech development are being devised and tested. The fields of otology and audiology are making substantial contributions. Alternative methods of communication such as fingerspelling are being tested, and general teaching methods are being refined. However, no major breakthrough is imminent.

Awareness of the need for establishing communication skills in deaf children forces educators to focus much of their attention on speech, lipreading, reading, and writing skills, particularly during the first few years of the deaf child's formal learning period. As the child becomes older, greater attention is given to the substantive areas of the curriculum. Those who make unusually good progress may be encouraged to transfer to hearing programs. More often, however, deaf students continue to receive specialized instruction until graduation. Most of those who display an aptitude

for higher education are encouraged to attend Gallaudet College, a liberal arts institution for the deaf. Some achieve apparent success in predominantly hearing colleges.

Because of a restrictive educational achievement level, higher education is beyond the reach of most deaf students. For most of these students graduation from the school for the deaf represents a termination of their formal education. They seek employment immediately.

b. Vocational education

In an effort to provide terminal vocational skills, most schools for the deaf in the nineteenth century established vocational education as an adjunct to their academic program. Printing, shoerepair, tailoring, barbering and other such skills have long been favored because of the apparent success of many deaf persons in these fields.

Many educators of the deaf today are becoming concerned about the feasibility of providing terminal vocational training in the school for the deaf. Some, for example, now refer to what was once termed "vocational" as "prevocational".

The present concern of many has its basis in the following:

1. Can a single school for the deaf maintain a comprehensive vocational education program for the relatively few adolescent students among its population?

2. Can a single school for the deaf continue in the future to provide up-to-date training for the increasingly complex job skills being demanded by employers?

3. Could the time devoted to the vocational education of the 17 and 18 year old student be profitably used to provide academic instruction and improved communication skills?

These questions are not unique to educators of the deaf. Public educators have been forced to come to grips with these questions also. Vocational schools have emerged as a consequence. It may be that in these schools, there lies a model for the vocational education of the deaf.

c. Origins of this investigation

This investigation had as its immediate origin an institute which met in Stowe, Vermont, in September, 1961. The Institute on the Rehabilitation of the Deaf and Hard of Hearing was cosponsored by the University of Vermont and the Office of Vocational Rehabilitation.(1) A survey of occupational conditions among the deaf in New England was first proposed at that time.

(1) Now Vocational Rehabilitation Administration

The feasibility of establishing a regional technical and vocational school for the deaf was also discussed.

This Institute led to a second meeting in Hartford, Connecticut in June, 1962. A committee, comprised of representatives of five New England states, met for the explicit purpose of discussing the need for a regional vocational high school in the New England area. At that time it was estimated that approximately 150 students graduate from or drop out of the ten schools for the deaf in New England each year without extending their education. It was contended that there ought to be a vocational program for these students and those already graduated who could profit from retraining.

The following statements were formulated by this committee:

1. that there exits a need for the collection of more information on the training and employment of the deaf in New England.

2. that the directors of vocational rehabilitation and of schools for the deaf in New England meet to discuss the pertinent issues in depth and arrive at a decision with regard to possibilities for interstate cooperation in meeting the employment needs of deaf adults.

3. that the feasibility of a regional vocational school for the deaf be further investigated.

Schools for the deaf in New England traditionally have cooperated closely. Each of the six states makes provisions for assuming costs for a student to attend an out-of-state school if the needs of the student warrant such a placement. Such cooperation is highly desirable because of the distribution of the population.

Four of the six New England states each have populations of less than one million persons. Of the ten schools for the deaf serving New England, only two have student populations in excess of 200. Three schools have populations of less than 100 students. The mean number of students per school is 156. In view of the relatively small population in each school, most of the schools are unable to maintain a comprehensive vocational program. They depend upon schools for the deaf so equipped, or other outside services, to offer such training. This was a major precipitating factor to this investigation.

New England's economy is greatly diversified. Lower New England is heavily industrialized while the northern area is primarily agricultural. The range of employment opportunities is extensive.

It was recognized at the outset of this investigation that the results of study of the occupational status of deaf adults in New England suggest, but

cannot be generalized to, a national pattern. For this reason, a second investigation in the southwest region of the United States was welcomed. This second investigation, currently being conducted, is a replication of the New England study, drawing from a different geographic and economic region.

Conclusions drawn from these two regions should produce generalized information on the occupational status of the deaf nationally, and from this information it should be possible to recommend a course of action to guarantee the nation's deaf appropriate vocational preparation.

B. Problem

There is considerable empirical evidence to suggest that the deaf tend to be underemployed, to be employed in positions below their basic aptitude level. Most directors of schools for the deaf make an effort to remain informed of the status of graduates of their schools. Many graduates, in spite of all the training resources of the school, appear to be placed in relatively unremunerative and unchallenging occupations. This is a several-faceted problem.

First, are the deaf in fact underemployed? By what standards can it be determined whether they are employed in positions below their aptitude level?

A number of variables must be considered. Should level of communication skill, for example, be considered in the assessment of aptitude?

Second, if the hypothesis of underemployment is confirmed, why is this so? Is it because schools have not remained current in their vocational education curriculum? This opens other problems such as school financing and the rationale for schools for the deaf being committed to terminal vocational education. Is the problem basically one of placement? Is it a sociological problem produced by graduates returning to small towns where opportunities are often less than in the large city?

Third, if underemployment among the deaf is prevalent, how can it be eradicated? Should schools for the deaf be given greater financial support to improve their vocational education program? Should students be encouraged to continue training in public school programs? Should vocational programs for the deaf be established on a large regional basis? Should vocational rehabilitation agencies be encouraged to assume a greater responsibility for the training of young deaf people?

It is obvious that all these questions centering on the occupational status of deaf adults cannot be

answered through a single investigation. Indeed, many are seemingly unresovable through research alone. As with all behavioral research, no conclusions will stand for the entire population.

C. Purpose

The general purpose of this investigation was to study the occupational status and opportunities for young deaf adults in New England. Current occupational conditions for the deaf would be described and related to vocational aspirations, aptitude, and training.

Through direct contact with parents, teachers, employers, and deaf students and employees, the need and demand for increased vocational education for the deaf would be determined. The investigation would address itself to determining whether further vocational preparation would enhance the vocational opportunities of the deaf.

Several alternatives for preparing the deaf vocationally would be investigated, and the feasibility of establishing a regional technical-vocational training center for the deaf in particular would be studied.

D. Objectives

This investigation focused on four major objectives. These were to determine:

1. the current occupational status of, and general employment conditions for, young deaf adults in New England.

2. the current formal vocational preparation of young deaf adults.

3. the vocational aspirations, aptitudes, and opportunities of young deaf adults.

4. the need and demand among young deaf adults for a regional technical-vocational training center for young deaf adults as a means of increasing employment opportunities.

E. Review of literature

a. Development of vocational education in schools for the deaf.

> "The high honor of establishing the first schools in the country where any persistent attempt was made to teach trades, belongs to the institution for the deaf. But, though we began first, I hardly think we are keeping abreast of those who started later in the race."

The above statement was made by F. D. Clarke in a paper on technical education which was presented at a meeting of the Eleventh Convention of Instructors of the Deaf in 1886. Vocational education has been of central interest to educators of the deaf since the inception of formal education

of the deaf in America early in the nineteenth century.

A healthy dissatisfaction with vocational programs in schools for the deaf has existed since that time as evidenced by literally hundreds of articles on the subject which have appeared in the American Annals of the Deaf and other publications.

The Annals began reporting vocations taught in American Schools for the Deaf in 1975. In that year, a total of 14 trades were being taught.

These were:

baking
bookbinding
broom making
cabinet making
carpentry
chair making
coopery
dressmaking
gardening
painting and glazing
printing
sewing
shoemaking
tailoring

The Annals reported that as of October, 1963, 36 vocations were being taught in 67 public residential schools for the deaf. The following list indicates the 36 vocations and the number of schools including each in their curriculum:

agriculture (3)
commercial (47)
clothing and related art (60)
foods and related science (60)
barbering (10)
commercial art (10)
cosmetology (20)
drafting (23)
laundering (21)
leatherwork (29)
masonry (4)
metal work (17)
painting and decorating
photo-engraving (1)
power machine operation (26)
sign painting and lettering (3)

library management (5)
photography (15)
automobile driver training (26)
auto mechanics (10)
baking (17)
cleaning and pressing (18)
dressmaking (43)
electrical servicing (3)
graphic arts (46)
ironing (21)
welding (2)
tailoring (8)
upholstering (27)
woodworking (61)
shoerepairing (6)
horticulture (3)
offset printing, printing, lithograph, linotype (12)
arts and crafts, fine arts (6)
janitorial (1)
clock repair (1)

It is apparent that of the above offerings, numerous have limited vocational application. The Annals does not report the number of clock hours given to training in each area.

b. Occupational status of the deaf

The criterion for the success of a vocational education program must be the occupational level of its graduates. Numerous studies have been conducted of the occupational level of deaf adults.

In the Seventieth Annual Report,1886, of the American Asylum, (now The American School for the Deaf), J. Williams reported conducting an inquiry into the employment of the graduates of that school. He was successful in locating 368 employed men and 54 employed women. Among the men, he found 70 farmers, 27 shoe factory operatives, 21 mill operatives, 20 shoe-makers, 20 mechanics, 17 carpenters, and 15 teachers, over half the graduates selecting

these seven vocations. The prevailing employment for women was as a mill operative, 27 women being so employed. Williams noted that the wages of the 422 employed men and women were consistent with the general wages in New England. It is apparent that in 1886, most deaf students could be successfully prepared within the school setting for direct employment.

In a major survey conducted by the National Research Council (1924), 29 schools for the deaf were sampled with regard to the vocational education of their students and occupations followed by their graduates. The prevailing occupations reported at that time were printing, carpentry, farming, shoe repairing, and dressmaking. Most of the schools reported that between 50 and 60% of their graduates entered occupations for which they had been trained in school. The reason given by most administrations for selection of particular vocational offerings was because these appeared to be best adapted to the deaf. However, others admitted that some of their vocational offerings had become obsolete. Only one of the 29 schools reported cooperation with local and state rehabilitation and employment agencies in seeking placement

for students. Two schools employed placement workers. The remaining 26 schools reported no system by which graduates were helped to find suitable employment.

A. G. Norris (1931) surveyed the graduates of the Missouri School for the deaf and found only a third of its graduates to be employed in occupations for which they had been trained.

Among the more recent investigations of the occupational conditions for the deaf are those of Lunde and Bigman (1959), and Rosenstein and Lerman (1963).

Lunde and Bigman based their findings on a sample of over 10,000 deaf men and women. Among the men, 10 % reported no training, 40 % training in the printing trades, 20 % in carpentry, 15 % in shoemaking, and 10 % in woodworking, cabinet making, and baking. Of the women, 15 % had been taught clerical skills, while others had learned sewing, cooking and domestic science. The percentage of those who received vocational training in a particular area but who have never applied this training vocationally varies among men from 50 % in printing to approximately 80 % in carpentry. For women the percentage varies from 60 % in clerical work to over 90 % in cooking and domestic science.

Those fields in which deaf males receive training and in which they tend to find and hold employment are printing, tailoring and shoemaking. On the other hand, only 30 % of those who receive professional training find and hold professional positions.

Rosenstein and Lerman (1963) interviewed 121 deaf employed women who had received training at the Lexington School for the Deaf, New York City. Asked about their source of skills needed for their present positions, 25 % indicated no specific skills were required, 12 % indicated their necessary training had been received in the school for the deaf, 15 % indicated other schools (mainly business schools), and 10 % indicated they had received on-the-job training. 36 % indicated they had acquired the necessary skills through similar experience on previous jobs.

In a study of the occupational status of Wisconsin's deaf population, Dunn (1957) found only 39 % of the employed adults in a sample of 866 were employed in positions which drew on previous vocational training.

In summary, it appears that the extent of utilization of training in vocational education

programs in schools for the deaf by the employed deaf is relatively low except for a few select trades. The school for the deaf in offering a limited range of vocational educational experiences can no longer expect to train most of its students for the occupations in which they will by choice or expediency be engaged.

One method of assessing occupational conditions of a population is in terms of salary.

Lunde and Bigman (1959) reported a median income of $3,465, among the deaf, considerably above the national median income of $2,818. This was a remarkable finding but, as acknowledged by the investigators, reflected a nonrepresentative sample of the deaf population. Rosenstein and Lerman (1963) reported mean annual incomes for the female graduates of the Lexington School for the Deaf to be approximately $3,050. No comparative data on a hearing sample were reported. Dunn (1957) reported the median annual wage of the deaf of Wisconsin to be $3,380 compared with a median annual wage for all workers in manufacturing industries in the same state of approximately $4,500. It should be noted that the salaries of the deaf were drawn from various occupations, including those which were of a non-manufacturing

nature. The validity of the comparison must therefore be questioned. It is also noteworthy that those who had completed training in skilled trades reported a median gross weekly wage of $80, compared with $50 for those with no specialized training. However, the group without specialized training may have included more women than the group with specialized training.

It must be concluded that results of efforts to assess the occupational status of the deaf in terms of their salaries compared with those of the hearing population are not definitive.

Two of the major problems in assessing the occupational status of the deaf are:

1. The problems involved in selecting a truly comparable hearing sample.

2. Determining the aptitude of the deaf, i.e., is it realistic to disregard the impact to deafness on communication and educational achievement?

c. <u>Proposals for upgrading the vocational education of the deaf</u>

Several proposals have been made for the upgrading of the vocational education of the deaf. In general these have been:

1. improvement of the quality of ongoing programs in schools for the deaf.

2. establishment of a national institute or an extension of the curriculum of Gallaudet College (a liberal arts college for the deaf) to include technical instruction for the deaf.

3. establishment of technical-vocational programs in separate regional centers for the deaf.

4. absorption of the deaf into technical-vocational programs designed for the normal hearing or handicapped.

There is abundant literature on the subject of upgrading vocational education programs in schools for the deaf. J. S. Morrison (1920) presented a paper on the occasion of the Eleventh Conference of Superintendents and Principals of American Schools for the Deaf. Among other recommendations, he suggested (a) dropping from the curriculum training in those trades growing obsolete, (b) emphasize use of the machine rather than the hand, (c) concentrate on intensive efforts in a few trades, (d) add trades for which there is a growing demand, (e) foster a closer coordination of shop and classroom, (f) greater concern for placement.

Many educators continue to make these recommendations half a century later.

Morrison (1920) also urged:

"Add to the national College for the Deaf

> more industrial teaching, with the idea of giving more technical training than is possible in the state or other schools. Let it in great measure set the standard of attainment for the deaf along industrial as well as academic and scientific lines (p.223)."

Gallaudet College historically has resisted the incorporation of technical education into its program, maintaining that its focus should remain within the liberal arts. By the same token, the administration of the College has expressed its support of a separate national center where the deaf might be provided a technical education.

Such a proposal was made in 1888 by D.S. Rogers, a teacher in the South Carolina School for the Deaf. Rogers (1888) recommended a national polytechnic institute for the deaf. The author suggested that the deaf require more special preparation than the hearing and that adequate preparation often cannot be given directly by the local school for the deaf.

O. Underhill (1934) proposed the establishment of a trade school to serve the deaf of North Carolina. He rejected the feasibility of sending the deaf to trade schools for hearing students, stating: "A great majority of our deaf boys and girls cannot be benefited by attending these schools because of the wide difference in methods

of instruction (p.334)."

H. Barnes (1940 a, 1940 b) proposed the separation of the academic and vocational education of deaf students by the creation of cooperative job training centers for the deaf. These centers would be located in urban areas and provide opportunities for vocational education both within such a center and under supervised employment conditions. Barnes also proposed the establishment of a National School of Trades, Agriculture, and Vocational Training for the Deaf, for students of approximately 18 years and older. It should be noted that such a proposed school, unlike the proposed polytechnic school, would be nonprofessional in character.

A fourth proposal concerns the absorption of the deaf vocational trainee into programs for the rehabilitation of handicapped persons. These programs generally fall under the supervision of state rehabilitation agencies. Several such programs are currently being supported under demonstration grants of the Vocational Rehabilitation Administration. In addition, some educators support integration into public vocational programs.

The four general proposals, notably (a) improve-

ment of the quality of ongoing programs in schools for the deaf, (b) establishment of a technical institute for the deaf, (c) the establishment of regional centers, and (d) absorption of the deaf into regular of special programs for the handicapped, are not mutually exclusive. Indeed, all four may be in order to provide optimally forthe individual training needs of the deaf.

This investigation gives particular attention to the feasibility of establishing regional technical-vocational training centers for the deaf. The interest in this proposal centers on several premises:

1. that the typical deaf student cannot be provided both a satisfactory academic education and terminal vocational skills by the age at which he normally graduates from a school for the deaf.

2. that in view of the relatively small student population of a school for the deaf, the vocational education curriculum must be limited; but by establishing regional centers, the appropriate students of several states might be brought together under a comprehensive, financially feasible system.

4. that most students, because of limited educational attainment, are incapable of successfully completing a program in an advanced polytechnical center.

5. that because of the implications of the communication handicap and the need for highly specialized methods of instruction, most students would receive greater profit from training in a center specially equipped to serve the deaf than in a center serving the nonhandicapped or otherwise handicapped.

II. Procedure

A. Overview of procedure

The population of this investigation consisted of two groups: juniors and seniors in nine New England schools for the deaf, and former students graduating or dropping out of these nine schools between 1957 and 1963 inclusive.

Advisory and Planning Committees were formed to assist in the conduct of the investigation by reviewing the design and expediting the collection of data. Members of the Advisory Committee represented education of the deaf, rehabilitation, the deaf community and industry. Members of the Planning Committee represented all the schools for the deaf in New England. Through correspondence and public presentations, the investigators informed the deaf adults of New England of the purpose and method of conduct of the investigation. This was done to assure cooperation.

Information would be collected on the occupational status of the deaf, their vocational preparation, their vocational aspirations, aptitudes and opportunities, and the demand for a regional technical vocational training center for young deaf adults. In order to expedite the collection of such information, several forms were developed, field tested, and revised.

These were: an interview schedule for young deaf adults, an interview schedule for the immediate supervisors of young deaf employees, a questionnaire for the heads of predominantly hearing schools attended by one or more deaf students, and a form for the description of the vocational education program in schools for the deaf. In addition, preparations were made for the administration of the General Aptitude Test Battery. Four skilled interviewers were recruited and familiarized with the project and the interview schedules.

The 177 juniors and seniors in nine New England Schools for the deaf were individually interviewed (Appendix A), and their parents were sent questionnaires (Appendix C). The General Aptitude Test Battery was administered to 44 of these students.

The parents of 354 young deaf adults who had departed from the nine New England schools for the deaf between 1957 and 1963 were sent questionnaires (Appendix C). Those who did not respond were followed up by telephone. The four interviewers interviewed 101 of their deaf sons and daughters who were found to be employed (Appendix A). Their immediate supervisors (Appendix B) were also interviewed, as were several unemployed (Appendix A, plus supplementary information).

A questionnaire (Appendix D) was sent to the principals of 39 hearing programs which have accepted one or more former students of schools for the deaf into their programs. A form (Appendix E) was also sent to the heads of nine New England schools for the deaf requesting information on the extent of their vocational education curriculum.

Where possible, data collected from the above sources were coded for tabulation and reporting; however, anecdotal data were also collected.

Upon the completion of the collection of data, the Advisory Committee met to assist in the preparation of the Conclusions of this report. The Planning Committee met to discuss implications of the findings for the deaf student in New England.

B. Population and sample

a. Population

The population with which this investigation was concerned consisted of two groups:

1. juniors and seniors in schools for the deaf in New England. Most of this group within one year would be joining the labor force. Any postgraduate vocational education program must draw from this group.

2. former students who had graduated from, or after age 16 dropped out of, the schools for the deaf in New England between 1957 and 1963 in-

clusive. For ease of reporting, all these former students will be considered graduates. Members of this group would have had varying periods of employment ranging up to seven years, and would have experienced a wide range of employment experiences.

Table I describes nine of the ten schools for the deaf in New England. Students and graduates of the tenth school were not included in the investigation because this school does not expect to graduate its first class until 1965.

Table 1. Schools for the deaf from which sample was selected

Schools for the Deaf	State	Pop.(1)	Day--Res.(2)
American School	Conn.	375	Residential
Mystic Oral School	Conn.	148	Residential
Governor Baxter State School	Maine	135	Residential
Horace Mann School	Mass.	92	Day
Clarke School	Mass.	174	Residential
Beverly School	Mass.	97	Residential
Boston School	Mass.	247	Residential
The Austine School	Vermont	85	Residential
Rhode Island School	R. I.	122	Residential
Total		1475	

(1) January, 1964 (American Annals of the Deaf)
(2) The residential school is one in which most students are accomodated overnight; the day school is one to which students commute from home daily.

The population of these schools, 1475, represents 4.8 percent of the total deaf student population in programs for the deaf nationally which is reported to be 30,577. (Am. Ann. Deaf, Jan. 1964).

Table 2 reveals the number of juniors and seniors enrolled in the nine above schools for the deaf, and the number who graduated from these same schools retroactive to 1957. Comprehensive lists of these students were prepared by each of the nine schools.

Table 2. Students expected to graduate in 1964 and 1965, and graduates, 1957 to 1963, of nine schools.

Year	Male	Female	Total
1965 (Juniors)	54	39	93
1964 (Seniors)	44	40	84
1963	49	33	82
1962	52	52	104
1961	51	29	80
1960	53	42	95
1959	45	36	81
1958	20	31	51
1957	39	29	68
Total, 9 years	403	331	738

Attention is drawn to the fact that numerous dropouts may have been omitted from the original lists because of the difficulties in identifying these dropouts as far removed as 1957. Few dropouts were noted on the lists returned by each school for the deaf.

It is noted that the number of males exceeds the number of females for eight of the nine years. This is consistent with the ratio of males to females nationally. The mean number of students graduating was

80 annually between 1957 and 1963.

b. Sample

As was earlier indicated, the sample consisted of two groups, current students and former students of schools for the deaf. These two groups were kept intact because the data to be collected from the two differed considerably.

Current students---Information would be collected on the entire population of juniors and seniors as of April, 1964. This group consisted of 177 students as indicated in table 2.

The mean age of the 98 males in this group was 17 years, 9 months, with an age range from 15 years, 5 months to 21 years, 6 months. The mean age of the 79 females was 17 years, 9 months, with an age range from 14 years, 2 months to 21 years, 9 months.

Graduates---A stratified random sample of students departing between 1957 and 1963 was taken. A table of random numbers was used to select approximately two-thirds of the population for a gross sample. This sample was stratified with regard to school attended and sex. Graduates who had since left the New England area were deleted from the sample.

Table 3 shows the distribution of the gross sample of graduates according to year of departure

from the school for the deaf.

Table 3. Gross sample of graduates of schools for the deaf.

Year of departure	Male	Female	Total gross sample
1963	34	23	57
1962	34	32	66
1961	30	17	47
1960	32	30	62
1959	25	19	44
1958	14	20	34
1957	23	21	44
Total	192	162	354
Percentage of total population	62.1%	64.3%	63.1%

It should be noted that table 3 represents a gross sample. It is obvious that, unlike current students whose attendance at a school for the deaf guarantees that they can be located, the investigators could not locate the entire sample of graduates. Many would have unknown addresses and some would be uncooperative. This is true of any survey which uses a controlled sampling technique. The final sample is described under "Results".

C. Preparations for collection of data

a. Advisory and Planning Committees

1. Advisory Committee---Representatives of various fields interested in vocational education for the deaf were invited to serve as members of an advisory committee (see Acknowledgments). The

Advisory Committee represented rehabilitation on state, regional, and national levels, education of the deaf, the deaf community, and industry.

The Advisory Committee met twice, once prior to the data collection phase of the investigation, and once after. The Committee reviewed the original objectives and design, recommending certain modifications in the original design. These recommendations prompted the investigators to make several revisions in the procedure.

2. Planning Committee---The director of each of the schools for the deaf in New England was invited to serve as a member of a planning committee (see Acknowledgments). All the schools were represented, and all indicated their full support of the investigation.

This Committee met twice, prior to, and after the data collection phase. During the initial meeting, the investigation was discussed in depth and arrangements made for students and records to be made available to the investigators. Further assistance was provided by the Committee in suggesting persons who would later become interviewers.

b. Information about the investigation in New England

Many deaf adults and parents of deaf students had individually asserted that a need existed for such an investigation as that proposed. However,

it was most important that as many deaf adults and parents of deaf persons as possible be informed of the purpose and general procedure of the investigation. Their assistance would be vital.

The investigators addressed organizations of the deaf and parent groups on several occasions. It was discovered that several had been misinformed and expressed some opposition. Clarification of the investigation produced their support. Every known club of the deaf in New England was written, and their presidents were asked to inform their membership of the project.

Successful conduct of the investigation would require the cooperation of several hundred deaf persons and parents. In the information which was presented to these persons, considerable care was taken to avoid influencing them except to support the investigation.

c. Information to be collected

The following information directly relevant to the current occupational status of, and general employment conditions for, young deaf adults would be collected:

1. occupational status, whether a student, employed, housewife, or otherwise unemployed.

2. marital status.

3. number and type of positions held to date.

4. description of current occupation, salary, and how particular job was found.

5. productivity of the employed young deaf adult.

6. attitude of the immediate supervisor toward the employed young deaf adult.

7. extent to which employee's job performance is influenced by deafness.

8. if unemployed, whether this unemployment is chronic; whether the unemployed withdrew from school before graduation; why, if formerly employed, he left his last job; whether he is actively seeking employment now; whether he is a client of a vocational rehabilitation agency; the parents' reaction to this unemployment.

Among information to be collected on the vocational preparation of young deaf adults would be:

1. description of vocational education programs in schools for the deaf.

2. number of graduates who continued as students in other schools after graduation from school for the deaf.

3. for the above young adults, courses taken, and whether these students graduated.

4. general performance of students in hearing programs.

5. academic and social acceptability of deaf students in hearing programs.

6. level of training required before employed adults were accepted for present job.

7. training offered employed adults by their employers.

Information was collected on the vocational aspirations, aptitudes, and opportunities for young deaf adults through attention to:

1. satisfaction of employed adult with his present position.

2. long-term vocational aspirations of young deaf adults.

3. Vocational aspirations of parents for their deaf son or daughter.

4. Opportunities for advancement with and without further training, as indicated by employer.

5. Vocational aptitude as indicated by performance on the General Aptitude Test Battery.

The following information was sought to determine the demand among the deaf and their parents for a regional technical-vocational training center for young deaf adults:

1. whether additional vocational education will be necessary to satisfy vocational aspirations.

2. whether students and employed young deaf

adults would return full or part-time to vocational school, finances being no deterrent.

3. preference, if any, for attending school with deaf or hearing peers, and reasons.

4. approval-disapproval of concept of technical-vocational training center for young deaf adults by young deaf adults and their parents, and reasons.

5. whether young deaf adults would wish to attend and whether they would be encouraged by parents to attend, such a center.

d. Development of instruments

Two interview schedules were developed, one for administration to young deaf adults (students, employed, and unemployed), and one for administration to the immediate supervisors of young deaf employees. A questionnaire was developed for parents of young deaf adults (current and former students).

A form was developed to be sent to the heads of other than deaf schools where it was known that deaf students were or had been in attendance. A form was prepared for the directors of schools for the deaf. This form requested information on the extent of their vocational education curriculum.

1. Interview schedule for young deaf adults-

--This schedule sought information directly from young deaf adults. It was designed to be answered by both current and former students. The original schedule was developed, field tested on 25 deaf persons, and revised to its final form (Appendix A). This schedule contained six sections:

i vital information

ii occupational status

iii job satisfaction and communication

iv economic status

v aspirations

vi students (to be asked of students only)

2. Interview schedule for employers---This schedule sought information directly from the immediate supervisors of young deaf employees. Like the schedule for young deaf adults, it was field tested and revised (Appendix B).

The schedule dealt with six topics:

i general information

ii current occupational status of employee

iii training

iv communication

v productivity

vi attitude of immediate supervisor

3. Questionnaire for parents---Considerable care was taken in the wording of this questionnaire (Appendix C) since, unlike the interview

schedules, it could not be interpreted directly to the respondents. The questionnaires would be mailed to the parents. Several guidelines were written for the parents and a letter prepared to accompany the questionnaire.

This questionnaire dealt with four topics:

i general information

ii occupational status of son or daughter

iii training

iv vocational-technical schools

v other children (for comparative purposes)

4. Questionnaire for heads of hearing schools---A ten point questionnaire was developed to be sent to the heads of hearing schools currently or formerly attended by deaf students (Appendix D). This questionnaire was concerned with the type of program in which the student was enrolled, general performance of the student, and his social acceptance.

5. Form for heads of schools for the deaf---A form was prepared to be sent to the heads of the nine participating schools for the deaf (Appendix E). This form was concerned with the extent of the vocational education program in each school.

e. General Aptitude Test Battery

With the assistance of the Connecticut State Director of Vocational Rehabilitation, a meeting

was held with the Director and other officials of the Connecticut Employment Service to arrange the administration of the General Aptitude Test Battery to the junior and senior students of the two Connecticut schools for the deaf.

f. Recruitment and training of interviewers

With the assistance of the Planning Committee, four interviewers were recruited to interview young deaf employees and unemployed, and employers. Three of the four were trained teachers of the deaf. The fourth was a man who has worked extensively with deaf adults. All were male, all had command of manual communication, and three of the four were hearing. The fourth had remarkable oral communication skill.

All four were informed of the purpose and procedures of the investigation. All were made thoroughly familiar with the interview schedules for young deaf adults and employers. The need for the systematic and objective conduct of interviews was stressed.

In two of the four instances, the interviewers observed several interviews in progress in an employment setting.

D. Collection of data

a. Current students and parents

The junior and senior students in nine New

England schools for the deaf, 177 in total, were individually interviewed in their school settings by one of the investigators. Information from each interview was recorded on the interview schedule for young deaf adults (Appendix A).

Following these interviews, letters and questionnaires (Appendix C) were sent to the parents of each of the 177 students. The letters presented to the parents a brief statement of the importance of returning the completed enclosed questionnaire. A stamped, self-addressed envelope was enclosed in the package to facilitate the return of the questionnaires. Of the 177 sent out to parents, 112 completed questionnaires were returned. This was a substantial return, representing 63% of those sent out.

The juniors and seniors of the two Connecticut schools for the deaf were administered the General Aptitude Test Battery. This Battery was administered by officials of the Connecticut State Employment Service to 44 students in the two school settings.

b. Parents of graduates

As was stated under the heading "Population and sample", a gross sample of 354 graduates of schools for the deaf was selected for investigation. The investigators had been given the last

known address of these graduates and their parents by the participating schools. However, these addresses were up to seven years old.

Letters and questionnaires (Appendix C) were sent out to parents at the last known addresses of the 354 graduates. 137 questionnaires were returned completed. This figure represented 39% of those sent out. The return of these questionnaires was important for two reasons: (a) for the information sought on the questionnaires themselves, (b) to locate the former deaf students' present working and home addresses.

In order to locate the addresses and to determine the occupational status of as many graduates as possible, i.e., employed, unemployed, graduate students, housewives, etc., an effort was made to follow up on every parent who had not responded by questionnaire. Within a three week period, 99 additional parents were successfully reached by telephone. Through these two sources, questionnaire and telephone communication, the occupational status of a total of 236 graduates was determined. This figure represented 66% of the original gross sample of graduates. A breakdown of this figure is presented later in the report.

c. Deaf employees and their supervisors

Of the 236 former students located, 124 were employed at the time of the collection of data. Of this number, 10 were found to be employed outside New England.

It was considered a breach of ethics to require that an employee be interviewed against his wishes. Accordingly, each employee was sent a letter at his home address. This letter briefly stated the purpose of the interview, assured him of the confidentiality of the interview and provided him with the opportunity to dissent. Only two indicated an unwillingness to be interviewed.

In addition, a letter was sent to the employer (head of a small business, personnel department of a large business). This letter briefly outlined the purpose of the proposed interviews with the deaf employee and his immediate supervisor, and requested that an hour be made available for the interviews. This letter also indicated that an interviewer would be telephoning to arrange an appointment. Although unsolicited, many employers wrote the investigators to indicate their cooperation and support of the project. None of the employers indicated an unwillingness to cooperate, even though the interviews would be given on the employer's time. In several instances, it was

necessary for the interviewers to be cleared for security purposes, before entering defense plants.

The four interviewers interviewed 101 young deaf employees and 101 immediate supervisors (the remaining employees could not be contacted because of illness, or having been discharged before they could be interviewed). No employee was deleted because of remoteness of his employment. Interviewers travelled approximately 10,000 miles to reach all.

d. Unemployed deaf adults

A relatively large number of unemployed young deaf adults were found. This number totalled 25. Unlike deaf employees and their parents, many of the unemployed were reluctant to be interviewed. However, it was possible to interview five in their homes (Appendix A, plus supplementary information).

e. Graduate students in hearing programs

A total of 72 former students of schools for the deaf were found to be in college, in academic high school, in technical-vocational schools, and commercial schools. In addition many of those who were interviewed as employees had attended hearing educational programs since graduating from the school for the deaf. Questionnaires (Appendix D) were sent to the principals of 27 such hearing educational programs with deaf students currently

enrolled, and to 12 additional schools which formerly had served deaf students. It was not feasible to send questionnaires to the schools of all 72 current deaf students because most were not located until after the end of the academic year. Principals returned 32 completed questionnaires.

f. Other information

In order to ascertain the number of deaf students in public vocational school programs since 1957, the Divisions of Vocational Education of the six New England states were contacted. Requested were listings of all public vocational or technical schools. 92 such schools were listed. Each of the 92 schools was written with a request for information on all deaf students in attendance since 1957. 70 schools replied.

Finally, the nine participating schools for the deaf in New England were asked to provide information on their vocational education programs (Appendix E).

E. Treatment of data

Much of the data could be coded for tabulation and reporting. However, considerable anecdotal data were also collected. Little of the data lent to statistical treatment. Tests of significance were conducted on the results of the administration of the G.A.T.B.

A final meeting of the Advisory Committee was held after the data had been fully collected and analysed. This Committee assisted in preparing the Conclusions of this report.

A final meeting of the Planning Committee was held for the purpose of discussing the findings from the investigation. Implications of the findings for the deaf student in New England were discussed in depth.

III. Results-Status of young deaf adults

A. Current status of former students

Of the gross sample of 354 former students, contact was made with 236 (66%). It is obvious that the findings would have been strengthened if data could have been collected on the full gross sample. It was the opinion of the investigators that a reasonably representative sample remained and that the additional time involved in locating more was not warranted. However, it is likely that proportionately more of those who could not be located would be unemployed or marginally employed since many of these young deaf adults reside in rural, somewhat isolated areas. Table 4 indicates the number of graduates of schools for the deaf who were located according to the year of their departure from the school, and the percentage of the gross sample selected, again according to year of departure.

Table 4. Number of graduates of schools for the deaf who were located.

Graduated[1]	Gross sample[2]	Number located	Percent of sample[3]
1963	57	44	77%
1962	66	46	70%
1961	47	30	64%
1960	62	44	71%
1959	44	28	64%
1958	34	17	50%
1957	44	27	62%
Total	354	236 (131 males, 105 females)	

(1) from school for deaf
(2) see table 3.
(3) for particular year of graduation

Table 5 reveals the distribution of the 236 graduates of schools for the deaf in terms of their current employment status.

Table 5. Employment status of graduates of school for the deaf.

Graduated	Employed		Unemployed		Students(2)		Other(3)	
	No.	%(1)	No.	%(1)	No.	%(1)	No.	%(1)
1963	17	39%	7	16%	20	45%	-	-
1962	24	52%	6	13%	16	35%	-	-
1961	15	50%	4	13%	9	30%	2	7%
1960	24	55%	3	7%	15	34%	2	4%
1959	18	64%	2	7%	6	22%	2	7%
1958	9	53%	2	12%	2	12%	4	23%
1957	17	63%	1	4%	3	11%	6	22%
Total	124	53%	25	11%	71	30%	16	6%

(1) for particular year of graduation from school for deaf.
(2) academic and vocational programs.
(3) 14 housewives, 2 patients in mental institutions.

The information provided in table 5 is discussed more fully later in this and subsequent chapters. However, a cursory inspection of the table reveals several remarkable facts:

1. Only 39% of the 1963 graduates are now employed. This compares with 63% of those who graduated in 1957.

2. In considering only the potential employment force, those employed and unemployed, excluding students and others, 124 graduates were found to be employed and 25 unemployed. The percentage of unemployed graduates in relation to the potential employment force is shown to be 17% for all years. This figure of 17% presents a more realistic picture of the rate of unemployment of the young deaf adult in

New England than the 11% cited in table 5.

3. A relatively high percentage of graduates of schools for the deaf continue to study in other programs after graduation. 45% of those who graduated in 1963 continued their studies.

4. Of the 105 female graduates located, only 14 indicated they were housewives without outside positions.

B. The employed young deaf adult

a. Those who were interviewed.

Of the 124 young deaf adults who were identified as employed, 101 were personally interviewed. Of this number, 66 were male, and 35 were female. The following information was collected through several sources; interviews with the young deaf employees, interviews with their immediate supervisors, and responses on questionnaires returned by their parents. Questionnaires were returned by the parents of 72 employed young deaf adults (49 male, 23 female).

Table 6 reveals the age and marital status of the 101 young deaf adults who were interviewed.

Table 6. Age and marital status of 101 employed adults.

Sex	No.	Mean age	Age range	No. married
Male	66	22 yrs.,6mo.	19yrs.,0mo.-27yrs.,8mo.	10
Female	35	22 yrs.,2mo.	17yrs.,4mo.-27yrs.,10mo.	3

Of the ten married males, four indicated they had one child. None had more than one. Of the three married women, none had children. One unmarried female indicated she had a child of whom she was the sole support. The fact that relatively few young male or female adults are married may have implications for adult vocational education. Most young deaf adults are free to participate in such programs. That the deaf tend to marry later than the hearing population is supported by numerous other investigations conducted on deaf adult populations.

b. Stability of employment

Of the 66 male employees, 30 are still employed in their first position since originally finding employment, 22 have changed positions once, and 14 have held three or more positions. Of the 35 female employees, 21 are employed in the only position they have held, 7 are employed in their second position, and 7 have held three or more positions. The young deaf adult, and particularly the female, appears to be relatively stable in his or her employment.

The 50 employees who have held two or more positions were asked why they terminated their first position. Their former employers could not be contacted so the authenticity of their responses could not be determined. 17 indicated they had been laid off, 14 indicated dissatisfaction with wages or op-

portunities for advancement, 8 indicated poor working conditions or grievances against their employer, 5 stated they had been discharged, and 3 indicated their first employment had been seasonal. One employee had moved out of state, 1 had quit because of illness, and 1 self-employed had lost his fishing boat in a storm.

The Hollingshead Index of Social Position, Socio-Economic Factor (Hollingshead) was applied to the first and current occupations of those who have held two or more positions. This scale provides seven ranks, with a rank of 1 indicating a major professional position and a rank of 7 indicating an unskilled position. The ranks of 14 were improved by their changes in employment, the ranks of 6 dropped, and the ranks of 30 remained constant.

c. Occupations

The immediate supervisors of the 101 young deaf employed adults were asked to describe the current occupations of the young adults. Table 7 is a classification of the positions currently held by the 66 young male deaf employees interviewed. Occupations are classified as professional, technical and trade (requiring extensive formal vocational training) commercial, semi-skilled (requiring minimum on-the-job training), and unskilled (requiring no training). This classification is based upon the description of the occupation given by the immediate supervisor,

training required for the occupation and, in most instances, observation of the employee on the job by the interviewer.

Table 7. Occupations of 66 young male employees[1]

Professional		**Semi-skilled**	
		Machine operator	16
None		Assemblyline worker	4
		Tool inspector	2
Technical and Trades		Assistant pressman	1
		Hat blocker	1
Printer	8		
Carpenter	3	**Unskilled**	
Cabinet maker	2	Factory worker (general)	12
Draftsman	1	Handyman	3
Laboratory Technician	1	Darkroom helper	1
Finished metalworker	1	Mechanic's helper	1
		Furnace cleaner	1
Commercial		Dishwasher	3
		Construction worker	1
Office clerk	1	Laundry worker	1

[1] Dormitory Supervisor, school for the deaf 2

No professional personnel were found among the 66 young male employees. 16 were found in skilled technical and trade positions. A clerical position was held by 1 employee, 24 held semi-skilled positions, and 23 held unskilled positions. Semi-skilled and unskilled positions accounted for 71% of the total.

Table 8 is a classification of the occupations of the 35 young female employees. Again this follows from descriptions provided by their immediate supervisors, training necessary, and in most instances, observation of the employee on the job by the interviewers.

Table 8. Occupations of 35 female employees

Professional		Semi-skilled	
None		Machine operator	4
		Merchandise marker	1
Technical and Trades		Bench worker	4
		Nurses aide	1
Hairdresser	1		
		Unskilled	
Commercial			
		Packer	2
General office clerk	5	Kitchen worker	4
Typist	5	Stockroom worker	1
Key punch operator	3	Laundry worker	1
Filing clerk	1	Domestic service	1
Business machine operator	1		

It is noted that 1 female employee was engaged in a trade, 15 in commercial areas, 10 in semi-skilled occupations, and 9 in unskilled occupations.

The largest single group of female employees was engaged in commercial positions. However, 54% were found to be employed in semi-skilled and unskilled positions.

The 1960 Census of Population reveals that nationally, semi-skilled and unskilled workers (operatives, prevate household workers, service workers, and laborers) comprise 35.7% of the total male employment force and 38.3% of the total female employment force (32.8% and 36.7% respectively in Connecticut). The proportion of young deaf males in semi-skilled and unskilled positions is double that of the national proportion, and substantially higher also among young deaf females than among the general employed female population.

d. Geographic distribution

The geographic distribution of the young deaf employees who were interviewed is as follows:

Table 9. Distribution of 101 young deaf employees.

	Mass.	Conn.	Maine	N.H.	R.I.	Vt.	Total
Male	27	26	8	2	3	-	66
Female	16	12	2	3	1	1	35
Total	43	38	10	5	4	1	101

Substantially more young deaf employees are employed in Massachusetts and Connecticut than in the other four New England states.

As expected, employees tend to be concentrated in larger urban areas like Boston, Hartford, Worcester, New Haven, Bridgeport and Providence. Those who reside and work in the three northern states tend to be widely distributed.

e. Wages

Young deaf employees were asked during each interview to indicate their gross weekly wages, excluding overtime. The mean income of the 101 employees was $63.45. Weekly wages extended from $29 (a female kitchen worker) to $127 (a male construction laborer).

As was suggested in "Review of literature", valid comparison of the wages of deaf and hearing employees is difficult except in very general terms. Figures on earnings of the population are generally not broken down into discrete categories.

It was possible to obtain figures on the mean

weekly earnings of workers in the Massachusetts manufacturing industry. This figure, however, did not differentiate on the basis of sex or age. The mean weekly wage in the Massachusetts manufacturing industry in March, 1964, was $93.13 (Mass. Employment Newsletter, 1964). Of the 101 employees interviewed, 43 were employed in that state. The mean weekly wage of these employees was $60.33, 35% below the mean earnings in manufacturing.

The mean weekly wage for male and female factory workers in Connecticut in May, 1964, was $107.79 (Employment Wages and Hours bulletin, 1964) and for non-factory workers, $95.14 (same source). The 38 deaf employees interviewed in Connecticut received a mean weekly salary of $68.32. Compared with salaries for non-factory workers in Connecticut (a more conservative figure than that of factory workers), the deaf employees earned 28% less.

Undoubtedly, the fact that age is not considered in the above comparisons influences the significance of the difference. The salary of the young adult will probably increase somewhat as he becomes older, although, major increases (excluding cost of living increases) are not usual except with added skills.

In an effort to control for socio-economic variables and age, the investigators asked parents of deaf employees to indicate gross weekly earnings of other em-

ployed hearing siblings. The mean wages of those up to 28 years were calculated. The mean weekly wage of 24 male siblings of the deaf was $88.54, and of 15 female siblings, $71.27. The mean wage of the 66 male deaf employees was $68.83, and of the 35 female deaf employees, $53.34. Salaries of male deaf employees fall 22% below salaries of male hearing employees in the same age range with deaf siblings. The salaries of female deaf employees fall 25% below salaries of female hearing employees in the same age range with deaf siblings.

All the bases of comparison of the wages of the young deaf employee with those of the hearing population consistently reveal the salaries of the young deaf adult to be at least 22% below those of the hearing. Applying the criterion of wage, the occupational status of the deaf must be considered to be low.

f. Means of finding employment

The 101 young deaf employees were asked how they found their present position. Table 10 reveals their responses.

Table 10. How present position was found

Source	Male	Female	Total
Parents and other relatives	23	13	36
Friends	14	9	23
Public employment service	8	5	13
Applied directly	10	3	13
School	4	2	6
Vocation rehabilitation agency	4	1	5
Newspaper help-wanted ad	2	2	4
Other	1	-	1
Total	66	35	101

Over one-half the current positions held by young deaf adults were found through relatives and friends. Public employment services located positions for 13%. Relatively few found positions independently. Vocational rehabilitation agencies found employment for 5%. This figure is in close agreement with a figure reported by Lunde and Bigman (1959). It is possible that this figure would have been greater if the first position held by deaf employees had been used as a determinant rather than the present position.

Many schools for the deaf assume a job placement role. They may be effective in finding employment for young adults immediately after leaving school, but the above table reveals that only 6% found their present positions through schools.

g. Performance of the young deaf employee

Information on the performance of deaf employees was obtained directly from their immediate supervisors, those who were in the best position to evaluate their work. The 101 supervisors of deaf employees were

asked to compare the productivity of their deaf employees with others doing the same or related jobs. Table 11 indicates their responses.

Table 11. Supervisors' opinions of job performance of deaf employees.

	Male employees	Female employees	Total
Above average	30	9	39
Average	33	23	56
Below average	2	3	5
Total	65(1)	35	100(1)

(1)One supervisor unwilling to give opinion

The interviewers indicated they believed the supervisors responded impartially to the question of performance of deaf employees and without weighting their response because of the employee's deafness. The supervisors rated 39% above average, and 5% below average. The deaf tended to perform well in their work. A greater percentage of male employees than of female employees received above average ratings. One possible explanation is that males tend to be engaged in manual activities, and the females in clerical activities, demanding more verbal communication. Nevertheless, few performed at a level below average.

h. Problems related to deafness

Each supervisor was asked about any aspects of the employee's job which were complicated by the employee's deafness. 42 supervisors mentioned such problems. A complete listing of the problems encountered by deaf employees and their supervisors because of the

employee's deafness is presented in Appendix F. These problems are classified in table 12.

Table 12. Job-related problems produced by deafness as indicated by supervisors.[1]

Communication with supervisor and others (primarily receiving instructions)	26
Hard on equipment (sounds warning of breakdown in equipment)	9
Use of telephone (mostly females)	7
Risk of injury around heavy equipment	4
General efficiency in machine operation	3

[1] Several supervisors mentioned more than one problem.

It is evident that deafness imposes complications in certain positions. It is notable, however, that less than 50% of the supervisors considered deafness to create significant problems for the employee.

As was predictable, problems of communication were mentioned most frequently by supervisors. The problem was primarily one of understanding instructions. Nine supervisors indicated the deaf tend to be hard on equipment because they do not pick up the auditory cues before a machine breaks down or a cutting tool becomes dull. Seven supervisors mentioned inability to use the telephone as a problem, particularly among female clerical workers. Industry is often indisposed to hire deaf employees because of risk of injury. Only 4 of the 101 supervisors considered deafness to create a hazard around equipment. Finally, 3 supervisors indicated that efficiency was lost because of a lack of auditory cues. One supervisor, for example, claimed that a linotype machine can be

operated with greater efficiency if the type can be heard dropping.

The 101 employed young deaf adults were asked how they communicate to their supervisors and how their supervisors communicate to them. 38 (38%) reported they communicate to their supervisors through speech alone. 62 (62%) reported they use other media such as writing or gestures in addition to, or without, speech. 44 (44%) reported their supervisors communicate to them through speech alone. 56 (56%) reported their supervisors use other media such as writing or gestures in addition to, or without, speech, to communicate to them.

It is apparent that most deaf employees are able to compensate for the above problems as evidenced by the fact that 95% were average or better in the general performance of their jobs.

i. Attitudes of immediate supervisors

If supervisors have a negative attitude toward the young deaf employee, they are likely to answer "no" when asked if they would favor more deaf employees working under them. The 101 supervisors were asked this question. 77 responded affirmatively, 11 responded negatively, and 13 were noncommital. The attitude of most supervisors toward the young deaf employee was quite positive.

Supervisors were also asked whether they would

prefer not to have any deaf subordinates. Only four supervisors indicated this to be the case, with four unresponding to the question. 92% indicated they were satisfied to have a deaf employee.

It is apparent that most deaf employees make satisfactory or better workers, that they are able to compensate in some way for the complications produced by their deafness, and that most of their immediate supervisors are generally favorable toward them.

C. The unemployed young deaf adult

As indicated earlier, 17% of the potential deaf employment force (excluding students and housewives) in New England wase found to be unemployed. This compares with a figure of 4.1% for the entire state of Connecticut (Conn. Labor Situation, 1964). More of the unemployed were found among the recent graduates of schools for the deaf than among more distant graduates. This is probably a reflection of the difficulties in finding initial employment rather than a change in the nature of the population.

A total of 25 unemployed young adults, 12 males and 13 females were located out of the total of 236 graduates. Only 5 could be interviewed directly. Questionnaires were returned by the parents of 13.

This was the only phase of the investigation

in which lack of cooperation was severly restrictive. It was intended that as many as possible of the unemployed and their parents be interviewed. Several of the parents refused to cooperate. Telephone conversations with these parents suggested that they would prefer that their deaf sons or daughters not be employed. Several appeared overprotective. One claimed she could receive state compensation only as long as her son remained unemployed.

Most of the unemployed were residing with their parents in rural areas where employment was less available than in urban centers. One daughter helped her father an hour or two a day at his rural service station, pumping gasoline. He indicated he was "tired of deaf people coming around and trying to get her to go to Boston".

The five who were personally interviewed, with their parents, were cooperative. Three of the five had left the school for the deaf before graduating. Four of the five had poor school histories. Two of the five had worked briefly after leaving school. One could retain a job only a few days, and had been fired three times, each time after arguments with the employer. The second had held a job for one month and been discharged for being too slow. Three of the five are now seeking employment. Four of the five are now clients of vocational rehabilitation agencies.

The parents of all five indicated major concern over their child's unemployment. All expressed particular concern about the social development of their child. All wished their child could return to school, but it could not be determined whether they really thought the child would profit from additional training, or whether they saw this as a means of relieving the immediate problem of unemployment.

This brief description of the unemployed is insufficient to provide definitive conclusions. It is hoped that other investigators might study the unemployed deaf in greater depth.

D. Summary-Occupational status of young deaf adults

The results of this phase of the investigation revealed:

1. Of the 1963 graduates of schools for the deaf, 39% are currently employed, 45% are currently enrolled in other educational programs, and 16% are unemployed.

2. Of the current potential employment force of young deaf adults who have graduated from schools for the deaf since 1957, 17% are unemployed, approximately four times that of the national proportion of unemployed.

3. Of 101 employed adults ranging up to 27 years of age, only 13% are married.

4. The young deaf adult is relatively stable

in his employment.

5. 71% of the young male employees hold semi-skilled and unskilled positions, double that of the national proportion.

6. 54% of the young female employees hold semi-skilled or unskilled positions, and 43% hold commercial positions.

7. The mean weekly wage of the young employed deaf adult in Massachusetts and Connecticut is estimated to be between 22% and 35% below that of the hearing working population of those states.

8. 59% of the young employed deaf adults were assisted by family and friends in finding their current jobs, public employment and rehabilitation services assisted 18%, and schools assisted 6%. 17% found their jobs independently.

9. The immediate supervisors of 95% of the employed adults consider them to be average or better in their job performance.

10. 42% of the supervisors mentioned that deafness produced an occupational problem for their deaf employee. Communication is seen as a problem by 26% of the supervisors.

11. 77% of the supervisors favor more deaf employees. 93% are satisfied to have at least one deaf employee.

IV. Results-Vocational preparation of young deaf adults

A. Vocational education in schools for the deaf

A form (Appendix E) was sent to the heads of the nine participating schools for the deaf in New England with a request for information concerning their vocational education program. Since these forms were sent out after the end of the academic year, two heads of the schools could not be reached. The following information is based on the returns from seven schools.

The seven schools all award academic diplomas; in addition, two award vocational diplomas, and three award certificates of attendance for those who qualify for neither the academic or vocational diploma.

Although most schools for the deaf graduate few students before 16 years, and some not until 20 years, few students exceed a ninth grade achievement level. Some schools encourage their more gifted graduates to enter academic programs in their home communities.

One of the schools for the deaf in New England, the largest, employs nine vocational education teachers, two employ six such teachers, one employs four part-time teachers, one employs three, one employs two, and one employs a full time and a part-time teacher.

Five of the seven schools offer a course in woodworking. This course leads to cabinet making in two of the schools. Five schools offer courses in printing, and two in mechanical drawing. Four of the seven schools give instruction in commercial education, mostly typing. Furniture refinishing, leatherwork, and commercial art are each offered in one school. Several schools also offer instruction in domestic science.

Schools were asked the number of clock hours per year given to vocational education. Table 13 reveals their responses.

Table 13. Clock hours in vocational education available to students in schools for deaf.

	Range in clock hours per year	Median
Graduating year	90-720	180
-1	0-360	180
-2	0-270	145
-3	0-270	125

It is evident from the above information that none of the seven schools offers a comprehensive terminal vocational education program. The American School for the Deaf, the largest, accepts graduates of other schools for advanced vocational education. Even this school remains dissatisfied with its program as evidenced by its initiation of this investigation.

B. Graduate education for deaf students

a. Programs entered

Questionnaires were returned by the parents of 137 graduates of schools for the deaf. Of the 137 graduates, 44 are currently students in other programs. Of the 72 currently employed, 31 received additional instruction after graduating from the school. Of the 137 graduates, 75 (56%) have been, or are currently students in other educational programs. Of this number, 13 proceeded to advanced educational programs for the deaf. The programs entered by 62 varied from one month to four years.

Table 14 reveals the general educational program and the educational status of 75 current or former students who had graduated from schools for the deaf, as indicated by parents.

Table 14. Educational status of current and former graduate students

Program	Currently enrolled	Graduated	Did not Graduate	Total
Academic high school	13	2	2	17
Technical-vocational	8(1)	11	3	22(1)
Commercial	13	4	3	20
Gallaudet College (deaf)	5	1	5	11
Other college (hearing)	5	0	0	5
Total	44	18	13	75

(1) Including two graduate students enrolled at the American School for the Deaf

It is noted that approximately equal numbers of deaf students enroll in academic, technical-vocational, and commercial programs. 58% who enrolled

in these programs and have since found employment, graduated. 42% left these programs without graduating. It is assumed that the schools for the deaf were selective in advising their students to enter these programs. If graduation can be considered a criterion, 58% of the placements can be considered successful. 32% of the total number of graduates of schools for the deaf proceed to graduate also from other educational programs.

As a second method of inquiry, the investigators contacted 92 state-supported technical-vocational schools with a request for information on any deaf students they may have had since 1957. 70 schools responded. Some discrepancies were noted between their returns and the returns of parents of deaf students in technical-vocational schools, notably in the numbers of students reported. Both reported 22 students registered, although most of the schools responded whereas less than half the parents were sampled. It may be that numerous deaf students went unreported by the responding schools because the schools do not maintain special records on deaf students.

Of the 22 deaf students reported by these schools, 4 are presently enrolled, 8 graduated, 3 took noncredit evening courses, and 7 left before graduation or were expelled.

b. Success in hearing programs-principals of hearing schools

A questionnaire (Appendix D) was sent to 39 principals of predominantly hearing schools which are or have been attended by deaf students. They were requested to consult with the teachers or counselors of these students before returning the questionnaires. 17 were returned by schools from which their deaf students have departed, and 15 were returned by schools in which deaf students are currently enrolled. 11 academic high schools responded, 12 vocational-technical schools responded, and 9 commercial schools responded. The level of hearing and communication skill of the deaf students in such schools was not known.

The performance of 6 students was judged to be superior, the performance of 18 to be average, and the performance of 8 to be below average. Of the 32 students, 12 were judged to be deficient in the language arts. 9 had received extra tutoring, 23 had not. Of the 32 students, 30 were judged to be accepted socially by their hearing peers, 2 were not. Principals of 25 of the 32 schools indicated they would be favorable toward accepting another similar deaf student.

The extent, if any, to which the student's deafness produced concessions is not known. It

was noted that some principals dwelt heavily on the benefits for both the deaf student and his peers (eg., "It has been good for his classmates. It has made them more considerate").

One favorable statement was, "Because of _____'s ability to lipread and her oral ability, we found her to be a very good student and would be willing to take others who have the same abilities." Another favorable comment was "Highly motivated-excellent young lady-well received by faculty and students".

Unfavorable comments included the following statements, "The one student that we have had required much special attention from the teachers at times. We do not feel unfavorably about taking another deaf student; we just wonder if we have the trained staff to deal with them." A second principal wrote, "Her schoolwork has not kept pace with her mental ability because the staff is not trained to help a deaf person."

c. Success in hearing programs-parents

Parents of deaf current and former students in hearing programs were asked whether their children encountered particular difficulties while enrolled in hearing programs. Table 15 indicates their responses.

Table 15. Responses by parents to question of whether their deaf child encountered particular difficulties in hearing programs.

	Current student	Former student	Total
Yes	32	18	50
No	7	13	20
Don't know	7	-	7

It is noted that relatively more of the parents of current than of former students indicate difficulties in school. This may be because the problems posed by these difficulties are more immediate to the parents of current students.

The difficulties of deaf students in hearing programs, as indicated by parents, are recorded in Appendix G. Difficulties for the most part centered on communication skills. It is evident that parents of deaf students perceived difficulties for their deaf children in hearing programs which were not perceived by the principals of these programs. Attention was earlier drawn to the point that deaf students tend to be selectively placed in these programs, yet 42% do not graduate.

This points up the need for careful selection of students for predominantly hearing programs. Undoubtedly some deaf students can derive maximum profit from a public school program. Presumably such variables as academic achievement level, residual hearing, and level of communication skill are of significance.

C. Vocational preparation necessary for current occupations

The 101 immediate supervisors were asked what preparation was necessary for the successful performance of the deaf employee's present job. Table 16 reveals their responses.

Table 16. Preparation necessary for present job as indicated by supervisors(1)

	Male	Female	Total
Simple demonstration	45	22	67
On-the-job training	28	13	41
Formal company classes	0	2	2
Trained skills prior to hiring	11	5	16

(1) Some supervisors indicated two or more were necessary.

It is evident that most of the occupations currently held by young deaf adults do not require formal training prior to hiring. Most can be adequately trained on the job. This finding reflects the prevalence of young deaf adults employed in semi-skilled or unskilled occupations. It has implications for the upward mobility of the deaf employee since, in the opinion of their supervisors, 85% of the employees have limited or no opportunity for advancement without additional formal training.

D. Summary-Vocational preparation of young deaf adults

This phase of the investigation revealed that:

1. No school for the deaf in New England provides a comprehensive terminal vocational education program for its students.

2. 56% of the graduates of schools for the deaf in New England proceed to other educational programs. 58% of those students who enroll in these programs graduate, 32% of the total.

3. Approximately equal numbers of students enroll in academic high programs, technical-vocational programs, and commercial programs. Less go to college.

4. Most principals of hearing educational programs report success with selected deaf students. The criterion may often be social rather than academic.

5. Most parents report their deaf children encounter difficulties in these hearing programs. Difficulties generally center on language skills.

6. Most of the jobs currently held by young deaf adults do not require trained skills prior to hiring. Simple demonstration and on-the-job training generally suffice to give the employee adequate competence. This is related to the fact that most young deaf adults hold semi-skilled and unskilled positions.

V. Results-Vocational aspirations, aptitudes, and opportunities

A. Satisfaction with present occupation

a. Employed young adults

The 101 young deaf employees were asked whether they liked their present positions. Their feelings about their present positions are indicated in table 17.

Table 17. Feelings of young employed deaf toward present positions

	Male	Female	Total
Like my job very much	30	15	45
My job is okay	27	14	41
I dislike my job	9	6	15
Total	66	35	101

Most young deaf employees apparently find their present employment satisfactory. Reasons they gave tended to center on salary.

Asked if they hope to keep their present job or change jobs, 58 employees indicated they would like to keep their present jobs, 38 indicated they would like to change jobs, and 5 were undecided. Reasons given by those who wished to change jobs tended to be based on a desire for a more skilled and more remunerative position.

b. Parents

Parents of deaf employees were also asked to respond to the question of whether the present position of their son or daughter was a good one.

72 responded. Of this total, 43 considered the present position to be a good one, 23 did not think it was a good one, and 6 were undecided.

Reasons given by those parents who did not think the present position of their son or daughter a good one centered on lack of opportunity.

B. Vocational aspirations

a. Employed young adults

The 101 employed young adults holding the positions shown in table 7 and table 8 were asked what job they would like to have in 10 years. Table 18 classifies the current positions of the employees and the positions to which they aspire.

Table 18. Classification of present positions and aspirations

Class	Present Positions			Aspirations[3]		
	male[1]	female	total	male[2]	female	total
Professional	0	0	0	2	1	3
Technical and Trades	16	1	17	43	4	47
Commercial	1	15	16	3	10	13
Semi-skilled	24	10	34	10	1	11
Unskilled	23	9	32	0	2	2
Total			99			76

(1) Dormitory supervisor, school for the deaf 2
(2) Dean of boys, school for deaf 1
(3) 7 males, 8 females, did not indicate aspirations, 9 females indicated "housewife".

It is apparent that although most of the employed young deaf adults indicated satisfaction with their present jobs (table 17), most in fact aspire to jobs requiring greater skill. While most are currently employed in semi-skilled or unskilled

positions at present, only 17% of those who indicated a vocational aspiration were content to remain in such positions. 83% aspired to professional, technical-trade, or commercial positions.

It is evident that although most seem satisfied with their present jobs when asked directly (table 17), they in fact aspire to jobs requiring greater skill and more training.

b. Students in schools for the deaf

177 juniors and seniors in nine schools for the deaf were asked what job they would like to have in ten years. Table 19 presents a classification of the positions they selected.

Table 19. Classification of occupations to which students aspire.

Class	Male	Female	Total
Professional	8	5	13
Technical and Trades	50	9	59
Commercial	5	18	23
Semi-skilled	1	0	1
Unskilled	10	9	19
Total			115(1)

(1) 12 females indicated "housewife", 50 indicated they did not know.

Students, like employees, tend to aspire to technical, trade, and commercial occupations. Of those who indicated a specific aspiration, 83% of the students, and 83% of the employed adults, aspire to the above classes of occupations as opposed to professional, semi-skilled or unskilled

occupations.

It is noted that more students aspire to professional positions than do employees. This is to be expected in view of the fact that higher education is more available to students than to those who are now employed.

The occupations to which 115 junior and senior students in schools for the deaf aspire are listed in Appendix H.

c. Parents of students in schools for the deaf

It is likely that parents exert substantial influence on deaf students with regard to the students' decision whether to seek employment or continue studies after graduation from the school for the deaf. The parents of 39 male students and of 31 female students responded as listed in table 20.

Table 20. Classification of occupations parents of deaf students wish for their children.

	Male	Female	Total
Professional	4	2	6
Technical and Trades	34	14	48
Commercial	1	15	16
Semi-skilled	0	0	0
Unskilled	0	0	0
Total			70

It is again noted that, like deaf employees and students, most parents tend to select technical, trade, and commercial positions.

None select semi-skilled or unskilled occupations. Yet, as noted earlier, most young deaf adults are employed in such occupations.

C. Vocational aptitude

It has been noted that the supervisors of 94% of young employed adults consider them average or superior in performance of their jobs, It has also been noted that most hold semi-skilled or unskilled positions.

It is highly likely, on the basis of empirical evidence alone, and supported by numerous findings already reported in this and preceding chapters, that many young deaf adults are underemployed, that they are employed in positions below their basic level of ability.

a. General Aptitude Test Battery

In order to arrive at an indication of certain classes of occupations for which the deaf show aptitude, the General Aptitude Test Battery, B 1002 (U.S. Dept. of Labor, 1962) was administered to 44 male and female senior and junior students in the two schools for the deaf in Connecticut. The reader is referred to the Guide to the use of the General Aptitude Test Battery, Section II: Norms, U.S. Dept. of Labor, for more information on the G.A.T.B.

A major problem in testing the deaf with many standardized tests concerns the heavy verbal weigh-

ting. Most tests of intelligence, for example, have a strong verbal loading. The General Aptitude Test Battery also tests for verbal skill. Psychologists to the deaf generally delete such items because they penalize the deaf. Because verbal skills are so important to many occupations, it was decided that the verbal items should also be administered to the deaf students.

b. Aptitudes of the deaf

The following table shows the mean aptitude scores of the 44 students tested by G.A.T.B. Also shown is the mean percentile of the deaf relative to the sample upon which the test battery was standardized. Each aptitude score is a T score based on a mean of 100, and a standard deviation of 20. Scores of the deaf students were tested for significant deviation from the mean of 100. A t ratio was calculated from the standard error of each mean.

Table 21. Aptitudes of 44 deaf students

Aptitude	Mean aptitude score	Percentile	Standard error of mean	t
General	81	18	1.85	10.26(1)
Verbal	73	9	.86	31.40(1)
Numerical	83	20	3.44	4.94(1)
Spatial	101	52	3.26	NS
Form perception	110	69	3.75	2.66(1)
Clerical perception	95	40	2.68	1.87(2)
Motor coordination	97	44	2.72	NS
Finger dexterity	106	62	4.65	NS
Manual dexterity	112	73	4.20	2.86(1)

(1) significant at 1% level of confidence
(2) significant at 5% level of confidence

The deaf were found to be significantly inferior to the general adult population on those four "aptitudes" which involved a verbal component, general, verbal, numerical, and clerical perception. This was to be expected. The deaf were significantly superior to the general adult population on two "aptitudes", form perception and manual dexterity. This was unanticipated. Form perception is defined as the ability to "perceive detail in objects or in pictorial or graphic material." Manual dexterity is defined as the ability to "move the fingers and manipulate small objects rapidly and accurately." No significant difference was found in spatial ability, motor coordination, and finger dexterity.

c. Occupations for which deaf show aptitude

Of 840 specific occupations rated as to necessary aptitude levels, 753 were seen suitable for one or more of the 44 deaf students. Among the

general fields of work for which one or more of the students showed aptitude were:

laboratory science	artistic arranging
managerial, industrial	quantity cooking
routine recording	bench work
mechanical repair	electrical repair
complex machine operation	structural crafts
typing, stenographic	graphic art
food serving	inspecting and testing

This list is by no means exhaustive. Most require extensive training. It is apparent that deafness precludes relatively few skilled occupations. Examples of those which were excluded for all 44 students were: medicine, engineering, pharmacy, case and group work, buying, and sales managerial positions.

The G.A.T.B. has also been used as a predictor of success in college. A minimum aptitude score of 100 on "General" has been used to predict success in junior college, 110 in a four year college, and 120 in a professional program such as medicine and dentistry. The highest score on this aptitude was 105, with two scores of 100. By this criterion, three of the 44 students would probably be successful in a junior college, none in a standard four year college. Attention is again drawn to the fact that this predictor was loaded verbally. Academic success for older deaf students is contingent on the presence of a high level of communication skill or special compen-

sation for its absence in instruction (eg., a manual communication system).

D. Vocational opportunities

The 101 immediate supervisors were asked about opportunities of the young deaf adult with and without further training. Their responses are indicated in table 22.

Table 22. Vocational opportunities of young deaf employees with and without further training, as indicated by immediate supervisors

Opportunities	With further training			Without further training		
	Male	Female	Total	Male	Female	Total
Considerable	24	7	31	10	4	14
Limited	30	17	47	34	15	49
None	12	11	23	22	16	38

With additional training, 36% of the male deaf employees have considerable opportunities for advancement under their current employment. Without additional training, 20% of the female deaf employees have considerable opportunities for advancement; without, 11%. It can be readily seen that even with additional training, vocational opportunities under the same employer remain limited or negligible for many employees, particularly female employees.

When asked about opportunities for the deaf employee with additional training, supervisors were asked why they answered as they did. Typical statements supporting additional training were,

"He can get a better job with more training," and "Depends on union status and specific job training." Another said, "With more training, he can become a senior operator with more money and higher class."

Typical of statements indicating limited or negligible opportunities even with additional training were, "I wouldn't be able to use him on any other job," and "Can't go far here because of company size." Another said, "She can't talk with customers."

It appears that additional training for many is not sufficient. In addition, there must be careful counselling preparatory to taking training, and selective job placement after.

D. Summary-Vocational aspirations, aptitudes, and opportunities

Results of this phase of the investigation indicate that:

1. Most deaf employees and their parents think the present position satisfactory.

2. Vocational aspirations of students, employees, and parents, are inconsistent with present occupations, most aspiring to jobs requiring substantial formal training.

3. Results of the administration of the General Aptitude Test Battery confirm that the deaf fall significantly below the general population on

verbally weighted tasks.

4. The deaf are superior to the general population in form perception and manual dexterity.

5. The deaf show sufficient aptitude to be successful in 753 of 840 occupations listed by the U.S. Department of Labor in conjunction with the G.A.T.B. Most of these occupations require extensive technical or vocational training.

6. On the basis of performance on a verbally weighted test of the G.A.T.B. none of 44 seniors and juniors tested in schools for the deaf is likely to succeed in a standard four year college program. Three would likely succeed in a junior college program. This finding draws attention to the need for a high degree of verbal skill or compensation through special methods of instruction, to produce success in higher education.

7. With additional training, 36% of male employees and 20% of female employees have considerable vocational opportunities in their present employment. Without additional training, 15% of the males and 11% of the females have considerable vocational opportunities in their present employment.

VI. Results-Demand for regional technical-vocational training center for young deaf adults

A. Need for additional training

The need for additional vocational preparation of the deaf is supported by the following:

1. the predominance of semi-skilled and unskilled occupations held by the young adult deaf (Ch. III; B The employed young deaf adult).

2. the substantially lower mean wages earned by young deaf adults than by the general working population (Ch. III; B The employed young deaf adult).

3. a substantially higher rate of unemployment among the young deaf adult population than among the general adult population. (Ch. III; C The unemployed young deaf adult.)

4. the limited vocational education now provided students in schools for the deaf (Ch. IV; A Vocational education in schools for the deaf).

5. the discrepancy between current occupational status and vocational aspirations (Ch. V; B Vocational aspirations).

6. the wide range of skilled occupations for which young deaf adults demonstrate aptitude but for which the deaf are not currently trained (Ch. V; C Vocational aptitude).

7. the limited aptitude of most deaf students for higher education (Ch. V; C Vocational aptitude).

8. the limited opportunities of young deaf adults in their current employment without additional vocational training (Ch. V; D Vocational opportunities).

It is evident, on the basis of the above findings, that the young deaf adult population has a need for more advanced vocational education than is currently received.

However, results of interviews with the immediate supervisors of young deaf employees suggest that even with additional training many young deaf adults have limited opportunity for advancement in their current employment settings (Ch. V; D Vocational opportunities). It can be inferred that vocational counselling, training, and placement are related to vocational opportunity.

B. Approval of regional technical-vocational training center

a. Parents

The parents of deaf students in schools for the deaf, parents of graduate students, and parents of employed young deaf adults, were asked whether or not they approve of the concept of the regional technical-vocational training center.

Their responses are as listed in table 23.

Table 23. Approval by parents of regional technical-vocational training center for young deaf adults.

	Parents of Students, School for the deaf	Graduate Students	Employed Adults	Total
Approve	103	39	67	209
Disapprove	1	0	1	2
Undecided	8	7	4	19
Total	112	46	72	230

It is apparent that most parents of deaf students and young employed deaf adults, (91%) approve of the concept of a regional technical-vocational training center for young deaf adults. Some, while they indicated approval in general, stated that they prefer their child to attend a center with hearing peers.

Parents were asked to state why they approved or disapproved of such a center. A sample of their reasons is given in Appendix I.

b. Deaf students and employees

Deaf students in schools for the deaf and young deaf employees also were asked whether they approved of the concept (liked the idea) of a regional technical-vocational center for young deaf adults. Table 24 indicates their responses.

Table 24. Approval by deaf students and employees of regional technical-vocational training center for young deaf adults

	Students, Schools for the deaf	Employees	Total
Approve	117	85	202
Disapprove	16	3	19
Undecided	44	13	57
Total	177	101	278

Most deaf students and employees (73%), like their parents, approve of the idea of the regional technical-vocational training center for young deaf adults.

C. Preference for attendance with deaf on hearing peers

Students and young employees were asked whether, if they continued their education beyond the school for the deaf, they would prefer to have deaf or hearing peers, or whether it didn't matter. Their preferences are indicated in table 25.

Table 25. Preference of students and employed young deaf adults for attending school with deaf or hearing peers

Preference	Students	Employed Adults	Total
For deaf peers	93	50	143
For hearing peers	37	21	58
Doesn't matter or undecided	47	30	77
Total	177	101	278

Of the 278 students and employees interviewed, 143 or 51% preferred to attend school with deaf peers, 21% preferred to attend with

hearing peers, and 28% stated no preference. Asked why their preference was as it was, those who preferred to attend with deaf peers tended to give three reasons: (a) because of difficulty in conversing with hearing people, (b) because sign language might be used for instruction if they had deaf peers, (c) because they had more deaf friends. Those who preferred to attend with hearing peers tended to give three reasons for their preference: (a) make hearing friends, (b) to be given more intensive instruction if in a school with hearing peers, (c) to improve their speech.

D. Potential enrollment in regional technical-vocational training center for the deaf

a. Parents

Parents of junior and senior students in schools for the deaf and parents of employed young deaf adults were asked if they would encourage their deaf son or daughter to enroll in a technical-vocational school for the deaf in the coming fall (or next fall in the case of juniors), finances being no problem. Table 26 is a record of their responses.

Table 26. Indications whether parents would encourage sons or daughters to enroll in regional technical-vocational center for the deaf

	Parents of Students, school for deaf	Employed adults	Total
Yes	91	46	137
No	14	4	18
Undecided	7	22	29
	112	72	184

It is evident that most parents (74%) would encourage their deaf sons or daughters to attend a technical-vocational center for the deaf next fall (or one year from next fall for juniors), financing being no problem.

Table 27. Indications whether students and employed adults would return to technical-vocational center for the deaf next fall

	Students, Schools for deaf	Employed adults	Total
Yes	75	57	132
No	19	31	50
Undecided	83	13	96
	177	101	278

It is noted that a large number of students were undecided whether they would attend a technical-vocational center if this were available. Presumably many of these students would be strongly influenced by their parents and the school for the deaf. By conservative estimate, at least 50% of those who are now juniors and seniors in schools for the deaf would enroll in a technical-vocational program. It appears also that over 50% of the

young deaf adults would terminate their present positions to return to such a center if one were available in the fall.

E. Summary-Demand for regional technical-vocational training center for young deaf adults

Results of this phase of the investigation indicate that:

1. on the basis of rate of unemployment, occupational level, wages, present conditions of vocational education in schools for the deaf, level of aptitude, and limited vocational opportunities, there exists a need for more advanced vocational education of the deaf.

2. there exists a need for ancillary vocational counselling and placement services.

3. most (91%) of the parents of deaf students and employees approve of the concept of the regional technical-vocational center for the deaf.

4. given a choice, 51% of the students in schools for the deaf and employed adults prefer to attend school with deaf peers, 21% with hearing peers, and 28% have no stated preference.

6. 81% or more of the parents of junior and senior students in schools for the deaf, and 64% or more of parents of young deaf employees, would encourage their son or daughter to enroll

in a technical-vocational training center for young deaf adults next fall, finances being no problem.

7. over 50% of the graduating students in schools for the deaf indicated they would attend such a center next fall if finances were no problem and the center were available.

8. over 50% of young deaf employees would attend such a center next fall if available, and if finances were no problem.

V11 Discussion

A. Occupational status of the young deaf adult

Several criteria were used to assess the occupational status of the young deaf adult in New England. All lent support to the general finding that the occupational status of the young deaf adult is substantially lower than that of the general population.

In spite of the fact that special educational services are provided deaf children in schools for the deaf until approximately age eighteen, and in spite of the fact that 56% proceed to other educational programs after graduation from the school for the deaf, they remain at an economic disadvantage.

The young deaf adult is highly unlikely to enter a profession. The typical deaf student graduates from a school for the deaf with an educational achievement level at or below the ninth grade (Fusfeld, 1955), at least three years behind his hearing peer. No young deaf adults in the sample were found to be professionally employed.

Of the 101 employees interviewed, 66% were engaged in semi-skilled and unskilled positions, neither of these occupational classes as defined for this investigation requiring formal training prior to employment. Technical and trade, and commercial positions were held by 34%. It is

notable that the number of male deaf employees in semi-skilled and unskilled positions is approximately twice that of the general national population.

Wages also were used as an indicator of occupational status. Several criteria were used to compare the wages of the sample with those of the general population. Various estimates placed the wages of the deaf at between 22% and 35% below those of the non-deaf. Undoubtedly, much of this difference can be attributed to the fact that semi-skilled and unskilled positions pay less than skilled positions.

A third criterion of occupational status, rate of unemployment, was also introduced. 20% of the potential employment force (excluding students, housewives, and permanently disabled) were found to be unemployed. This figure represented approximately four times the unemployment rate of Connecticut and Massachusetts.

It is evident that employment conditions today are unfavorable to the young deaf adult.

Yet the employed young deaf adult tends to be a satisfactory or superior employee. 95% of the 101 supervisors who had deaf subordinates reported these subordinates to be average or above average in their job performance. 39% were judged to be above average.

93% of the supervisors indicated they were satisfied to have at least one deaf subordinate, and 77% indicated they would favor more deaf employees than they now have.

In spite of the above facts, 87% of the deaf employees have limited or no opportunity for advancement in their present employment without additional training.

B. Occupational potential

The relatively low occupational status of the young deaf adult might easily be attributed directly to his deafness, particularly as it relates to communication. Several problems associated with deafness were indicated by supervisors. The major problem, mentioned by 26 of the 101 supervisors interviewed, concerned the problem of communication with the deaf employee. 62% of the deaf employees indicated they use other media (primarily writing) in addition to, or in place of, speech to communicate to the supervisor, and 56% of the deaf employees indicated their supervisors use other media in addition to, or in place of, speech to communicate to them. Undoubtedly, communication is a significant variable.

Results of the administration of the General Aptitude Test Battery revealed that, even when the verbal factor was retained in the Battery, one or more of the students tested showed an aptitude for

753 of 840 occupations listed. The verbal deficit of the deaf is apparently no major deterrent to success in many occupations. However, most of the 753 occupations for which the deaf reveal an aptitude require an extensive vocational education.

It is evident that the deaf tend to have considerable untapped vocational aptitude which can be used to upgrade their occupational status when supported by appropriate vocational training, counselling, and placement.

The need for appropriate counselling and placement is indicated by a finding that even with further training, only 36% of the male employees and only 20% of the female employees have considerable opportunity for advancement under their present employment. It is evident that major advancement for most young deaf adults is not to be expected from upgrading their present skills but from providing them with new skills and placing them directly into new skilled occupations. Few, for example, can be expected to be promoted into supervisory positions requiring more communication. It therefore becomes vital that they enter directly into as highly skilled positions as their aptitude and training permit.

C. Occupational Aspirations

Employed young deaf adults were asked how they felt about their jobs. While most find their present

occupations satisfactory, less than half apparently like their jobs.

Of those who indicated a vocational aspiration, 83% of students and 83% of young employed adults aspire to occupations which require extensive formal training. Yet only 33% hold such positions. It is evident that the aspirations of young deaf adults are substantially higher than their present occupations. Again the need for an advanced vocational education program for the deaf is suggested.

D. Current vocational preparation

The schools for the deaf in New England all provide a program designed to introduce students to job-related skills. None, however, provides a program which can be considered both comprehensive in its vocational education offerings and extensive in teaching terminal vocational skills of a high order. One school for the deaf, the largest in New England, employs nine full-time vocational education teachers, yet considers its program less than adequate for the vocational education needs of its students. These schools in fact offer prevocational rather than vocational training.

B. Williams (1946) stated "Vocational training in a definitive sense is neither possible nor desirable in residential schools for the deaf." This statement is supported by the results of this investigation within New England schools for the deaf. It is likely

that most administrators of schools for the deaf are in agreement with this statement. However, until such time as a superior program is established, few would be prepared to modify their vocational education programs as they now stand.

All the schools for the deaf in New England encourage those students likely to profit from studying with hearing students to do so. This is reflected in the fact that many of the graduates of these schools subsequently attend schools for hearing students. Presumably most of these students are encouraged to do so by administrators in schools for the deaf.

Selection of students to enter programs for hearing students must be made with considerable care. Most deaf students at graduation from the school for the deaf are at least three years retarded academically, and probably considerably more in the language areas of reading and writing. In addition, most have severely deficient oral language skills (speech and speech reading). This is borne out by the fact that of the 101 deaf employees interviewed, only 38% indicated they can communicate to their supervisor through speech alone, and only 44% have sufficient residual hearing or lipreading ability to receive information from their supervisor exclusively through oral means. The extent of interaction

between instructor and student is increased greatly. It is evident that unless a student has communication skills and an academic achievement level superior to the typical deaf child, instruction with hearing students may be a frustrating and unprofitable experience for him.

Most parents indicate that their deaf children in hearing programs experience difficulty in such programs, particularly with regard to communication. On the other hand, most administrators of hearing schools attended by one or more deaf students report relative success with these students. The expressed criterion of success appears in many instances to be social rather than academic.

Undoubtedly, some students profit greatly from such an experience. Evidence of such success is one member of the research group which conducted this investigation. One of the four interviewers is a graduate of one of the New England Schools for the deaf who has since received a doctorate in Clinical Psychology from a New England University.

The fact remains, however, that in spite of the number of deaf students who proceed to hearing programs (probably a greater number than in any other six state region in the country), the typical young deaf adult retains a relatively low occupational status.

E. Regional technical-vocational training center for young deaf adults

The need for provisions for advanced training for the young deaf adult is apparent. By numerous criteria, occupational conditions for young deaf people today are poor. Their occupational status and wages are low, their rate of unemployment high. These conditions will further deteriorate unless their training needs are better met.

Schools for the deaf cannot be expected to provide comprehensive vocational training. Their primary purpose is, and should remain, to provide a basic education for their students. Numbers of students in each school for the deaf preclude a comprehensive vocational training program. In addition the serious educational lag of the deaf student demands that major focus be on the academic program.

Nor can any but the exceptional deaf student be successfully trained in a regular vocational education program for hearing students. The nation has for one hundred years supported a college for the deaf in recognition that most deaf students, gifted though they might be, continue to require the services of a faculty uniquely trained in special methods of instruction and special methods of communication. This requisite holds for the student being trained for a technical, trade, or commercial career.

The sample of young deaf adults in this investigation

has had the opportunity to participate in one or both of the above services. Nevertheless, their occupational status in general has remained unsatisfactory.

A third attack on the problems concerning vocational education of the deaf has recently been undertaken in several centers throughout the nation. An effort has been made to introduce young deaf adults into rehabilitation programs for the generally handicapped. Such an approach is seen as having no advantage over training in regular training programs unless instructors are specially prepared to teach the deaf. In teaching a mixed group of deaf and hearing adults, there must be a compromise in the instruction given either the deaf or hearing.

The numbers of students enrolled in such programs are small. Even if adequate vocational training is available to the deaf, their ability to train a large proportion of the 2,000 or more deaf students who annually graduate from schools for the deaf without major expansion is questioned.

Out of concern about the ability of the school for the deaf or other established institutions to provide training necessary to assure skilled employment for the deaf, a fourth proposal was investigated - the regional technical-vocational training center for the deaf.

The need for additional training for the deaf having been clearly established, the demand for such a center was investigated. Unequivocal approval of such a center was given by 91% of the parents of deaf students and employees, and by 73% of the deaf students and employees themselves. Only 2 of 230 sets of parents and only 19 of 278 students and employees, clearly disapproved of such a center.

Because approval and actual attendance at such a center cannot be equated, the same parents were asked whether they would encourage their son or daughter to attend such a center. Of 112 parents of juniors and seniors now in schools for the deaf, 91 indicated they would in fact encourage their son or daughter to attend a regional technical-vocational center for the deaf, finances being no problem.

When asked if they would attend such a center upon graduation from the school for the deaf, only 19 of 177 juniors and seniors indicated clearly they would not attend. 75 indicated they would, and 83 were undecided. 57 of 101 employees indicated they would terminate their employment to return to such a center for additional training, given the opportunity.

It is apparent that both parents and young deaf people perceive a need for such a center. It is equally apparent that most students would depend upon such a center for their training.

It has been repeatedly stated that although the results of this investigation indicate that the regional technical-vocational center could best serve the needs of the majority of young deaf people, the other alternatives for vocational training should not be excluded for all students. Some have both the aptitude and desire for higher academic education through other specialized institutions for the deaf or through regular programs for hearing students. Others would be unwilling to extend their training beyond graduation from schools for the deaf. Still others, possibly with secondary physical disabilities, would profit from more general rehabilitation services. However, results of this investigation support the position that vocational education for the deaf can be best conducted for most deaf students on a regional basis, under a faculty of vocational educators specially prepared to provide instruction and ancillary services to the deaf.

F. Conclusions

The following conclusions are derived from this investigation:

1. The occupational status of, and general employment conditions for young deaf adults in New England are substantially lower than those of the general population as evidenced by (a) a preponderance of young deaf adults employed in semi-skilled and unskilled occupations, (b) low wages, (c) unemployment rate.

2. Employed young deaf adults perform well in their jobs as evidenced by the favorable reports of most supervisors regarding job performance and willingness to have one or more deaf subordinates.

3. Communication skill of young deaf persons should be given major consideration in their vocational counselling, training, and placement.

4. The vocational aptitude of young deaf adults is significantly superior to the general population in areas requiring refined manual dexterity and form perception, and inferior in those areas requiring substantial verbal skill.

5. The deaf are restricted from relatively few technical, trade, and commercial positions because of deafness alone.

6. Opportunities of the deaf for advancement under their present employment, with or without further training, are relatively limited. Training should be

followed by placement which introduces the young deaf adult to skilled employment at the highest initial level possible.

7. The occupational aspirations of young deaf adults are substantially higher than present occupational levels, and generally require extensive training.

8. Training programs now conducted by schools for the deaf tend to be prevocational rather than vocational in substance.

9. Deaf students should not be encouraged to study in programs geared to hearing students unless they are substantially superior to most deaf students in their ability to communicate verbally and in their general educational achievement.

10. Both parents of the deaf and the young deaf adults themselves perceive a need for technical-vocational training centers for young deaf adults.

11. Most deaf students and young adults would attend a technical-vocational training center for young deaf adults, given the opportunity.

G. Implications

a. For practice

The implications of this investigation are of major significance to the deaf population. While the sample used in this investigation cannot be directly generalized to the nation as a whole or to the older deaf population of New England, the results are highly suggestive of a more generalized pattern.

The low occupational status of the deaf demands the serious attention and concern of educators of the deaf, authorities in rehabilitation, parents of the deaf, and particularly deaf adults themselves.

There is no apparent reason to believe that efforts to prepare young deaf adults vocationally have deteriorated; rather, the economy has changed. Without modification in the vocational preparation of young deaf adults, an already critical problem will worsen.

Any contemplated modification in the vocational preparation of young deaf adults should meet the following criteria:

1. Provisions for training young adults in a sufficient range of areas to encompass the individual aptitudes, interests, and local job opportunities of each trainee.

2. Compensation for the problems in communication encountered by most deaf people, notably through specialized methods of instruction.

3. Provisions for prevocational evaluation, counselling, and job placement.

4. Acceptance of the program by young deaf adults and their parents.

Regional technical-vocational training centers for young deaf adults could best meet these criteria. Such centers might serve the population of several states. This would permit each center to serve several hundred trainees at one time and thereby make it feasible to provide a thoroughly comprehensive training program.

These centers might be located in industrial and commercial areas to permit meaningful work experiences in conjunction with formal training.

The faculty of such centers could be trained or recruited from those already trained, to instruct the deaf. Provisions for the preparation of instructors of the deaf are already available under Public Law 87-276, soon to be absorbed under Public Law 88-164.

These centers would also have major consequences for the general education of the deaf child. Assured provisions for the vocational preparation of the student after graduation from the school for the deaf, educators could devote substantially more attention to the linguistic and general academic areas of the curriculum.

It should not be inferred that the establishment of regional technical-vocational training centers for

young deaf adults would serve the best interests of all young deaf adults. As stated earlier, the various proposals for vocational education of the deaf are not mutually exclusive. Alternative programs, in addition to the regional center, can assure that not most but all deaf students are trained to the upper limit of their aptitudes and interests.

b. For further study

A second investigation now in progress in the southwest area of the nation will provide information on the occupational status and training of young deaf adults in that area. This second investigation will add substantially to the information collected during the investigation in New England and indicate also the extent to which the findings in New England can be generalized.

Such a proposal as the development of regional technical-vocational training centers for young deaf adults demands considerable study before implementation. Such problems as coordination, financing, selection of the curriculum, location of centers, etc. will require major planning. It may be that the early establishment of one such center as a demonstration is warranted.

The ultimate evaluation of regional centers must await their establishment. At that time, research can determine the effect of the training provided on occupational status, the validity of provocational evaluations, and other such variables.

In the meantime, several studies are suggested directly from this investigation. Useful information would be obtained, for example, from an intensive study of deaf students who proceed to programs for hearing students at the secondary level. A more detailed study of the verbal interaction of the deaf employee with fellow employees and his supervisor might suggest those aspects of language which most need strengthening. Also, the older deaf adult should be studied as has been the young adult in this investigation.

This investigation was for the most part descriptive in nature. However, it was necessary at times to extend beyond pure description, particularly as concerns the need and demand for a regional technical-vocational training center for young deaf adults. Final evaluation must be after the fact.

Over 2,000 young deaf adults enter the employment force annually. Without extensive changes in their vocational preparation, most of these young people face highly unfavorable employment conditions.

V111 Summary

The purpose of this investigation was to assess the occupational status of the young adult deaf of New England and their opportunity for advancement, and to determine the need and demand for a regional vocational-technical training center.

Two populations were studied. The first group consisted of all juniors and seniors in nine schools for the deaf in New England. The second group was comprised of graduates or dropouts from the nine schools from 1957 to 1963 inclusive.

177 current juniors and seniors were interviewed and questionnaires were sent to all parents. In addition, the G.A.T.B. was administered to 44 of the juniors and seniors in the two Connecticut schools for the deaf.

Interviews were conducted with 101 employed young deaf adults and their immediate supervisors and questionnaires were sent to parents.

Letters requesting information were sent to principals of hearing schools having one or more graduates of a school for the deaf.

Responses indicate that 91% of the parents of deaf students and employees approve of the concept of the regional technical-vocational training center. 81% of the parents of current students and 64% of the parents of young deaf employees would encourage their son or

daughter to enroll in such a center. 73% of the deaf students and employees approve of the concept of a regional vocational-technical training center, and over 50% of each group declared they would attend such a center.

Young deaf adults appear to be significantly superior to the general population in the areas of form perception and manual dexterity, and significantly inferior in verbal areas.

A high percentage of graduates of New England schools for the deaf continue their studies in other programs. Hoeever, the occupational status of the young adult deaf of New England remains low in comparison to the general population. 71% of the male and 54% of the female young deaf adults are employed in unskilled or semi-skilled occupations. The unemployment rate of 17% of the total employment force of young deaf adults is approximately four times that of the general rate for the State of Connecticut. On all bases of comparison, the salaries of the young deaf adults interviewed are considerably lower than those of the hearing. By the criteria of rate of unemployment, occupational level, and wages, the occupational status of the young deaf adult of New England is lower than that of the hearing.

In spite of the fact that 95% of deaf employees were rated as average or above workers by their

immediate supervisors, little chance for advancement was perceived for most of them.

There is a need to upgrade the vocational and technical skills of the deaf. The deaf possess aptitudes to be trained for many highly skilled positions, but schools for the deaf are able to provide training in a limited number of fields. Most training is of a pre-vocational nature.

Parents and young deaf adults themselves perceive a need for a regional vocational technical training center and express their support for its establishment. The results indicate that a regional center, complemented by vocational counselling and judicious placement could best serve the vocational education needs of most young deaf adults.

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Appendix A

(Space for responses has been deleted for purpose of report)

INTERVIEW WITH YOUNG DEAF ADULT

1 Vital Information Date _____

a. Name _____
b. Birthdate _____ c. Male or female ____
d. Address _____ Phone _____
e. Parents
(1) Name _____
(2) Address _____ Phone _____
f. Marital Status
(1) Married _____
(a) number of children _____
(2) Single _____
(a) engaged ____
(b) go steady _____
(c) neither _____
g. Are you:
working (employed) _____
Housewife _____
Student _____
None _____
(if "none", explain, i.e., unemployed, etc.)

II Occupational Status (do not ask II, III or IV if continuous student)

a. Jobs to present:
First Job
Company _____ Address _____
Description of work _____
Dates of employment _____
Reason for departure _____
Present on last job:
Company _____ Address _____
Description of work _____
Dates of employment _____
Reason for departure _____
Still working there _____
Departed _____
(if "departed", give reasons.)

TTT Job Satisfaction and Communication (Ask III if presently employed full or part time)

a. How did you find your job? (Vocational Rehab., want ad, employment service, friend, parents, school, etc.) _____
b. Do you like your job? _____

Appendix A (continued)

III (continued)

like it very much _____ o.k. _____
Dislike most things about it _____

c. Why do you feel this way about your job?
_____

d. Do you want to keep your job or would you want to change?
Keep my job _____ Change jobs _____

e. If the answer is "Change Jobs" why do you want to change? _____

f. How do you communicate with your boss (immediate supervisor)? speech _____ writing _____
formal signs _____
natural gestures _____

g. Does your boss understand you?
always _____ most of the time _____
sometimes _____ never _____

h. How does your boss communicate with you?
speech _____ writing _____
formal signs _____
natural gestures _____

i. Do you understand your boss?
always _____ most of the time _____
sometimes _____ never _____

j. Do you think your boss would give you a better job if one were available?
yes _____ no _____ not sure _____

k. If "no", why? _____

IV Economic Status (Ask Part IV only if presently employed full or part time.)

a. Do you work full time? _____
Average no. of hours _____
Do you work part time? _____
Average no. of hours _____

b. Not including overtime, how much money do you earn each week? _____.

c. Do you ever work overtime? yes ___ no_____

d. If yes, how much money, on the average, do you make each week on overtime? _____

e. Do you receive financial help from anyone? (excluding husband and wife). _____

f. If "yes" from whom? Give average weekly amount. (count room and board at $15.00 per week).
Source _____ Average weekly amount _____

V Aspirations

a. What occupation would you like to have in ten years? (Female may choose housewife)

Appendix A (continued)

V (continued)

b. Do you think that you will have that occupation in ten years?
Yes _____ no _____ not sure _____

c. Would this job require more training?
yes _____ Kind of training _____
no _____

d. If the answer to Vb is "no" or "not sure", why won't you have that job? _____

e. If finances were no problem, would you go to a vocational or technical school next fall? (or the fall after next, if a junior?
yes _____ no _____ not sure _____

f. Would you attend night classes at such a school? yes _____ no _____ not sure _____

g. Would you prefer to go to school with:
hearing students _____ deaf students _____
doesn't matter _____

h. Why? _____

i. Do you like the idea of a vocational and technical school for young deaf people who do not go to college?
yes _____ no _____ not sure _____

j. Why? _____

k. If you went to school next fall (for junior, "another school the year after next") what would you want to study?
direct training for a job _____
speech _____ speech reading _____
language _____ reading _____
other, specify _____

VI Students To be asked in addition to Sections I and V.

a. Where do you go to school? _____

b. When you leave school what do you plan to do?
1. go to college _____ (if currently in college, graduate studies) _____
2. go to work _____
a. what kind of work will you look for _____
3. other (explain) _____
4. undecided _____

c. Have you ever had any summer or part-time job?
yes no _____

d. If "yes" describe: _____
Location _____
Duration in minutes _____
Interviewer _____

Appendix B.

(Space for responses has been deleted for purpose of report)

INTERVIEW WITH IMMEDIATE SUPERVISOR

1. General Information Date _____
   a. Name of deaf employee _____
   b. Company _____ Address _____
   c. Supervisor being interviewed:
      Name _____ Position _____

II Current occupational status of employee:
   a. Describe in detail the work performed by the employee: _____
   b. Describe all previous jobs, if any, held by the employee in this company: _____
   c. If the employee has held different jobs, does his present job constitute:
      a promotion _____ a demotion _____
      neither _____
   d. If the employee has held different jobs, is his salary now: higher _____ lower _____
      the same _____

III Training
   a. In order to acquire proficiency in the employee's present job, what is required? (check one)
      1. simple demonstration _____
      2. on-the-job training _____
      3. classes conducted by company _____
      4. possession of trained skills _____ **(prior to hiring)**
   b. Describe any training required prior to hiring for present job. _____
   c. Do you feel that additional training, ie. night classes, trade school, etc. would benefit the employee?
      yes _____ no _____ not sure _____
   d. Why? _____
   e. What opportunities for advancement do you think he has before him in your company without further training?
      considerable _____ limited _____ none _____
   f. Why? _____
   g. What opportunities exist with further training?
      considerable _____ limited _____ none _____
   h. Why? _____
   i. List any jobs in your company which you feel that the employee could handle with more training. _____
   j. If you are in favor of further training for the employee, what type of training would you suggest? _____

Appendix B. (continued)

IV Communication

a. How do you communicate with this employee?
speech and speech reading _____
writing _____ gestures _____
sign language _____ finger spelling _____

b. Have you learned sign language?
yes _____ no _____

c. Does the employee understand your instructions?
always _____ usually _____
occasionally _____ never _____

d. How well do you understand his speech?
all of it _____ most of it _____
some of it _____ none of it _____

V Productivity

a. How would you rate this employee in comparison with others doing the same job?
above average _____ average _____
below average _____

b. Can you list any aspects of the employee's job which are complicated by his deafness?

_____

c. Name some personal qualities, if any, of the employee which you feel contribute to his value as a worker.

_____

d. Name some personal qualities, if any, of the employee which detract from his value as a worker.

_____

VI Attitude of immediate supervisor

a. If the decision were yours, would you favor having more deaf people working under you?
yes _____ no _____ not sure _____

b. If "no" or "not sure", why?

_____

c. Would you prefer not to have deaf employees working under you?
yes _____ no _____ not sure _____
why? _____

d. Any additional comments you care to make.

_____

Location _____
Duration in minutes _____
Interviewer _____

Appendix C

(Space for responses has been deleted for purpose of report)

QUESTIONNAIRE FOR PARENTS

Please follow these guidelines in answering this questionnaire:

1. This questionnaire should be filled in by the two parents or guardians together, if possible, and reflect the thinking of both.

2. If the parents disagree about an answer, start the answer by writing "disagree" and proceed to give both answers.

3. Answer all the questions that apply to your son or daughter. You will be unable to answer some if your son or daughter is still in school.

4. It is important that you understand what is meant by "vocational-technical school". We refer to a vocational-technical school as a school for young deaf adults offering a broad range of instruction to prepare students for occupations consistent with the upper limits of their ability. Some students would learn semi-skills, some would learn trade skills, some would learn highly technical skills. All would be prepared for occupations for which there will be a demand in years to come.

I. General Information

a. Deaf son or daughter's full name _____
Address _____ Age _____
male _____ female _____
b. Parents' name _____
Address _____
c. Father's occupation _____
Company _____ address _____
d. Mother's occupation (note if housewife) _____
Company _____ address _____

II. Occupational status of son or daughter

a. Is your son or daughter:
working full time _____
working part time _____
going to school _____
looking for work _____
a housewife not employed outside _____
other (please explain) _____

Appendix C (continued)

II (continued)

b. If your child is working, please describe his job: _____

c. Do you feel that this is a good job for your son or daughter?
yes _____ no _____

d. Why? _____

e. What do you believe would be a good job, given the necessary training, for your son or daughter? _____

f. Why? _____

III Training (only for parents whose children have left the school for the deaf)

a. Did he or she continue to go to school after leaving the school for the deaf?
yes _____ no _____

b. If "yes"
1. name of school _____
2. address _____
3. general course taken _____
4. length of course _____
dates attended _____
5. Did he or she graduate?
yes _____ no _____
6. What was the total cost to you personally? (books, tuition, board, transportation, etc.)

_____

7. Did he or she receive any outside financial assistance?
yes _____ source _____
no _____ amount _____
8. Did your child encounter difficulties of any kind during his course?
yes _____ no _____
9. If "yes", describe

_____

IV Vocational-technical schools

a. Do you approve of the idea of vocational-technical schools for young deaf adults after they complete their studies at a school for the deaf?
yes _____ no _____ not sure _____

b. Please respond to either b1 or b2.
1. I approve of the idea of vocational-technical schools for young deaf adults because:

_____

Appendix C (continued)

IV (continued)

2. I do not approve of the idea of vocational-technical schools, for young deaf adults because:

_____

c. Assuming that finances would be no problem, if your son or daughter had the opportunity to attend a vocational-technical school for young deaf adults next fall or the year after, would you encourage him or her to go?
yes_____ no_____ not sure_____

d. Why?

_____

e. If "yes", what would you like him or her to study?
1. _____
2. _____
3. _____

V. Other children (indicate whether hearing, deaf, or hard of hearing)

1. Names	Age	Sex	highest grade completed (note if still in school)

2. Fill in for any hearing son or daughter presently employed.
name_____ weekly wages_____
job description_____

Signature of person
filling in questionnaire_____

Relationship to young deaf person.

father_____

mother _____

other (specify)_____

Appendix D

(Space for responses has been deleted for purpose of report)

QUESTIONNAIRE FOR HEADS OF HEARING PROGRAMS

1. Current or former deaf student: _____
2. Status of student: (please check one)
   current student _____ graduated _____
   certificate of attendance _____
   dropped out volitionally _____
   dismissed before graduation _____
3a. Level and type of program in which student is or was registered: (please check one)
   Junior high school academic _____
   High school academic _____
   College academic _____
   College technical _____
   Non-college technical or vocational _____
   Commercial _____
3b. If non-academic, area of special studies: _____
4. Length of program (years or months) in which student enrolled: _____
5. If student terminated studies before graduation, reason: (please check one)
   not equipped intellectually _____
   problem of communication _____
   not sufficiently motivated _____
   could not adjust socially _____
   other _____
6. General performance as a student: (please check one)
   superior _____ average _____
   below average _____
7a Subjects in which student shows (showed) superior strength: _____
7b Subjects in which student shows (showed) a deficiency: _____
8a. Student receive special tutoring in school? (please check one) yes _____ no _____
8b If yes, how much and in what areas? _____
9. Other students' general acceptance of deaf student socially:(please check one)
   favorable _____ unfavorable _____
10. On the basis of this student alone, how would you feel about accepting another comparable student? (please check one)
   favorable _____ unfavorable _____
   Why? _____

Please add on the reverse side of this page any information which is not specifically requested in this questionnaire but which might add to the investigation.

Appendix E

(Space for responses has been deleted for purpose of report)

FORM FOR ADMINISTRATORS OF SCHOOLS FOR THE DEAF

NAME OF SCHOOL _____

1. Types of dipolomas awarded:

   academic _____

   vocational _____

   other _____

2. No. of academic teachers employed by school _____

   No. of vocational teachers employed by school _____

3. Vocational courses offered (exclude home ec. and art):

   _____

4. Average no. of clock hours per year per student spent in vocational training.

   Seniors _____ hours

   Juniors _____ hours

   Sophomores _____ hours

   Freshmen _____ hours

Appendix F

Problems produced by deafness as indicated by supervisors of deaf employees

Male

-makes it a little difficult to explain to
-communication
-communication with other workers and with boss
-difficult to tell whether type has fallen properly by hearing, sales work, telephone usage
-can't hear the machine becoming dull
-must learn visually or by feel rather than hearing when a cutter becomes dull
-telephone use
-telephone communication, conversation with others
-difficult to give him directions, dislikes noise of main operation which upsets him
-can't hear the clicking of machines when they begin to break down
-difficult to work in fuselage assembly because you need to communicate with person on outside
-communication is difficult. Has many accidents because he is unable to hear warnings of machine
-unable to hear the change in machine sound when it is ready to break down
-doing any of the office work that requires hearing
-little more difficult to get directions across
-instructions for jobs take much more time
-difficult to warn him of danger, needs to be careful with high powered machines
-communication
-communication, backed into things because he can't hear, unable to hear sound warning devices on machines
-difficult to get his attention from a distance
-can't adjust mower, hard on equipment
-can't hear milling machine work properly
-I think he understands and then find he does not
-can't explain finer points of techniques to him, takes longer for instructions
-can't hear slugs drop in linotype machine
-can't tell when a machine is ready to break down by its sound
-needs to be careful with meat cutting machine so that he does not injure himself
-not being able to cummunicate with customers
-use of telephone
-doesn't hear the whistle when the oil tank is filled. I tried installing a device so to eliminate the whistle, but it don't work all the time

Appendix F (continued)

Female

-if machine breaks down or loses oil, she can't hear the whining
-communication problems
-only drawback is communication
-using the telephone which is sometimes important
-work requires checking which involves communication
-not after she has learned what to do and what is expected of her
-not being able to communicate well with customers and to answer phone calls
-speech is not good enough for other employees to understand her. May not be able to do the work alone. Wouldn't leave her alone without other people with her
-not able to express herself
-lack of communication--when her back is turned supervisor has to go over to her in order to talk to her
-communication, cannot hear intercom on the telephone
-difficulty of understanding oral instructions

Appendix G

Description by parents of difficulties encountered by children who continued education in hearing programs after graduation from schools for the deaf

"Spelling and English"

"He was continually failing in English and literature mainly because one particular teacher couldn't or wouldn't accept the challenge of teaching to his type of handicap."

"My son is not a good lip reader, so had communication problem."

"Difficulty in reading and understanding new words unfamiliar to her. Her vocabulary is limited and reading habits give her difficulty. Meaning of words that are similar."

"English courses too advanced for a deaf child. School would not lower standard and give any English to _____. Therefore, she could not graduate."

"Poor in English grammar. Difficulty in understanding mathematics as more advanced work is encountered."

"He went from tenth in class to about 40th. A teacher of normal hearing children goes too fast for a deaf child."

"Subjects handling abstract matters like humanities, western civilization, and analytical geo. were very difficult for him to absorb and he became discouraged with repeated failure."

"Some subjects posed difficulties."

"They said he has a low I.Q."

"Some of the older teachers weren't able to make themselves completely understood during class."

"He just couldn't keep up with the grades he made up to and through high school. Became nervous and discouraged and dropped out end of first semester, second year."

"She didn't understand her teachers."

"Not sure. However, a partly deaf child must have individual attention. They cannot grasp spoken instructions, as it is given too fast."

Appendix G (continued)

"Some teachers hard to lip read. School gives her continued help on vocabulary development and speech."

"_____ has found it harder in the past two years of high school but was on the honor roll in junior high school."

"Most teachers are not familiar with the deaf in class and forget to face them when speaking. However, she had full cooperation."

"Difficulty in understanding oral instructions."

"Public schools do not have the inclination or the interest in handling hearing problem children. In fact, if my wife had not been interested in home studies _____ would have been a complete failure (I could fill a book on my opinions about public schools, hard of hearing or other schools)."

"History, with its demand for memory and vocabulary, almost swamped my daughter. She came from school for deaf with such a limited vocabulary."

"Due to her hearing loss, _____ does not get everything said to her."

"Difficulty in understanding the language."

"Reading lips of teachers who talked too fast. Not understanding a word here and there in sentences and paragraphs, which confused him."

"Business arithmetic."

"Hearing some teachers. Courses more advanced and difficult than at deaf school. At first, lack of communication with hearing students."

"The teachers are not trained to teach the deaf and do not take any interest in them. They do not offer and do not seem willing to give any extra help."

"Transition during first year of high school was very difficult. Teachers seemed to lack patience in trying to explain subjects."

"In the kitchen (studing to be baker) he did well. In the classroom, where the instructor and students could hear, he could not follow oral discussions, as they spoke too fast."

"Communication, vocabulary"

Appendix G (continued)

"Biggest problem seems to be in getting the daily assignments. Most teachers thoughtless about this. Many give oral tests with no provision for the deaf pupil."

"We believe that in taking tests she could not understand completely the questions given."

"She has great trouble writing clear, grammatical English, though her knowledge of grammar is good. She does not seem able to acquire a feeling for usage."

"Experiments and conversation in chemistry. Class hard to follow."

"Having some trouble getting all the subjects but is working very hard, and we have high hopes for him."

"English was difficult for her."

"Usual difficulties--lip reading teacher in classroom situations, etc."

"We found teachers needed to understand communication problems. With one exception, all were most helpful. In the area of guidance in public school we found the guidance directors were unable to properly advise a deaf student."

"_____ is unable to take part in class discussions and unable to follow lectures."

"Inability to hear recitations of other students. Of necessity she had to sit at front of room to lipread the professor. Note taking during lectures difficult because she must watch professor. She is profoundly deaf and can get nothing in ear."

"Difficulty in lipreading some of the professors."

Appendix H

Occupations to which students in schools for the deaf aspire

Male		Female[1]	
A. Professional			
Teacher (including Phys. Ed.)	5	Teacher (including Phys. Ed.)	4
Insurance (prof.)	1	Scientist (space)	1
Engineer (electronics)	1		
Scientist (meteorology)	1		
B. Technical and Trades			
Printer	15	Hairdresser	7
Automobile repair (including mechanic)	11	Laboratory technician	1
Carpenter	5	Commercial artist	1
Woodworker	4		
Draftsman	4		
Machinist	3		
Electrician	3		
Building contractor	1		
Clothes designer	1		
Commercial artist	1		
Lab. technician	1		
Plasterer	1		
C. Commercial			
Accountant (non-prof.)	2	Typist	11
Typist	2	Office worker (not specific)	3
Storekeeper	1	Secretary	2
		Bookkeeper	1
		Keypunch operator	1
D. Semi-skilled			
Farmer	1		
E. Unskilled			
Factory worker (general)	5	Domestic service	3
Construction worker	2	Factory worker	3
Janitor	1	Laundry employee	2
Fisherman	1	Waitress	1
Hospital orderly	1		

(1) 12 females indicated "housewife".

Appendix I

Sample of responses of parents to question asking why they approve or disapprove of the concept of technical-vocational center for young deaf adults

Approval

"I now am willing to acknowledge that my boy will not speak or express himself well enough for purely academic endeavor. This with the realization that he has a fine mind and is most willing to learn. If there is no further opportunity available beyond the eigth grade, his potential will never be realized. I will go to any extent to give him this opportunity."

"Automation is displacing and will eventually do away with unskilled labor. A man or woman will need a useful skill in order to fit into the future productive apparatus."

"Today, in this competitive world of ours, I think all realize the unskilled worker stands very little chance of making a decent living. This applies to both hearing and deaf; but there is a difference. In the first case the opportunity to learn a skill exists, but in the case of the young deaf adult there is nothing he can do about it, because although he wants to learn, the opportunity for him to acquire skilled training in a suitable school is not now available."

"It is impossible for a school for the deaf to give sufficient training because of the time that must be devoted to academic studies. Most employers demand experience or special training for skilled or higher paying jobs."

"I believe that the need for specialized vocational-technical training is very necessary for the handicapped child. It would help to encourage employers to hire a handicapped person if that person were qualified to do certain work of a specialized nature. It seems to me that if such a school were available, its placement office would be more able to place its graduates in jobs suitable to the training received."

"Educators are now presented an almost insurmountable task in attempting to give a deaf child both an academic and vocational education. It would enable educators to concentrate on purely academic courses in primary and secondary schools. However, we firmly believe only a vocational-technical school would enable the average deaf child to cope with the economic world. It would not only tutor him in his chosen trade, but

Appendix I (continued)

would implant in him a confidence that is so sorely needed by any youngster, hearing or deaf, competing for a position."

"Even though most schools for the deaf offer courses in the trades of wood working, printing, etc. it can in no way compare with a vocational-technical school when the subject (trade, skill) is learned all of the school hours. For those who are not equipped to go on to high school or college, after having graduated from schools for the deaf, this is definitely the answer. It is the training they need to enter the working world. It could open doors now closed to them."

"At the present time, there is no provision for any training of the deaf child beyond eighth grade level, and the need for such training is very essential. Most schools are reluctant to admit deaf pupils, and I earnestly believe that such a school as defined above, would prove a much desired need."

"A vocational school will tend to help those who no doubt find college difficult or those who desire to enter some vocational field. Briefly, it would be the greatest thing that could happen in the education of the deaf. The sooner they get this help the better off they might be. This is and should be a must. There is no question about it."

"These young people need help. My son has looked many places for work, but because of his deafness he has been refused. Many places refuse to hire him because they say that the insurance company will not be responsible for any accidents. My son was getting very despondent until a few weeks ago when he finally got this job washing dishes. He wants to be independent."

"It would be easier for them to learn a trade with the special school. I've noticed that my daughter does not get all instructions clearly at high school. She tells me she hates to bother the teacher or another pupil. Some (pupils or teachers) have the patience, others don't."

<u>Disapproval</u>

"With regards to my son, he is merely hard of hearing and I do not approve of the idea of educating a handicapped child exclusively with other handicapped children."

Appendix I (continued)

"A deaf adult, having spent the formative years at a school such as _____ should not delay any longer the adjustment to hearing educational, social, and economic world. With such preparation as _____ School provides and understanding help of parents, a graduate should be able to get vocational-technical training in regular schools."