To the Graduate Council:

I am submitting herewith a dissertation written by Marcia E. Kolvitz entitled "The Identification of Special Competencies of Deafness Specialists in Postsecondary Education Programs." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Human Ecology.

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THE IDENTIFICATION OF SPECIAL COMPETENCIES OF DEAFNESS SPECIALISTS IN POSTSECONDARY EDUCATION PROGRAMS

A Dissertation Presented for the

Doctor of Philosophy Degree

The University of Tennessee

Marcia E. Kolvitz

August 1999

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Dedicated to my parents, Marvin and Marie Kolvitz,

for their ongoing support and love throughout the years.

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ABSTRACT

The primary purpose of this study was to examine the special competencies of deafness specialists in postsecondary education. This was accomplished by an extensive review of related literature and feedback from a panel of content experts. A list of special competencies was identified. This study was also implemented to study any differences in perception of the special competencies according to selected practitioner and programmatic variables, including hearing status, major area of study, program size, and staff size.

A post hoc survey was designed to gather data from a population of 1,103 programs for students who are deaf or hard-of-hearing. A total of 237 responses from a sample of 422 provided an overall response rate of 56% on the Special Competencies of Deafness Specialists in Postsecondary Education Settings Inventory that was distributed via the U. S. Postal Service. The Special Competencies of Deafness Specialists in Postsecondary Education Settings Inventory consisted of the competency listing and rating scale and a background segment for gathering demographic, programmatic, and institutional information.

Descriptive statistics, including frequencies and percentages, were used to report demographic, programmatic, and institutional information. The analysis of the survey items included a multivariate analysis of variance (MANOVA) procedure to determine any areas of significant difference among the competency clusters in the three competency domains (Direct Services to Students, Knowledge and Background, and

Program Management) and four independent variables (hearing status, major area of study, program size, and staff size).

Major findings of the study were: (a) as program size grew, respondents valued the need for effective communication skills more, (b) respondents with specific training in the field of deafness recognized the ramifications of deafness and impact on the student in a postsecondary setting and valued the need to participate in ongoing professional development and share information with others, (c) when there were several staff members designated to work specifically with students who are deaf or hard-of-hearing, more emphasis was placed on having a better understanding of the social, cultural, and educational implications that hearing loss may have on a postsecondary student, (d) when there was at least one staff member designated to work specifically with students who are deaf or hard-of-hearing, more emphasis was placed on maintaining up-to-date knowledge about issues and strategies and on sharing information with faculty and staff who may have worked with students who are deaf or hard-of-hearing, and (e) when there was at least one staff member designated to work specifically with students who are deaf or hard-of-hearing, more emphasis was placed on disseminating program information to students and on conducting outreach activities.

TABLE OF CONTENTS

Chapter	Page
I. Introduction	1
Study Background	1
Statement of the Problem	3
Purpose of the Study	4
Rationale	6
Emergence of a Profession and Competency Development	7
Task dimension	9
Human dimension	9
Environment dimension	10
Relationship among the dimensions	10
Summary	11
Research Questions	12
Research Hypotheses	12
Research Question Two	13
Research Question Three	14
Research Question Four	15
Assumptions, Delimitations, and Limitations of the Study	16
Definition of Terms	17
Summary	18
II. Review of the Literature	19
Changes in Postsecondary Education	19

Chapter | Page

II. (Continued)

Historical Foundations of Student Support Services in Higher Education 20

Development of Student Support Services 20

Changing Demographics 21

Disability-related Legislation 23

Meeting the Needs of Students who are Deaf or Hard of Hearing 26

Development of specialized programs 26

Participation in regular colleges and universities 28

Demographic Information 29

Prevalence of Students with Disabilities 29

Prevalence of Students who are Deaf or Hard-of-Hearing 30

Current Programs and Practices in Disability Support Services 32

Disability Support Services as a Specialty 32

Models of Service Delivery 34

Campus Accommodations 36

Special Issues Related to Deaf or Hard-of-Hearing Students 38

Providing support services 38

Deaf program models 40

Influence of mainstreaming 41

Roles, Responsibilities, and Competencies of Professionals 43

Chapter Page

II. (Continued)

Student Services Professionals 43

Disabled Student Services Professionals 44

Deafness Specialists in Postsecondary Education Programs 46

Deafness Specialists in Related Professions 47

Specialized Programming Issues 50

Hearing status of faculty and staff 50

Faculty and staff preparation 53

Size of program and staff 56

Summary 59

III. Research Procedures 60

Introduction 60

Research Methodology 60

Research Population and Sample 61

Population 62

Selection of Sample 62

Instrumentation 63

Identification of Competency Items 64

Use of Content Experts 65

Survey Instrument 66

Pilot Study 67

Data Collection 67

Chapter	Page
III. (Continued)	
Data Analysis	68
Summary	70
IV. Analysis of Data and Results	71
Response Rate	71
Alpha Reliability	73
Respondent Characteristics	73
Practitioner Information	73
Program Information	75
Institutional Information	76
Research Question One	79
Research Question Two	83
Null Hypothesis One	84
Null Hypothesis Two	85
Null Hypothesis Three	87
Null Hypothesis Four	90
Research Question Three	91
Null Hypothesis Five	91
Null Hypothesis Six	92
Null Hypothesis Seven	98
Null Hypothesis Eight	100

Chapter		Page
VI. (Continued)		
Research Question Four		102
Null Hypothesis Nine		105
Null Hypothesis Ten		107
Null Hypothesis Eleven		107
Null Hypothesis Twelve		108
Summary of Results		109
V. Summary and Conclusions		112
Summary of the Study		112
Purpose of the Study		112
Methods and Procedures		113
Major Findings		115
Findings Related to Demographic Information		115
Findings Related to Research Questions Two, Three, and Four		117
Implications and Discussion of the Results		119
Recommendations		122
Conclusions		124
References		125
Appendices		151
Appendix A	Survey Instrument	152
Appendix B	Content Experts	161
Appendix C	Letter to Content Experts	164

Appendix D	Competency Statements Reviewed by Content Experts	166
Appendix E	Cover Letter to Respondents	174
Appendix F	PEPNet Directors' Letters of Support	176
Appendix G	Follow-up Postcard	181
Appendix H	List of Majors of Respondents	183
Appendix I	Competency Statements According to Cluster and Domain	185
Appendix J	Respondent Comments	192
Vita		202

List of Tables

Table	Page
1. Reliability Analysis	72
2. Respondents' Demographic Information	74
3. Respondents' Program Information	77
4. Respondents' Institution Information	78
5. Competency Domains and Competency Clusters	81
6. Multivariate Analysis of Variance for Independent Variables and Direct Services to Students Competency Domain	86
7. Tests of Between Subjects Effects for Program Size	88
8. Tukey's Honestly Significant Difference (HSD) Procedure for Program Size and Communication Skills (CS)	89
9. Multivariate Analysis of Variance for Independent Variables and Knowledge and Background Competency Domain	93
10. Tests of Between Subjects Effects for Major Area of Study	95
11. Tukey's Honestly Significant Difference (HSD) Procedure for Major Area of Study and Understanding Deafness (DF)	96
12. Tukey's Honestly Significant Difference (HSD) Procedure for Major Area of Study and Professional Development (PD)	97
13. Tests of Between Subjects Effects for Program Size	99
14. Tests of Between Subjects Effects for Staff Size	101
15. Tukey's Honestly Significant Difference (HSD) Procedure for Staff Size and Understanding Deafness (DF)	103

16. Tukey's Honestly Significant Difference (HSD) Procedure for Staff Size and Professional Development (PD) 104

17. Multivariate Analysis of Variance for Independent Variables and Program Management Competency Domain 106

18. Tests of Between Subjects Effects for Staff Size 110

19. Tukey's Honestly Significant Difference (HSD) Procedure for Staff Size and Public Relations (PR) 111

CHAPTER I

Introduction

Study Background

The need for a high-quality workforce to meet the changing student population institutions of higher education has, among other factors, increased the need for competent professionals to work with the growing number of students with disabilities, including those who are deaf or hard-of hearing (Nutter & Ringgenberg, 1993). Competent professionals in disability services have been recognized as an important factor in the establishment of quality support services for students with disabilities (Schuck & Kroeger, 1993).

Recent legislation, including the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990, has had a significant impact on the provision of support services to students with disabilities who have enrolled in postsecondary education programs (Brown, 1994). While the availability of support services and programs for students with disabilities has increased dramatically over the past 20 years, there has been little emphasis in the literature regarding the competencies of professionals responsible for these services (Blosser, 1984; Madaus, 1996). Within the field of disability support services, specialty areas such as learning disabilities have been identified and studied to a limited extent (Brinckerhoff & McGuire, 1994).

Within the specialty area of deafness, however, there has been a greater focus on the development of specialized programs for students who are deaf or hard-of-hearing

and relatively little focus on the issues related to students who chose mainstreamed postsecondary education institutions without specialized programs (Walter, 1992). Consequently, there was also little information regarding the competencies needed by the professionals working in supportive roles in this environment.

Professional literature spanning the past 20 years reported many significant changes and advances in educating students who are deaf or hard-of hearing. New legislation, improved services, and fresh approaches have been well documented in numerous publications. However, in a recent editorial, deaf educator and program administrator Dr. Gertrude S. Galloway emphasized that there were still many areas in deaf education that needed to be addressed (Galloway, 1998). Despite increased opportunities in postsecondary education, the quality of program may be questionable; and the support services offered may be inappropriate.

Historically, the literature related to educating students who are deaf or hard-of hearing focused on educational programming in the pre-school, elementary, and secondary levels and on preparing educators to work with students at those levels. In contrast, much less information was available on postsecondary issues and students who are deaf or hard-of hearing. In 1988, the Commission on Education of the Deaf reported on the status of educational programs for students who are deaf or hard-of hearing (Commission on Education of the Deaf, 1988). Of the 52 recommendations, only 10 were related to postsecondary education; and all of those were related to the federal postsecondary education system that included two national and four regional programs.

Only one recommendation mentioned need to provide technical assistance to mainstream institutions.

Even in the recent past, the shift of students from specialized deaf programs to mainstream institutions was not anticipated to the extent that it has occurred. A recent survey reported that over 20,000 students who are deaf or hard-of-hearing were enrolled in over 2,000 two- and four-year postsecondary education institutions during the 1992-93 academic year (National Center for Education Statistics, 1994). This represented an increase of more than 3,000 students since a comparable survey was conducted about the 1989-90 academic year. Little information was available regarding how these institutions met the needs of students who are deaf or hard-of hearing, the quality of the services provided, or the availability and competency of deafness specialists at these institutions.

Statement of the Problem

Very little information was available on the special competencies needed by deafness specialists. While there were a few studies directed at rehabilitation counselors for the deaf and directors of disability support services, there was little or no research on the competencies of deafness specialists in postsecondary education programs. The scarcity of research studies on competencies needed for deafness specialists suggested that the present study was needed.

With the advent of federal legislation ensuring accessibility for persons with disabilities, the number of students who are deaf or hard-of-hearing seeking support services has increased, yet the types and quality of services provided reportedly vary

from institution to institution (National Center for Education Statistics, 1994). While higher education institutions were under the jurisdiction of Section 504 of the Rehabilitation Act of 1973, it was not until the Americans with Disabilities Act was passed in 1990 that accessibility was addressed or that disability support services were formally developed on many campuses (Jarrow, 1993).

Deafness specialists continue to be challenged by issues and practices prevalent in postsecondary education programs (Walter, 1992). Practitioners must be able to meet the current and future needs of changing client populations through the use of developing and changing methods of service provision. Deafness specialists in postsecondary education may be employed in roles such as program coordinator, lead interpreter, program specialist, or counselor (Woodrick, 1991). There could be special competencies that cut across all areas employing deafness specialists in postsecondary education. If special competencies exist, it should be possible to identify a clear and concise body of knowledge for the field.

Purpose of the Study

A review of the literature revealed few studies related to the competencies needed by specialists working with individuals who are deaf of hard-of-hearing. None of these studies considered service provision in postsecondary education settings. The primary purpose of this study was to identify the special competencies of deafness specialists in postsecondary education. This study attempted to fill the knowledge void regarding the special competencies of deafness specialists in postsecondary settings, including

technical schools, community and technical colleges, and four-year colleges and universities. This study was also implemented to study any differences in perception of the special competencies according to selected practitioner and programmatic variables. This provided empirical data regarding competencies required for deafness specialists in postsecondary education programs.

This study:

1. Examined and classified competencies for deafness specialists in postsecondary education settings defined in the literature.

2. Validated the identified competencies by soliciting the opinions of 11 content experts representing direct services, in-service training, and pre-service training areas.

3. Compared the perceptions of deafness specialists who are deaf, hard of hearing, and hearing regarding competencies needed for working with deaf or hard-of hearing individuals in postsecondary settings.

4. Compared the perceptions of deafness specialists with different educational backgrounds and major areas of study regarding competencies needed for working with deaf or hard-of hearing individuals in postsecondary settings.

5. Compared the perceptions regarding necessary competencies of deafness specialists who work in programs of different sizes with students who are deaf or hard-of hearing.

6. Compared the perceptions regarding necessary competencies of deafness specialists who work in programs with different sizes of staff who are responsible for providing direct services to students who are deaf or hard-of hearing.

Findings from this research provided needed information for deafness specialists in the field as well as those in preparation programs. Comparisons across various groups helped clarify role definitions and provide direction for interdisciplinary training. Validation of competencies utilizing practitioner opinion is viewed as superior to expert opinion (Blanton & Fimian, 1986; Shores, Cegalka, & Nelson, 1973). Practitioner participation in this study added validity to the development of an appropriate theory-practice training relationship for deafness specialists.

Rationale

The results of this study could enhance effectiveness for deafness specialists in postsecondary education programs through their increased awareness of critical competencies. Since the population of students who are deaf or hard-of hearing has increased in regular mainstreamed postsecondary settings over recent years (National Center for Education Statistics, 1994), there was an increased obligation to meet the needs of these students. The list of competencies perceived as necessary by deafness professionals could be emphasized in professional preparation programs for prospective deafness specialists. Finally, the findings of this study could be used in supporting new directions for pre-service training and ongoing professional development for both prospective and practicing deafness specialists.

The demand for qualified service providers to work with individuals who are deaf or hard-of hearing requires a more complete understanding of the knowledge, skills, abilities, and responsibilities held by these professionals. In forming the basis for this

study, several components were examined. The role of deafness specialists was considered as it relates to the emergence of the specialty as a profession and the formulation of special competencies. Since deafness specialists do not have a long history in the literature, ideas regarding the role and responsibilities of deafness specialists were drawn from related areas such as disability support service providers and rehabilitation counselors for the deaf. As the distribution of deafness specialists in postsecondary education was considered, the researcher recognized that deafness specialists were not likely to be a homogeneous group. Background, experiences, and program variables may have an impact on the responses.

Emergence of a Profession and Competency Development

Specialized knowledge has remained essential for professional practice. Starr (1982) defined a profession as "an occupation that regulates itself through systematic, required training and collegial discipline; that has a base in technological, specialized knowledge; and that has a service, other than a profit, orientation enshrined in its code of conduct" (p. 15). According to McGuire (1993), professions have been organized around an exhaustive body of expert knowledge. This expertise was a fundamental factor in validating professional prerogatives. As a profession matures, it may become more convergent in its knowledge base and standards of practice and more highly differentiated and specialized from other professions (Schein, 1972).

Golin and Ducanis (1981) suggested that a profession should proceed through varying stages of role definition. According to the developmental model described by

Golin and Ducanis, the initial response to an identified social demand for a professional role would be an undifferentiated attempt to fill the identified role need. Skill differentiation of personnel was not necessarily a priority in the initial response to the social demand for new professional roles. During this stage, "there may be widely diverging viewpoints on the nature of the problem that is being addressed as well as the nature of the care and treatment to be employed with the client" (Golin & Ducanis, 1981, p. 45). This stage was followed by societal recognition that some individuals filled this need better than others. This recognition lead to role differentiation whereby it may be established that people with specific skills could more appropriately fulfill the professional role.

Typically, a new profession would emerge within a single discipline area as the knowledge base expanded and specialization was required (Golin & Ducanis, 1981). One might argue that the knowledge base in disability services has been rapidly expanding. Clearly, new roles for professionals who provided support services have been emerging (Schuck & Kroeger, 1993). However, this development has been complicated by the interdisciplinary nature of providing support services in postsecondary education. Deafness specialists in postsecondary education may be evolving from several disciplines including special education, vocational rehabilitation, student services, and disability support services (Jarrow, 1993).

McLagan (1997) suggested that competencies may be related to the tasks, results, and outputs of one's actual work. However, competencies also may refer to the characteristics of the workers, including their knowledge, skills, and attitudes. Finch and

Asselin (1984) recommended that professionals in education adopt a broader perspective of competence. Not only would the deafness specialist's competence include task performance, but also human factors that cut across performance of various tasks as well as the environment in which the tasks were performed. Competence may, therefore, be viewed as multidimensional in scope, including the task, human, and environmental dimensions (Blake & Mouton, 1978; Fiedler, 1967; Redden, 1970).

Task dimension. The task dimension reflects the range of products and processes that are most easily observed (Finch & Asselin, 1984). For a deafness specialist, this includes the range of responsibilities, such as scheduling support personnel, maintaining assistive technology, and managing documentation and student files. Usually, it is relatively easy to tell when a task begins and when it ends. For example, a task such as "Scheduling Interpreters" would begin when requests have been made and would end with the successful completion of locating available interpreters and notification of the assignments. Criteria to assess success could focus both on the process and the product.

Human dimension. In performing various tasks, the professional interacts with other individuals (Finch & Asselin, 1984). The deafness specialist, for example, interacts with others on campus, including students, faculty and staff members, parents, and community agency representatives. Interaction with others tends to permeate the work environment, extending beyond the task dimension. This dimension reflects skills that are necessary for working with other people, such as human relations expertise, empathy, creativity, and flexibility. Since these have no established beginning or end, they cannot be considered tasks. Depending on the situation, elements in the human dimension may

extend over a varying period of time. Empathy, for example, is not provided according to a schedule but rather is an integral part of one's practice and would be reflected in varying degrees, across a range of situations.

Some deafness specialists may themselves be deaf and may have the unique experiences of interacting on a peer level with the deaf student population and also on a professional level with their faculty and staff colleagues (Bock, 1993-94; Vernon, 1971). In addition, opportunities for formal training in an area related to deafness may offer the professional, whether deaf or hearing, opportunity to gain additional insights into the needs of the student population and the provision of services within the postsecondary environment (Lowell, 1987). It is not known to what extent these may influence the perception of the competencies needed to perform the job.

Environment dimension. The environmental dimension includes environments in which the professional may function (Finch & Asselin, 1984). Some deafness specialists work in rural environments, while others work in urban or suburban areas. The employing institutions include four-year colleges and universities, two-year community and technical colleges, and vocational schools. These may be public or private institutions, and the total student enrollment may range from several hundred students to more than 25,000 students.

The environment may also include the number of staff members in a given area. The literature shows that there are differences in how student services are carried out in large and small programs (Palm, 1984; Richmond, 1986; Simmons, 1983) and with large and small numbers of staff (Creamer, 1989; Flynn, 1986). It is not known to what extent

the size of the program or the size of the staff employed affects the perception of the role of deafness specialist.

Relationship among the dimensions. In task performance, one cannot disregard the human or the environment dimension. Although recognizing all of the relationships among the three dimensions may be impossible, the practitioner should keep in mind that competence is multidimensional and reflects a broad range of involvement with people, tasks, and environments (Finch & McGough, 1982).

A review of the literature identified a great number of tasks that deafness specialists may be called upon to do. The review also identified a knowledge base that is necessary to carry out the responsibilities of the position. Since, however, each deafness specialist worked in a different postsecondary institution, it was likely that the perceptions of the population were a reflection, to some degree, of individual experiences and backgrounds as well as institutional characteristics. Therefore, it was necessary to explore the role of deafness specialist as well as the perceptions of professionals within the field. Considering some of the characteristics of the professionals provided opportunity to understand whether or not there were differences among groups based on background, experiences, or program characteristics.

Summary

Several areas formed the rationale for this study. This study took into account the role of deafness specialist as it related to the emergence of the specialty as a profession and to the formulation of special competencies. The identification of special

competencies must reflect the relationship of deafness specialists to other professionals in related groups. This study explored the unique aspects of specialized programs for students who are deaf or hard-of hearing, including the background and preparation of professionals, and the size of the program and program staff.

Research Questions

The research questions guiding this study were:

1. What are the special competencies of deafness specialists in postsecondary education programs?

2. Do differences exist in the perceptions among deafness specialists regarding the special competencies related to direct services to students when considering hearing status, major area of study, program size, and staff size?

3. Do differences exist in the perceptions among deafness specialists regarding the special competencies related to knowledge and background when considering hearing status, major area of study, program size, and staff size?

4. Do differences exist in the perceptions among deafness specialists regarding the special competencies related to program management when considering hearing status, major area of study, program size, and staff size?

Research Hypotheses

The following research hypotheses were developed to address research questions two, three, and four. Null hypotheses were included in Chapter IV.

Research Question Two

Do differences exist in the perceptions among deafness specialists regarding the special competencies related to direct services to students when considering hearing status, major area of study, program size, and staff size?

Deafness specialists have provided services directly to postsecondary students or have acted on behalf of students with members of the campus community. Services may be related to career planning and employment, case management, communication skills, counseling and advocacy, and support services (i.e. interpreters, tutors, and notetakers). However, the literature review noted that background and experiential differences among practitioners and differences in program characteristics may have an impact on the importance that individual practitioners place on the direct services competencies necessary for deafness specialists. Consequently, the following research hypotheses were developed to further explore the role of deafness specialist.

Research Hypothesis 1: There are significant differences among the perceptions of deafness specialists regarding the special competencies related to direct services to students when considering hearing status.

Research Hypothesis 2: There are significant differences among the perceptions of deafness specialists regarding the special competencies related to direct services to students when considering major area of study.

Research Hypothesis 3: There are significant differences among the perceptions of deafness specialists regarding the special competencies related to direct services to students when considering program size.

Research Hypothesis 4: There are significant differences among the perceptions of deafness specialists regarding the special competencies related to direct services to students when considering staff size.

Research Question Three

Do differences exist in the perceptions among deafness specialists regarding the special competencies related to knowledge and background when considering hearing status, major area of study, program size, and staff size?

Deafness specialists should be able to apply specific information about deafness and/or the ramifications of deafness to the postsecondary education setting. Knowledge and background in educational and vocational planning, professional development, and understanding deafness may be necessary to the role of deafness specialist. However, the literature review noted that background and experiential differences among practitioners and differences in program characteristics may have an impact on the importance that individual practitioners place on the knowledge and background competencies necessary for deafness specialists. Consequently, the following research hypotheses were developed to further explore the role of deafness specialist.

Research Hypothesis 5: There are significant differences among the perceptions of deafness specialists regarding the special competencies related to knowledge and background when considering hearing status.

Research Hypothesis 6: There are significant differences among the perceptions of deafness specialists regarding the special competencies related to knowledge and

background when considering major area of study.

Research Hypothesis 7: There are significant differences among the perceptions of deafness specialists regarding the special competencies related to knowledge and background when considering program size.

Research Hypothesis 8: There are significant differences among the perceptions of deafness specialists regarding the special competencies related to knowledge and background when considering staff size.

Research Question Four

Do differences exist in the perceptions among deafness specialists regarding the special competencies related to program management when considering hearing status, major area of study, program size, and staff size?

Managing a program for students who are deaf may require competencies related to consultation, legal aspects, program development and evaluation, and public relations. However, the literature review noted that background and experiential differences among practitioners and differences in program characteristics may have an impact on the importance that individual practitioners place on the program management competencies necessary for deafness specialists. Consequently, the following research hypotheses were developed to further explore the role of deafness specialist.

Research Hypothesis 9: There are significant differences among the perceptions of deafness specialists regarding the special competencies related to program management when considering hearing status.

Research Hypothesis 10: There are significant differences among the perceptions of deafness specialists regarding the special competencies related to program management when considering major area of study.

Research Hypothesis 11: There are significant differences among the perceptions of deafness specialists regarding the special competencies related to program management when considering program size.

Research Hypothesis 12: There are significant differences among the perceptions of deafness specialists regarding the special competencies related to program management when considering staff size.

Assumptions, Delimitations, and Limitations of the Study

The researcher assumed that an exhaustive list of special competencies of deafness specialists in postsecondary education programs was attained through the methods used.

The researcher assumed that the respondents' interpretations of the survey questions were consistent with the intentions of the researcher.

The researcher assumed that the professionals surveyed were knowledgeable in the field of deafness and that their responses were a valid representation of special competencies.

The researcher assumed that the sample population was representative of deafness specialists in postsecondary education programs across the nation.

The special competencies used in the survey of professionals were delimited to a set of competencies that had been validated by a national panel of experts.

This study is limited by the disadvantages of collecting data via mail survey, which were subject to individual interpretation and response.

Definition of Terms

The following terms were used throughout this study:

Competencies: the required set of abilities, expertise, masteries, proficiencies, and skills necessary to fulfill job responsibilities.

Deafness specialist: a professional working in a postsecondary education program who has a caseload of students who are deaf or hard-of-hearing. The individual may be assigned the role of program coordinator, counselor, advisor, lead interpreter, or educational specialist.

Disability support services: the complement of services provided to students with disabilities to provide equal access to the institution, its programs, and its services.

Hearing status: the condition of being deaf, hard of hearing, or having no hearing loss.

Major area of study: the program of study that the individual pursued during college or graduate school.

Program size: the number of students who are deaf or hard-of hearing enrolled in a given postsecondary education institution.

Special competencies: the acquired skills and knowledge that exceed the basic academic skills and knowledge needed to provide effective services to postsecondary students who are deaf or hard-of hearing.

Staff size: the number of staff members who are regularly assigned to work with students who are deaf or hard-of hearing.

Summary

The purposes of this study were to (a) identify the special competencies of deafness specialists in postsecondary education institutions who provide support services to students who are deaf or hard-of hearing and (b) explore the perceptions of these competencies among the specialists with regard to selected practitioner variables. This body of knowledge may become the fundamental basis for the preparation and ongoing professional development of deafness specialists in postsecondary education. Consequently, the special competencies of these professionals must be clearly identified and understood.

CHAPTER II

Review of the Literature

The review of literature includes information related to deafness specialists in postsecondary education. Beginning with a summary of the changes in postsecondary education, this review included an overview of the development of support services to students with disabilities and its relationship to student services and student development. Demographic information about students with disabilities and students who are deaf or hard-of-hearing were summarized, and current programs and practices were reviewed. Finally, the roles, responsibilities, and competencies of professionals in related fields (such as student services, disability support services, and other specialties in deafness) were examined.

Changes in Postsecondary Education

Although students with disabilities have been part of the educational system for many years, there have been many changes in the past 20 years which have affected how their needs have been met (Jarrow, 1993). Legal mandates as well as a better understanding of the size and nature of the population have also changed the type and scope of services offered these students in higher education. In addition, philosophical issues and the practical challenges of providing services have had a significant impact on the field.

Postsecondary education institutions are faced with the challenge of serving an increasing number of individuals who have become more diverse. Instead of only the traditional pool of college and university students, postsecondary institutions have been working with non-traditional students. These students may be older than the traditional students, members of minority groups, educationally disadvantaged, or individuals with disabilities (Lopez, Yanez, Clayton, & Thompson, 1988). Because of the influx of individuals with disabilities, postsecondary education institutions need to develop specialized programs and support services to insure accessibility (Babbitt, Burbach, & Iutcovich, 1979; Michael, Salend, Bennett, & Harris, 1988).

Postsecondary education institutions have developed an increasing number of specialized services to meet the needs of students with disabilities. However, in some institutions, it may be difficult to discern the differences between specialized services and those that are available to the general student population (McGuire & Shaw, 1987). While college and university brochures, catalogs, and other materials described the programs as viewed by the institutions, the descriptions often lacked specific information regarding the nature and extent of services provided and typically did not offer confirmation of their worth from those who have used the services (Whyte, 1985).

Historical Foundations of Student Support Services in Higher Education

Development of Student Support Services

The role of student services in higher education has evolved since the turn of the century (Fenske, 1989a). As faculty responsibilities shifted toward research and

scholarship, non-instructional staff members were assigned to assist in developing the social, physical, moral and spiritual well-being of students. After World War I, the role of student services became less paternalistic, and student services developed as a distinct profession. Psychological theories and practice were applied to students in colleges and universities, resulting in expanded counseling services and testing programs (Fenske, 1989b). Increasingly, students were viewed as, "developing organisms demanding a personalized learning experience" (Wren & Bell, 1942, p. 8).

Political, social, and economic factors have had a considerable impact on the services provided in higher education. The Great Depression of the 1930s caused another change in the role of student services. Student services generated little income during this period but caused a significant drain on institutional resources. The only alternative available to colleges and universities was to reduce or eliminate student service programs. The prevailing philosophy emphasized intellectual rather personal development (Fenske, 1989b).

Changing Demographics

World War II caused a resurgence in student services and a change in the role of providers (Fenske, 1989a). Legislative mandates were introduced which extended opportunities for many individuals to attend colleges and universities. At the end of World War II, the U.S. Congress passed the Serviceman's Readjustment Act of 1944, more commonly known as the GI Bill. This legislation entitled all veterans to financial support for college and university costs and subsistence upon enrollment in an accredited

institution. Although it did not mandate institutional acceptance of returning veterans, the legislation opened the door to higher education. There was a resurgence of student-oriented services as colleges and universities tried to meet the need for academic, personal, and financial advising (Fenske, 1989b).

Attitudes regarding college attendance began to change during this period of growth; and more opportunities for previously under-represented students became available, including increased financial support from state and federal resources (Stuckless & Frisina, 1976). Benefits included low tuition within state university systems and community college districts as well as direct loans and other financial aid. Students with disabilities were among the growing numbers participating in higher education immediately following World War II (Stone, 1983). Several universities, including the University of Illinois, the University of Missouri, and Emporia State University, set out to make the campuses accessible for disabled veterans returning to school (Jarrow, 1993). By the mid-1960s, federal funding provided support for exemplary programs across the country. Thus, the GI Bill was impetus for the development and provision of comprehensive support services for individuals with disabilities in postsecondary education institutions.

Children of World War II veterans, known as the "baby boom" generation, began enrolling in postsecondary institutions during the 1960s, causing a marked increase in enrollment and resulting in a need to increase faculty and staff and to construct new facilities (Fenske, 1989a). Increasing financial aid for students, included in the Higher Education Act of 1965, was one way the U.S. Congress expanded opportunities for

students who otherwise might not have been able to participate in postsecondary education. The growth of community colleges created additional opportunities for participation in postsecondary education.

Disability-related Legislation

In 1968, Congress addressed the issue of architectural accessibility by enacting legislation to require accessibility opportunities for individuals with disabilities in higher education (Stilwell, Stilwell, & Perritt, 1983). The Architectural Barriers Act of 1968 specified that organizations, including postsecondary education institutions, who received federal funds must make buildings under construction accessible to persons with disabilities (Architectural Act of 1968, 42 U.S.C.A 4151). The enactment of this law augmented the role of student services to include identifying needs and mobilizing resources on college and university campuses (Perry, 1981). The responsibilities of academic, personal, and financial advising designated to student services were expanded. Although this legislation focused on access to the grounds and buildings of postsecondary education institutions for individuals with disabilities and although it changed the function of student services, it was not until 1973 that individuals with disabilities experienced full access to college and university programs (Forrest, 1989).

Two legislative acts passed in the 1970s and one passed in 1990 mandated numerous changes in higher education. Both have had a direct impact on accessibility for individuals with disabilities. The passage of the Rehabilitation Act of 1973, Public Law 93-112 with specific reference to Section 504, mandated that postsecondary education

institutions receiving federal funds operate their programs and activities so that when viewed in their entirety, they were accessible to individuals with disabilities. The purpose of Section 504 was to allow qualified individuals with disabilities access to academic programs and classes, admissions, financial aid, orientation, housing, career development, student activities, and counseling (Olson, 1981). The wording of Section 504 was brief and concise, and significant in its implication and impact:

> No otherwise qualified handicapped individual in the United States shall solely by the reason of a handicap, be excluded from the participating in, be deprived the benefits of, or be subjected to discrimination under any program or activity receiving federal assistance (Public Law 93-112, Section 504, 1973).

Section 504 mandated colleges and universities receiving federal financial assistance to make reasonable adjustments that allowed students with disabilities to comply with academic requirements and to guarantee that they not be excluded from programs because appropriate services were not provided (Stone, 1983). Prior to passage of the Rehabilitation Act, individuals with disabilities occasionally attended colleges and universities; but many were refused, often solely because of inaccurate assumptions about the capabilities of individuals with disabilities (Redden, 1979). The Rehabilitation Act had a major impact on postsecondary education institutions since it allowed accessibility not only to campus facilities but also to campus programs. It became illegal to reject individuals from attending a college or university simply because of a disabling condition. To ensure program accessibility for individuals with disabilities, colleges and universities were required to expand support service programs to meet the variety of

individual needs demonstrated by this diverse population (Abrams & Abrams, 1981; Forrest, 1989; Perry, 1981; Stone, 1983). The presence of students with disabilities on postsecondary campuses has sharply increased since the mandates of Section 504 were implemented (Hourihan, 1980; Redden, 1979; Salend, Salend, & Yanok, 1985; Shaw & Norlander, 1986).

In 1975, Congress passed the Education for All Handicapped Children Act, Public Law 94-142 (1975). It was subsequently amended in 1992 by Public Law 101-476, renamed the Individuals with Disabilities Education Act (1992), and reauthorized in 1997. This law mandated that elementary and secondary public schools should educate all children regardless of disabling condition and at no additional expense to the parents. The implementation of this law resulted in a large pool of prospective students who were interested in pursuing college educations (Stone, 1983). Qualified students had access to postsecondary education institutions like their non-disabled peers.

More recently, the Americans with Disabilities Act (ADA) (1990) drew more attention to needs and issues that involved individuals with disabilities. The ADA was designed to fill gaps between legislation already in effect to enable persons with disabilities equal access to employment, public services, public transportation, public accommodations, and telecommunications (West, 1993). While many colleges and universities developed ADA transition plans, a Section 504 transition plan should have been previously developed as part of being a state or local government system (Kilb, 1993). Although Section 504 specifically addressed accessibility on campus, it was not until the ADA was passed that many campuses took action. Many students with

disabilities at the postsecondary level possessed high degrees of motivation and succeeded. This fact, however, did not diminish postsecondary education institution's obligation to provide services to meet specific needs of students with disabilities.

Meeting the Needs of Students who are Deaf or Hard-of-hearing

Development of specialized programs. As attention focused on the needs and aspirations of previously under-represented groups within society, the special needs of individuals who are deaf or hard-of-hearing were recognized. Although there were some deaf individuals who attended traditional colleges and universities before the mid-19th century, opportunities did not become readily available until after the establishment of Columbia Institution for the Deaf in 1864, now known as Gallaudet University (Moores, 1994). Gallaudet University is the only liberal arts university in the world for students who are deaf. For many years, Gallaudet University continued to have a much smaller enrollment than might be expected given the size of the deaf population of the United States. Until the mid-20th century, the prevailing opinion was that higher education was considered neither necessary nor appropriate for the majority of deaf people.

While there were only a few established programs for deaf students in the early 1960s, there was a great deal of interest in establishing additional programs across the country (Walter, 1991). Over the next decade, programs emerged across the country, supported in part by the 1968 amendments to the Federal Vocational Education Act. In 1968, the National Technical Institute for the Deaf at the Rochester Institute of Technology admitted deaf students who were interested in pursuing careers in technical

areas (Walter, 1992). National support spurred the development of four federally funded regional programs that were to serve as model demonstration projects for postsecondary deaf education (Woodrick, 1991).

College and Career Programs for Deaf Students, published by Gallaudet University and the National Technical Institute for the Deaf, listed more than 150 programs in the United States and Canada (Rawlings, Karchmer, & DeCaro, 1988). It was during this time that children born during the Rubella epidemic of the mid-1960s were completing high school and entering college (Nash, 1992). Known as the "Rubella Bubble," there were significantly more students who are deaf or hard-of-hearing entering college in the mid- to late-1980s than at any other time in the past. While the number of students who are deaf or hard-of-hearing leaving high school in recent years has declined, there were still 135 programs listed in 1995 (Rawlings, Karchmer, & DeCaro, 1995) and 149 programs listed in 1999 (Rawlings, Karchmer, DeCaro, & Allen, 1999).

Most of the programs for students who are deaf or hard-of-hearing were established within existing two-year community colleges or vocational/technical institutions (Schroedel & Watson, 1991). This may have been due in part to the open enrollment policies of those institutions as well as to the depressed academic performance among deaf high school students (Allen, 1994). Students undecided about career plans, may have enrolled in community college programs either full-time or part-time to explore different career or vocational/technical areas (Menchel, 1992). Research indicated that degrees preparing students for employment (i.e., certificates, diplomas, and associates

degrees) were the largest groups of degrees granted from postsecondary institutions with programs for students who are deaf or hard-of-hearing.

Participation in regular colleges and universities. In spite of the growing number of specialized programs, students who are deaf or hard-of-hearing have always had the option of attending colleges or universities that did not have specialized programs. Prior to the Rehabilitation Act of 1973, there were no requirements for providing accommodations. However, since the passage of this legislation, colleges and universities cannot discriminate against otherwise qualified persons with disabilities and are obligated to provide reasonable accommodations upon request (Jarrow, 1993).

In spite of increased access to postsecondary institutions and mandates of the Rehabilitation Act, deaf students often were initially reluctant to request accommodations within colleges and universities that did not have special programs for deaf students. It was not unusual for deaf students to not identify themselves as hearing impaired on their applications or to inform anyone even after they had been admitted (Chickering & Chickering, 1978; Hallahan & Kauffman, 1978). Because students who are deaf sometimes did not request necessary support services, they may have struggled through their programs and missed much of the information their hearing classmates received. While many of them did complete the course work and degrees, the process was much more difficult and time consuming for them than for students with no hearing loss.

While providing an accessible environment for many students with disabilities is a one-time expenditure (such as installing a ramp), furnishing special services such as interpreting and notetaking for deaf students has been an ongoing expense. Responsibility

for funding special services has remained a question even today (Jarrow, 1996; Midwest Center on Postsecondary Outreach, 1998). While state vocational rehabilitation agencies often paid for some or all of the cost of services for students in special programs (Walter, 1992), the institutions themselves often assumed the financial responsibility for providing these special services for deaf students in regular colleges (Menchel, 1996). Although the Rehabilitation Services Administration (RSA) recommended collaboration between institutions of higher education and state vocational rehabilitation agencies, no guidelines have been established nor has any legal precedent been set to define more clearly the roles and responsibilities of each party (Midwest Center on Postsecondary Outreach, 1998).

Demographic Information

Prevalence of Students with Disabilities

A national report compiled by Astin, Green, Korn and Schalit (1986) estimated that 5.7% of approximately 204,491 students in the college freshmen class demonstrated disabling conditions. For this significant number of students, few well-defined programs were available. Over recent years, however, the implementation of federal legislation has had a positive impact on the educational attainment of students with disabilities. The percentage of individuals with disabilities who did not complete high school has decreased, and the percentage of those completing some college or a bachelor's degree or more has increased (Harris & Associates, 1994).

Estimates of the number of students with disabling conditions in a given postsecondary education institution vary widely. According to the American Council on Education (1992), the percentage of college freshmen reporting disabilities has more than tripled since 1978. In 1978, 2.6% of full-time freshmen reported disabilities while 8.8% reported disabilities in 1991. In 1994, 28% of students with disabilities who were age 16 or older completed some college, and 16% completed a bachelor's degree or more (Harris & Associates, 1994). In 1986, however, those figures were 15% and 14%, respectively.

During the 1995-96 academic year, 5.5% of a nationally representative sample of undergraduate students reported having disabilities (National Center for Education Statistics, 1999). No additional information on the number of graduate students with disabilities was available; however, the report from the National Center for Education Statistics (1999) indicated that it was just as likely for college graduates with disabilities to enroll in graduate school as for their non-disabled colleagues to enroll.

Prevalence of Students Who Are Deaf or Hard-of-Hearing

While there has been an increasing number of students who are deaf or hard-of-hearing in postsecondary education institutions, the actual number of students enrolled full time in four-year colleges and universities has not been identified (Walter, 1992). There have been several explanations for the difficulty in identifying the actual number of students who are deaf or hard-of-hearing in regular postsecondary institutions. Many deaf or hard-of-hearing students on college campuses may not have been identified because self-identification has been voluntary. In addition, all students who identified

themselves as having a hearing impairment, no matter what the degree of loss, may have been counted in some studies. Finally, the definitions of "deaf" and "hard-of-hearing" may vary according to the study, making any comparisons with previous research very tenuous.

Nevertheless, there were several studies that provided a close estimate of the number of deaf students enrolled in postsecondary institutes. In 1988, Rawlings et al. identified more than 150 postsecondary programs that provided services for approximately 7,500 deaf students. It was estimated that an additional 30 to 40% of deaf students were enrolled in colleges and universities not listed in College and Career Programs for Deaf Students (Rawlings & King, 1986). The Association for Handicapped Student Services in Higher Education (1987) obtained data from 447 colleges and universities and estimated that, beyond the 7,500 deaf students enrolled in the special postsecondary programs, approximately 3,000 to 4,000 deaf students were enrolled in regular two- and four-year institutions in the United States. Walter (1992) estimated that there were an additional 3,000 deaf students enrolled in regular colleges and universities who were not listed in the guide published by Rawlings, et al. (1988). These various estimates suggested that, as of 1987, the total number of deaf students in postsecondary institutions in the United States may have been between 10,500 and 11,000. Approximately 2,500 deaf students enrolled at NTID and Gallaudet University were not included in this survey.

Data available from the National Center for Education Statistics (1994) indicated that 20,040 students, enrolled in two and four-year colleges and universities, were

identified as deaf or hard-of-hearing. Approximately 2,500 deaf students enrolled at NTID and Gallaudet University were not included in this survey. Among the groups identified by the National Center for Education Statistics (NCES), 4,520 students were deaf and 7,770 were hard-of-hearing. Approximately 7,750 respondents were hearing impaired students whose actual levels of hearing loss were unspecified. More recent information provided by the NCES indicated that 16.3% of a nationally representative sample of undergraduate students reported that they were deaf or had a hearing impairment (National Center for Education Statistics, 1999).

It should be noted that the number of deaf students reported in each of these studies was an estimate. The institutions reported only those students who had identified themselves as being deaf, hard-of-hearing, or having a hearing impairment. Students who preferred not to identify themselves or to ask for support services may not have been counted.

Current Programs and Practices in Disability Support Services

Disability Support Services as a Specialty

Disability support services (DSS) may be viewed as a specialty area within student services (Jarrow, 1993). Although DSS may appear to have roots in rehabilitation counseling or special education, those fields tend to emphasize therapy and remediation. The foundation in student services supports empowerment, achieving one's maximum potential, and equal opportunity for every student.

Effective professionals in student affairs, including those in disability support services, strongly believe in human worth and dignity (Nutter & Ringgenberg, 1993). They strive to develop relationships based on trust among students, faculty, and staff members, and to maintain good communication among all parties. Since many students with disabilities do not fit into the traditional model within higher education, flexibility in implementing policies and service areas is essential.

Rodgers (1984) clarified that the purpose of student services was to focus "on using formal theories of individual and group development in designing environments that help college students learn and develop" (p. 120). Although postsecondary education institutions have started providing a wide range of services to individuals with disabilities, there has been little empirical evidence to support the effectiveness of those services. Support services have varied greatly from institution to institution, although most services appeared to fall into four basic areas: (a) personal counseling, (b) academic counseling, (c) career counseling, and (d) instructional accommodations (Beirne-Smith & Deck, 1989; Parks, Antonoff, Drake, Skiba, & Soberman, 1987; Vogel, 1982).

Sprandel and Schmidt (1980) reported that a significant number of individuals with disabilities chose not to attend postsecondary education institutions because they did not believe their needs could be met adequately in such an environment. This assumption reflected need for more information on how colleges and universities might better accommodate individuals with disabilities. DeGraff (1979) indicated that, while services should be available, students with disabilities have the option of requesting or declining support services. The postsecondary institution is responsible for sharing information

about services and providing appropriate services upon request; students cannot be required to accept accommodations. The majority of colleges and universities that frequently work with students with disabilities reported that students received some type of accommodation, but these accommodations varied across programs (Beirne-Smith & Deck, 1989).

Although colleges and universities have attempted to meet the needs of students with disabilities, the research has shown support services are not adequately meeting the individual needs of students with disabling conditions. In a national survey of personnel needs, Smith-Davis, Burke, and Noel (1984) noted that a major impediment to improvement of services for students with disabilities on the postsecondary education level was a shortage of qualified personnel to administer these services. Kroeger and Schuck (1993) suggested that postsecondary education institutions were not adequately serving students with disabilities. In addition, they considered funding for services to be either inadequate or nonexistent and noted that training for faculty, staff, and students without disabilities was insufficient.

Models of Service Delivery

The literature reported several models for developing services for students with disabilities. Fairweather and Albert (1991) proposed a model oriented toward student transition. It included the identification of student needs, the development of an individualized education plan, and the provision of services appropriate to the needs of the student. While the model was promoted as a way for professionals to assume an

advocacy role, most of the responsibility seemed to rest with the student affairs professional, not with the student.

Utilizing the strengths of the student affairs division, Nutter and Ringgenberg (1993) suggested another model for working with students with disabilities. It incorporated (a) analyzing the physical and the attitudinal environments for accessibility, (b) developing liaisons with other service areas, (c) utilizing other students with disabilities as mentors and service providers when possible, (d) providing in-service training for all staff, and (e) monitoring the college community for attitudes toward students with disabilities. Nutter and Ringgenberg favored a decentralized, coordinated approach to providing services to students with disabilities. By working closely with the disability support services office, other student service areas created a welcoming atmosphere for students with disabilities, often eliminating the need for special services.

The Council for the Advancement of Standards (CAS) in Higher Education (Miller, 1997) developed standards and guidelines for services for students with disabilities. Programs are encouraged to use advocacy for students with disabilities to increase the awareness and sensitivity of the campus community regarding students with disabilities. When assessing the needs of students with disabilities, staff should consider the campus units with which students interact. Policies, procedures, and actions that affect students with disabilities should be coordinated among service providers, units, and departments. Finally, the office of disabled student services is responsible for ensuring that students with disabilities have equal access to all programs and services within the institution.

To meet CAS standards, Nutter and Ringgenberg (1993) indicated that 11 program elements were essential. These included outreach, verification and certification of disability, assessment, information and referral, case management, accommodations, individual and group support, advocacy, training, consultation, and reporting and evaluation. While these program elements were important, they must also be coordinated by professionals who have expertise, authority, and administrative support (King, 1982).

Campus Accommodations

Several surveys have been conducted with postsecondary education institutions to determine what facilities and services have been made available to students with disabilities. Prior to the implementation of the Rehabilitation Act, Stilwell and Schulker (1973) surveyed 39 public and private colleges and junior colleges to learn how these institutions were accommodating students with disabilities on their campuses. The data revealed 31, or 79.5%, of the colleges surveyed had no written or unwritten policy regarding students with disabilities. Although the educational institutions did not have policies restricting students with disabilities, 61.5% of the schools reported no special arrangements for those students. Stilwell and Schulker indicated that students with disabilities would generally be admitted for coursework but that once admitted, they would be required to participate as if they were not disabled.

McBee and Cox (1974) surveyed 80 major universities to ascertain what they were doing to adapt facilities and to establish new programs, and to examine how these programs and services were coordinated to meet the needs of students with disabilities.

Forty-five of the 56 postsecondary education institutions that responded had a specifically designated office with a director or coordinator and were offering a wide range of support services to students with disabilities. However, the research revealed two major problems encountered in developing a program of support services for students with disabilities. First, convincing various sectors within the university of the need for such services was difficult. The second problem encountered was dealing with topographical and architectural barriers to make the campus facility accessible to students with disabilities.

Marion and Iovacchini (1983) investigated special efforts made by 155 colleges and universities in the United States to assure program accessibility for students with disabilities under the Rehabilitation Act mandates. One of the main purposes of the study was to identify the services offered in the various types of educational institutions surveyed. Larger educational institutions and public educational institutions generally had more support staff to serve students with disabilities compared to smaller private postsecondary education institutions. The researchers discovered, however, that community colleges devoted a larger amount of time and offered a greater variety of services to students with disabilities.

There seemed to be agreement among providers of support services to students with disabilities regarding programmatic delivery (Aksamit, Morris, & Leuenberger, 1987; Barbaro, 1982; Miller, McKinley, & Ryan, 1979; Salend et al., 1985; Shaw & Norlander, 1986; Siperstein, 1988). Research results suggested that initial efforts should focus on integration with existing college and university programs and all activities and

that services available to general students should be made available to students with disabilities. Given a situation in which services provided to the general population did not meet the needs of students with disabilities, existing services should be expanded and/or developed. There was agreement among these researchers that such services should include, but not be limited to, (a) academic and career advising, (b) personal and social counseling, (c) vocational planning and assistance in job placement, (d) adapted educational materials, (e) equipment loan and repair services, (f) on-campus mentors and/or assistants, (g) accessible housing and campus buildings, and (h) modified course. Services should be provided based on the specific needs of each student's disabling condition.

Special Issues Related to Deaf or Hard-of-Hearing Students

Providing support services. Despite the passage of the Rehabilitation Act and its impact on colleges and universities to students with disabilities, deaf students faced two obstacles. Many institutions were ill-prepared to provide them with an appropriate range of services (Chickering & Chickering, 1978; Hallahan & Kauffman, 1978; Mandell & Fiscus, 1981; Redden, 1979). Even for those institutions that were prepared to provide services, the influx of deaf students into regular institutions was not matched by a supply of individuals who could provide the needed services for these students. One reason for this shortage of professionals was that as the number of deaf students in postsecondary education institutions had increased, the training of staff required to provide adequate special services for them had not been keeping pace.

Stuckless, Avery and Hurwitz (1989) noted that the supply of educational interpreters did not meet the demand for such services. The shortage of services in one area may have extended to other areas of special services such as notetaking, tutoring, and counseling. Current research confirmed that there have been ongoing personnel shortages in providing support services to students who are deaf or hard-of-hearing. The National Center for Education Statistics (1994) indicated that there were not enough qualified personnel to meet the growing demand for interpreting services.

> About one in five (18% of the institutions that enrolled any deaf or hard-of-hearing students in the last four academic years) had been unable to provide one or more requested support services to students who are deaf or hard-of-hearing. Fourteen percent of the institutions that had enrolled any deaf or hard-of-hearing students in the last four academic years had been unable to provide sign language interpreters (p. 22).

Although several variables have been identified that affect the success in higher education of students who are deaf or hard-of-hearing, the most notable are communication skills and academic achievement (Nash, 1992). Because of the nature of deafness, communication skills develop differently for deaf or hard-of-hearing people than for hearing people. Consequently, they may demonstrate considerably weaker reading and writing skills than their hearing peers; and these may have significant impact on progress in other academic areas (Allen, 1987). Among colleges with special programs for students who are deaf or hard-of-hearing, approximately one-fourth offered special classes and two-thirds offered remedial programs. While some institutions may

support developmental and/or remedial coursework with interpreting services, special programs for students who are deaf or hard-of-hearing may provide self-contained courses taught by instructors who are skilled in addressing the unique communication and language development needs of this population (Petty & Kolvitz, 1996).

Furthermore, participation in extracurricular activities has been an important part of life for any student (Tinto, 1987). Student retention can be enhanced by involvement in activities, knowing others on campus, and having a peer group (Holcomb & Coryell, 1992). However, research indicated that approximately 20 years after the Rehabilitation Act of 1973, deaf students still did not have the support services they needed to participate fully in extracurricular activities (Green, 1990; Hurwitz, 1992; Strong, Charlson & Gold, 1987; Walter, 1991).

Deaf program models. As reported earlier, for many years, students who were deaf or hard-of-hearing had few alternatives in postsecondary education programs. Gallaudet University was not equipped to accommodate all candidates, yet there were few alternatives prior to the 1960s. Students could enroll at regular colleges and universities, but support services were not guaranteed. However, the situation changed significantly by the late 1960s and early 1970s.

In response to the growing number of postsecondary education programs at mainstreamed institutions for students who were deaf or hard-of-hearing, the Conference of Executives of American Schools for the Deaf (CEASD) developed Principles Basic to the Establishment and Operation of Postsecondary Education for Deaf Individuals (Stuckless, 1973). They identified six areas that should be considered in developing

postsecondary programs: (a) planning, (b) administration, (c) staffing, (d) students, (e) curriculum, and (f) support services. Although widely disseminated, it was difficult to determine whether or not these principles have had an effect on either student success or program development, since these were written as guidelines and not as standards (Walter, 1991).

To assess program quality, Lowell (1987) suggested that six characteristics be examined: (a) maintaining sufficient funding, (b) coordinating appropriate support services, (c) maintaining a committed student body, (d) supporting fully qualified faculty, (e) using current technologies, and (f) developing a critical mass of students. Lowell emphasized the need to develop and maintain both formal and informal networks to enhance the provision of services to students, particularly in a time of diminishing resources.

What may constitute a program for deaf students has been difficult for professionals in the field to define beyond providing interpreters or notetakers (Woodrick, 1991; Walter, 1992). Programs for deaf students may share certain core elements. In College and Career Programs for the Deaf, Rawlings et al (1988) interpreted the CEASD guidelines to mean that a program for deaf students (a) had at least 15 deaf students enrolled, (b) was a unit of a regionally accredited postsecondary institution, (c) had a program coordinator who was assigned at least 50% time directing the program, and (d) generally complied with the principles proposed in 1973 by the CEASD.

Influence of mainstreaming. As P. L. 94-142 was implemented, educators of students who were deaf or hard-of-hearing recognized that successful mainstreaming

required more than placement in regular classrooms (Moores & Kluwin, 1986). Many factors had to be considered, particularly with young children, such as (a) the relationship between successful mainstream placement and the degree of hearing loss, (b) age at onset of loss, (c) reading and language abilities, and (d) communication skills. Other factors such as race, sex, and economic status of the children were also investigated (Allen & Osborn, 1984; Karchmer & Trybus, 1977; Kluwin & Stinson, 1993; Moores & Kluwin, 1986; Northcott, 1971; Wolk, Karchmer, & Schildroth, 1982). Unfortunately, the research did not provide much information on successful students who are deaf or hard-of-hearing in regular postsecondary institutions, especially in regular four-year colleges and universities. Most of the available research on postsecondary education focused on the special programs for deaf students.

Access to a full range of colleges and universities has remained limited in spite of the development of special programs for students who are deaf or hard-of-hearing (Menchel, 1996). Students have had to choose between attending established programs with adequate support services (such as interpreters, notetakers and tutors, and often with specially designed curricula and instruction) and attending regular colleges and universities that offered few or no special services to support their academic success. An additional factor in the decision-making process was that the number of special programs in four-year colleges or universities was limited. However, the mainstreaming experience influenced an increasing number of students who are deaf or hard-of-hearing to enroll in regular four-year colleges and universities regardless of whether or not they had specially designed programs for deaf students and appropriate support services.

Roles, Responsibilities, and Competencies of Professionals

Deafness specialists may draw on skills used by a variety of professionals including general student services personnel, rehabilitation counselors, career counselors, personal counselors, and disability support service professionals (C. Bergquist, personal communication, May 1, 1998). Deafness specialists may also be involved with legal issues, public relations, and staff development. Disability support service professionals and rehabilitation counselors for the deaf seem to be the professionals most closely related to deafness specialists in postsecondary education settings.

Student Services Professionals

Delworth and Yarris (1978) defined competent staff members as needing "certain kinds of knowledge, certain attitudes, emotional qualities, and particular skills" and indicated that competence may be "a combination of cognitions, affect, and skills" (p. 2). According to Delworth and Hanson (1989b), professional competencies in assessment and evaluation, instruction, consultation, counseling and advising, and program development forms a fundamental core that is necessary for student services providers.

Within the student services and student development area on campus, professionals may assume a variety of roles, including those of administrator, counselor, student development educator, and campus environment manager (Delworth & Hanson, 1989). A student services approach or student development model may be adapted based on the nature, mission, and philosophy of the institution and the individual perceptions and philosophies, interests, and skills of the practitioner. In addition, the changing

population of students at the college level has created a need for extensive training for support service personnel. Fried (1989) indicated that non-traditional student populations may not be approached effectively with traditional methods. As a result of changing life circumstances, a holistic approach from the student services professional may be required.

Disabled Student Services Professionals

The role of deafness specialist may be strongly related to that of the disability support services provider. Throughout a relatively brief history of disability support services, a number of issues and concerns have impacted upon the provision of campus access to students with disabilities (Jarrow, 1993). These issues included such trends and practices as (a) the changing roles and functions of disability support service directors, (b) the service needs of special client populations, (c) technological advances, and (d) legal requirements. The practices used in disability support services to some extent may be shaped by the experiences, values, and preferences of the personnel as well as by the demands and expectations of the institution.

In a 1984 survey, Blosser considered 10 areas in which directors of disability support service programs had responsibility. The highest priorities were given to planning, coordination, and public relations and information roles. Considered less important were counseling services, specific support services, and general services. The respondents indicated that training and coursework in disabling conditions was a major priority for disability service program directors.

While about one-half of the respondents to Blosser's survey had primary experience in counseling positions, 60% had no experience in disability services prior to assuming the position of director of disability support services. A majority of respondents (78.1%) held graduate degrees; and the major areas of study included counseling and guidance (31.9%), rehabilitation counseling (21.6%), college student personnel (8.1%), and special education (7.6%), among others.

Other researchers investigating problems associated with services for students with disabilities in higher education have noted a need for training in assessment, program implementation, and program evaluation (Johnson, 1984; Mellard & Deshler, 1984). Salend et al. (1985) stated that support service administrators needed training in advocacy, instructional programs, consulting with colleagues regarding classroom alternatives, advising students with disabilities, promoting positive campus attitudes, and assisting in service delivery. A study by Shaw and Norlander (1986) found that campus administrators tended to seek staff members who had an interest in working with individuals with disabilities. They may come from a variety of fields including counseling, psychology, social work, special education, rehabilitation or developmental education, or curriculum and instruction.

In a recent study on the role and function of disability support service directors, Madaus (1996) identified six cluster areas of essential functions: (a) direct services, (b) administrative, (c) consultation and collaboration, (d) campus training, (e) professional development, and (f) legal compliance. Approximately one-half (53.4%) of the respondents to Madaus' (1996) study reported five years or less of experience in disability

support services. More than three quarters of the respondents completed graduate degrees. The most common major area of study listed by the respondents was counseling (25.5%), followed by other (16.8%), special education (15.9), higher education (13.7%), and rehabilitation counseling (13.4%).

Deafness Specialists in Postsecondary Education Programs

Limited information was available on the roles, responsibilities, and competencies of deafness specialists in higher education. However, after reviewing the characteristics of programs for students who are deaf or hard-of-hearing, it may be possible to identify some areas of responsibility. The program guidelines developed by CEASD suggested that full-time directors should coordinate programs (Stuckless, 1973). However, the authors of College and Career Programs for the Deaf indicated that the coordinator should have at least 50% time commitment for this role (Rawlings, Karchmer, & DeCaro, 1988). Due to the unique communication needs of students who are deaf or hard-of-hearing, it is critical to have personnel with adequate sign language communication skills as well as knowledge of specialized assistive technology.

The CEASD guidelines also specified that training should be available to support personnel to help them better understand and meet the needs of students who are deaf or hard-of-hearing (Stuckless, 1973). Serwatka and Hansford (1991) indicated that faculty should be included in training activities, but that the level of participation might vary depending on the number of students who are deaf or hard-of-hearing on campus, and the type and size of the institution. In addition, Woodrick (1991) suggested that professionals

in the field of deafness (such as interpreters, tutors, notetakers, and deafness specialists) could also benefit from training and ongoing staff development.

It is important for students to have access to professionals with the necessary background and skills to provide appropriate support and guidance. Carver and Vosahlo (1991) reported that knowledge about deafness, experience in working with deaf or hard-of-hearing individuals, and a realistic understanding about the implications of deafness could contribute to developing the full potential of the individual. As students plan for the future, advisors or mentors can support continued growth and development in personal, academic, and career areas (Saur, 1992). The advisor can balance the unique needs of each student with realistic institutional provisions. An advisor may serve in a pivotal role, providing information to both students and other professionals.

Deafness Specialists in Related Professions

To gain a better understanding of the special competencies of deafness specialists in postsecondary education programs, it may be helpful to review studies that examined the competencies of deafness specialists in related career areas. In 1973, Schein indicated that a vocational rehabilitation counselor for deaf clients (RCD) should have (a) either sufficient communication skills to relate in a meaningful manner with client, or be willing to attain these; (b) the education and experience required by the vocational rehabilitation agency; (c) knowledge of the psychological, educational, social, and vocational implications of deafness; and (d) rapport with the deaf community. In addition to the regular function of a vocational rehabilitation counselor, RCDs should become involved

with the deaf community to provide outreach services, and maintain good communication with the state coordinator for the deaf (SCD) to discuss gaps in resources and cooperatively develop the necessary resources. The RCD should also serve as a consultant to other counselors and colleagues on issues related to deafness. In order to accomplish this, the RCD must be (a) proficient in expressive and receptive manual communication, (b) knowledgeable about the psychological and sociological problems faced by deaf persons, (c) able to determine the real abilities and potential of deaf individuals, utilizing the tools available to the rehabilitation counselor; and (d) skilled in assisting deaf individuals in developing and achieving their goals.

In 1976, Lloyd and Watson reported that social services to individuals who are deaf or hard-of-hearing became less isolated, less frequently duplicated, and more coordinated from the mid-1960s to the mid-1970s. Recognizing the need for a variety of services, they suggested that professional training programs be modified or restructured to incorporate the needs of individuals who are deaf or hard-of-hearing. They indicated that the role of deafness specialist should change to include not only direct services to individuals but also program planning, development, and coordination of services.

Levine (1977) reported that psychologists working with deaf clients may share the same general competencies of psychologists as a whole. However, she identified five special competency areas for those working with individuals who are deaf. These included (a) communication, language, and communication relations; (b) knowledge of deaf people as individuals, as members of a community, and as a subculture; (c) techniques of psychological evaluation; (d) techniques of treatment; and (e) personal

qualities. The personal qualities of the psychologist were described as (a) working well in collaborative situations, (b) tolerating frustration, (c) maintaining confidentiality, (d) establishing good personal and working relations with people, and (e) seeking continued improvement through professional growth and self-appraisal.

In 1987, Petty studied the special competencies of deafness rehabilitation specialists and identified eight competency areas. These included (a) communication modalities and systems; (b) demographic, psychosocial, and cultural characteristics of deaf persons; (c) educational and vocational considerations; (d) interpersonal relations in working with deaf persons, their families, and other professionals; (e) use of interpreters with deaf persons; (f) implications of the degrees and types of hearing loss and the use of amplification; (g) job engineering and restructuring; and (h) legislative initiatives and implications. She suggested that these competencies be used by a variety of service providers, including those in postsecondary education programs.

When considering the development of model state plans for vocational rehabilitation services for individuals who are deaf or hard-of-hearing, Hehir, Fennell, Musteen, and Taff-Watson (1990) outlined expectations for rehabilitation counselors for the deaf (RCD). Hehir et al. indicated that the RCDs' ability to communicate with deaf individuals in their natural language was essential. Rehabilitation Counselors for the Deaf should also be able to determine the functional skills and limitations of their clients and to manage assessment data to provide the appropriate intervention strategies. Rehabilitation counselors working with deaf clients should also be able to provide appropriate vocational, community, and independent living placement services. Finally,

RCDs should be able to provide case management services in a timely and appropriate manner to clients. In order to accomplish these things, Hehir, Fennell, Musteen, and Taff-Watson concurred with most of the competency areas identified in Petty's study (1987) but did not include (a) communication modalities and systems and (b) legislative initiatives and implications.

Specialized Programming Issues

Specialized programs for individuals who are deaf or hard-of-hearing have been identified since 1864 with the establishment of what is now known as Gallaudet University (Moores, 1994). Since the early 1970s, there has been tremendous growth in the development of local programs at regular postsecondary education institutions (Rawlings, Karchmer, DeCaro, & Allen, 1995). Due to legislative actions and philosophical changes in special education in recent years, students who are deaf or hard-of-hearing now have opportunities to attend the postsecondary institutions of their choice (Menchel, 1996). Significant changes have taken place over the past 30 years in postsecondary education opportunities for students who are deaf or hard-of-hearing. Of interest in this study was how professionals with different educational backgrounds, and personal and work experiences view the role of deafness specialist in postsecondary education settings.

Hearing status of faculty and staff. Much of the research on disability has been conducted by persons without disabilities for whom significant contact with individuals with disabilities was limited (Fine & Asch, 1988). In spite of the prevalence of disability

in society, relatively little is know about the experience of having a disability. The research that does exist may be inadequate for either a comprehensive understanding of disability or a meaningful interpretation of how the lives of individuals with disabilities are affected (Asch & Fine, 1988; Atkinson & Hackett, 1995).

Within the deafness professional community, there has been continuing controversy and differing opinions between deaf and hearing professionals regarding education of deaf students and how to assist them in being part of mainstreamed society (Gannon, 1980; Lane, 1984; Moores, 1987). The final word on issues related to deafness has traditionally come from hearing benefactors. According to Lane (1984), the most crucial need of the deaf community has been the freedom to make decisions for themselves. Bock (1993-94) expressed concern that input from deaf professionals has not been valued or desired within the field, despite the fact that many deaf professionals have valuable experiences, education, and training. While there has been a long history of controversy, some gains are being made as people who are deaf become involved in the political process and work to change the system (Scoggins, et al., 1996).

The mission of research in deafness has been to improve the quality of the lives of deaf people (Trybus, 1984). It has been ironic that people with normal hearing have traditionally been and continue to be the majority of professionals in the field (Crammatte, 1984; Walter, 1994). As researchers, their assumptions have been derived from a hearing perspective with a focus often on isolated aspects of deafness rather than one that considers the whole (Benderly, 1980; Garretson, 1980; Stinson, 1993-94). Crammatte (1984) emphasized the importance of investigating any differences in opinion

between deaf and hearing professionals regarding issues related to deafness. There has been a need to determine the concerns in the field of deafness from the perspective of deaf people as opposed to the perspective hearing people.

Stinson (1993-94) cautioned that researchers from the majority culture may tend to oversimplify and to use stereotypes when describing and trying to understand a minority culture. Those researchers who are also members of the minority culture being researched "may be more sensitive to certain specificities and complexities" (p. 18). Researchers who are hearing individuals working in the field of deafness have been encouraged to reexamine their beliefs and philosophies as they related to the deaf community (Foster, 1993-94). Both Foster and Stinson recommended asking for feedback from colleagues who are deaf to ensure that the research focus is balanced in perspective.

Professionals who have hearing losses may serve the additional function of being role models for students who are deaf or hard-of-hearing. Vernon (1971) supported the concept of having counselors who are deaf or hard-of-hearing working in the rehabilitation field, serving in the direct service role and in the policy-making areas. Several researchers have emphasized the significance of the impact of role models in effecting changes in the attitudes and behaviors of students (Cook, Kunce, & Sleater, 1974; Eichinger, Rizzon, & Sirotnik, 1991; Glass & Meckler, 1972). The need for role models from underrepresented groups is evident on college campuses (Freeman, Nuss, & Barr, 1993). In addition to increasing diversity on campus and having an impact on the entire student body, this exposure can also symbolize institutional and professional commitment and can serve as a support for students (Smith, 1989).

In a study of 25 deaf adults, Foster (1989) found that they reported recurrent experiences of alienation from hearing people but recognized a sense of identification and acceptance from other deaf people. Those individuals who had mainstreamed educational experiences reported that interactions with other deaf people were particularly rewarding since they did not have opportunities to interact with other deaf people as did those in residential schools for the deaf. By college level, respondents reported that their interactions with deaf peers were beneficial, offering them opportunities to understand things that had previously been missed. They often developed a sense of community with other deaf individuals and, as a result, reported that they developed a new identity as a deaf person. Their interactions with hearing peers did not offer the same satisfaction, and communication was frequently a major barrier.

Foster (1989) suggested that the findings supported the concept that deaf and hearing people negotiated the social meaning of deafness through interaction. She noted that hearing culture often has viewed deaf people as deviant and cast them into this role, and that more often than not deaf people unconsciously reacted accordingly. In recent years, the deaf community has begun to renegotiate its social role within the larger community, challenging the majority culture's pathological views.

Faculty and staff preparation. Lynton and Elman (1987) suggested that professional competence gained from higher education "requires a depth of knowledge in some field of specialization, an understanding of that field's application to external realities, and an awareness of the complementary perspectives that are needed to illuminate the context in which the specialized expertise is applied" (p. 72). They

reported that the rapid changes in many work environments further supported the need for professionals to adjust to the new demands of the workplace. Developing technical skills and technical judgment (Jerath, 1983), participating in ongoing professional development (Lynton, 1983), and recognizing the importance of interpersonal skills and consumer issues in the appropriate setting and context (Lynton, 1984) are critical factors in the preparation of prospective professionals in their area of expertise.

Carroll and Tarasuk (1991) reported that community college counselors are concerned that they "are expected to be involved in a greater variety of services than ever before" (p. 34). As counselors' responsibilities in community colleges increased and became more diverse, they experienced more confusion, frustration, and role conflict when trying to be "all things to all people." Counselors in community colleges may also experience role conflict when they attempted to handle assignments without the appropriate manpower or when working with groups that were very different from their usual population of students (Coll & House, 1991). In addition, disagreement about their functions may lead to reduced effectiveness and increased role conflict (Coll & Rice, 1993; Robbins, 1983).

Richardson and Simmons (1989) recommended models of student services that utilized an arrangement that was more program-oriented instead of approaches that were homogenized and undifferentiated. Without planning, establishing priorities, and collaborative activities, student services programs emerged as a "helter-skelter array of services" (Dassance & Harr, 1989, p. 21).

In a national study, Yocum and Coll (1995) found that community college

counselors had significantly less training and background in working with students with disabilities than did developmental studies educators. As increasing numbers of students with disabilities enrolled in postsecondary education, it was important that student affairs professionals, who frequently have been the first contact person for a student with a disability, better understand the legal and educational issues related to serving this population (Yocum & Coll, 1995; Young, 1988).

Data collected from postsecondary institutions showed that many of the programs for students who are deaf or hard-of-hearing do not have staff members with communication skills necessary to work with them (Rawlings et al., 1995). This would lead one to believe that the service providers may not have professional training or a background in a deafness-related area. While there was little information to support the need for such background or training for deafness specialists at the postsecondary level, many of the typical job requirements assumed a certain level of knowledge and expertise. Lowell (1987) described quality postsecondary education programs as having faculty who were qualified in their content areas and experienced in working and communicating with students who are deaf or hard-of-hearing.

Professionals who were interested in becoming deafness specialists have had the opportunity to obtain specific training since 1965 (Wyatt & White, 1993). However, there have been few programs available, and the majority of the graduates have tended to work primarily in rehabilitation settings. Others may seek the role of deafness specialist based on their having a hearing loss themselves or having relatives who were deaf or hard-of-hearing (Corbett & Jensema, 1981). Nemon and Elliott (1985) reported that the best

students in their training program had the greatest amount of previous experience.

Size of program and staff. While larger institutions may have large numbers of student services professionals who are divided into program or specialty areas, small colleges tend to have smaller student services departments (Palm, 1984). These professionals may be considered generalists within their setting. Small colleges with fewer staff members frequently make the most of the resources available, including having staff members assume a variety of responsibilities (Simmons, 1983). Student service professionals may need to be flexible, assuming tasks that are not related to their primary area of responsibility (Palm, 1984; Simmons, 1983). Due to the nature of the small college environment, a student services professional may work in a somewhat isolated setting with more responsibility than peers at a large institution.

Richmond (1986) expressed concern that graduate programs in college student personnel services were preparing students to work within large institutions and were overlooking issues related to working within small colleges. He indicated that small colleges typically utilized different approaches in administration and may be more restrained on budget and program issues. The community within a small college is very different from that of a large institution, requiring different ways of interacting with others. Within a small college, the student services professional may not have as much administrative and managerial responsibility and might spend more time working directly with people (Palm, 1984).

With regard to size of program staff, Flynn (1986) reported that when faced with the changing demographics of the student population, community colleges have not

allocated sufficient resources to develop appropriate programs to meet the needs of the incoming population. According to Creamer (1989), community college budgets expanded more slowly than did service demands. Consequently, new models or strategies would be necessary to support good results with limited financial resources.

In the 1980s, for example, community college enrollment increased (Cohen & Brawer, 1982) while the average number of counselors decreased (Higgins, 1981). Keim (1988) reported that the typical counselor-to-student ratio was very high. Trends showed that the workload for counselors in community college settings became extremely heavy as the average number of counselors per institutions decreased (Keim, 1988). Additionally, as the number of students from nontraditional groups increased, the workload of the counseling staff also increased as they were charged with meeting the needs of a more diverse student population (Carroll & Tarasuk, 1991).

When considering programs for students who are deaf or hard-of-hearing, Rawlings and King (1986) found that it was more likely that larger programs would have more formalized services than that smaller programs would provide these services. As program size increased, more specialized services were available. In a large metropolitan community college with a large population of students who are deaf or hard-of-hearing, students enrolled in degree/credit programs and non-degree continuing education programs, including academic skills preparation, career preparation, personal development, internships, and job training programs (Kahn, 1991). True access was achieved because of the wide range of specialized support services available to students who are deaf or hard-of-hearing. Having a critical mass of deaf students supported the

need for a larger staff with more specialized areas of responsibility. While the various staff members were well qualified in their areas of expertise, they each offered different components to the program of service provision.

Nash (1991) discussed trends in deaf education, and raised questions about service provision in the 1990s and beyond. Traditional programs for students who are deaf or hard-of-hearing may not have enough students to continue operating at their former level. Programs that once may have had a large staff may be faced with reductions and reassignments.

A 1994 survey conducted by the National Center for Education Statistics found that the larger the institution, the more likely that a deafness specialist would be available. Mallory and Schein (1992) reported that a mixed model of managing support services for students who are deaf or hard-of-hearing was most the common model in postsecondary settings across the United States. The mixed model of managing support services was characterized by having some full-time staff members with specific responsibilities, and contractual workers who provided other services.

To provide effective support services for students who are deaf or hard-of-hearing, a coordinated effort among faculty and staff was necessary (Hurwitz & Kersting, 1993). Campuses with few professional resources may need to network and consult with community or local resources and professionals on other campuses. On campuses where a specialized program for deaf students did not exist, staff or faculty without expertise in deafness may have provided services, thus facilitating the need for additional consultation from professionals from other institutions and deaf community members.

Summary

The purpose of this review of literature has been to present the development of and changes in student support services for students with disabilities, particularly those who are deaf or hard-of-hearing. Due to passage of Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, access to institutions of higher education has become a right for individuals with disabilities.

Program accessibility has been guaranteed to all students with disabilities attending postsecondary education institutions that receive federal funds. Yet the research has indicated that colleges and universities are experiencing difficulties in the implementation of federal mandates. Meeting the needs of students who are deaf or hard-of-hearing may be difficult since the support services frequently requested require ongoing financial support and staff with highly specialized training and skills.

There is a need for a major educational commitment to assure that all students in higher education have equal opportunity to perform their best academically. As the profession continues to grow, clarification of the role of the deafness specialist is needed. By further exploring the role and responsibilities of deafness specialists in regular colleges and universities as well as within specialized programs for students who are deaf or hard-of-hearing, it may be possible to identify competencies necessary to effectively fill the role.

CHAPTER III

Research Procedures

Introduction

This section includes the methods and procedures that were used in this study. It contains the research methodology, research population and sample, instrumentation, pilot study, and procedures for data collection and analysis of the data.

Research Methodology

This study was designed to identify the special competencies of deafness specialists in postsecondary education settings and to measure how these competencies were perceived by practitioners. Using the current literature and feedback from a panel of experts, the researcher developed an instrument to study the special competencies of deafness specialists in postsecondary education programs. The survey research method utilizing mail questionnaires was used for this assessment. Survey research uses questionnaires to query people about what they know, what they do, and what they believe. This can be an effective way to determine attitudes and beliefs (Plumb & Spyridakis, 1992). It may be an easier, quicker, less expensive, and more accurate way to obtain required information than other methods (Alreck & Settle, 1995). For these reasons, survey research is the most accurate way to assess the perceptions of deafness specialists.

This study utilized a post hoc survey that was designed to identify the special competencies of deafness specialists in postsecondary education institutions. The questionnaire was distributed to a sample of deafness specialists from postsecondary education institutions that reported having programs for students who are deaf or hard-of-hearing. Related demographic information about the specialists and their respective institutions was included in the data collection. Based on the purpose of this study, the data was analyzed using quantitative techniques, including multivariate analysis of variance (MANOVA), frequencies, and percentages.

Research Population and Sample

The respondents for this study were deafness specialists from postsecondary education institutions in the United States. Deafness specialists in postsecondary education programs may assume one or more of several roles, including program coordinator, counselor, advisor, lead interpreter, or educational specialist (Woodrick, 1991). Institutional philosophy, student needs, and available resources may determine the specific roles that each deafness specialist assumes. According to Walter (1992), the goal of postsecondary education programs for deaf students should be the "integration of the student into the total educational community" (p. 36); and program staff should be prepared to provide the accommodations necessary "to meet the communicative and educational handicaps imposed by severe to profound hearing impairment" (p. 37). Consequently, the role of the deafness specialist often included (a) working directly with students in a counseling or advising capacity, (b) locating and providing appropriate

support services, (c) consulting with faculty and staff regarding academic and social issues, and (d) serving as a liaison between the program for deaf students and other entities on campus.

Population

Eligible participants were selected from a database of postsecondary education institutions responding to a 1997 national needs assessment survey conducted by the Postsecondary Education Programs Network (Hopkins & Walter, 1998). From this survey of 10,286 postsecondary education institutions, 1,045 institutions reported offering programs for deaf students. Professionals who are designated as deafness specialists were identified for participation, forming the population of this study.

Selection of Sample

Krejcie's and Morgan's (1970) Table for Determining Sample Size from a Given Population was used to determine the sample size of deafness specialists. For a population of 1,045, a sample of 285 would be desired.

Isaac and Michael (1995) suggested that larger samples of participants may be more desirable than smaller samples for several reasons. Increased samples may yield smaller sampling errors. A larger sample would provide more possible respondents in sub-groups and, therefore, would provide information when differences in results may be small and subsequently not noted in a smaller sample. Fink and Kosecoff (1985) indicated that oversampling was a strategy to increase the size of the sample.

In order to achieve the optimum response rate, the researched selected more participants than were necessary to ensure that the findings would be representative of the population. A representative sample of participants from 422 institutions was selected using a stratified sampling design. Stratified sampling allows the random sampling of participants from various subgroups according to the proportion that they are represented within the population (Gay, 1996). In the Postsecondary Education Programs Network (PEPNet) national needs assessment, 1,103 of the institutions indicated that they had a program for students who are deaf or hard-of-hearing. Of these institutions, 54% (or 588 out of 1,178) of the four-year institutions, 40% (or 448 of 1093) of the two-year institutions, and 6% (67 out of 1,688) of the less-than-two-year institutions responding reported having a program for deaf students. Consequently, the participants for this study were categorized into similar subgroups. To accommodate specific responses, the category for responses from professionals from two-year institutions was divided into two-year community colleges and two-year technical colleges. The sample was selected to reflect a similar proportion of participants represented in the PEPNet study.

Instrumentation

After a review of the literature, no instrument was available or appropriate for us in this study. Consequently, the researcher developed the Special Competencies of Deafness Specialists in Postsecondary Education Settings Inventory, which can be found in Appendix A.

Identification of Competency Items

A tentative list of 200 competency items was developed from information gathered from the literature about student services professionals, disability support service providers, and deafness specialists in related disciplines. Through content analysis and data reduction methods, the researcher reduced the number of competencies in the original list to 141 items. According to Patton (1980), the first step of content analysis would involve the development of category systems in which the analyst looks for "recurring regularities" within the data. Patton stated:

> Categories should then be judged by two criteria: "internal homogeneity" and "external homogeneity." The first criterion concerns the extent to which the data that belong in a certain category hold together or "dovetail in a meaningful way." The second criterion concerns the extent to which differences among the categories are bold and clear. (p. 311)

Competency data synthesis, or data reduction, was necessary to develop a functional and meaningful list of competencies. Dobbert (1982) cited Silvern's definition of synthesis as a technique of combining components in an organized way so as to constitute a whole. Dobbert identified four steps in the synthesis process:

> (1) identification of all small parts possibly relevant to the research question; (2) relating the small parts to each other, ... thus; (3) creating wholes; and (4) relating and combining until the largest whole relative to the ... question has been constituted. (p. 294)

Use of Content Experts

Because of the lack of specific information in the literature regarding deafness specialists in postsecondary education settings, it was necessary to seek the consensus of expert opinion regarding the competency items. Selltiz, Wrightsman, and Cook (1976) recommended identifying experts representing different approaches, social orientations, academic degrees, types of institutions, and regions of the country for this purpose.

A panel of 12 content experts was selected to participate in the development of the survey instrument. The panel included (a) deafness specialists who were working in postsecondary education programs, (b) directors of disability support services who were familiar with providing support services to students who are deaf or hard-of-hearing, (c) professionals who were responsible for ongoing professional development for deafness specialists in postsecondary education programs, and (d) university faculty members who were responsible for pre-service training programs for deafness specialists. Deaf, hard of hearing, and hearing professionals were included on the panel. Members of the panel were selected on the basis of their professional expertise and knowledge of the topic.

Of the 12 panelists selected to participate in the validation process, 11 responded to the task. One expert initially agreed to participate as a panelist but was unable to complete in the process. The 11 content experts are listed in Appendix B.

The panel was asked to review the 141 competency statements identified by the researcher for (a) representativeness to the deafness specialist position, (b) clarity, (c) consistency of word use, and (d) elimination of redundant items. They were directed to add competency statements, identify cluster areas, include comments, and record any

questions regarding the items. Information sent to the content experts is included in Appendices C and D. The researcher constructed the instrument based on the information generated. The principles of content analysis and synthesis were applied in the competency data analysis to (a) develop domains, (b) classify competencies within those domains, and (c) synthesize and organize existing competencies into consistently worded statements.

Survey Instrument

A survey instrument was constructed to investigate the special competencies of deafness specialists in postsecondary education programs. The instrument was comprised of two parts. Part I of the survey instrument consisted of a list of special competency items for deafness specialists in postsecondary education programs. A five-point Likert-type rating scale was assigned to each item to ascertain how the survey participants perceived the special competencies. The five points on the rating scale were defined as follows: 1 = never; 2 = seldom; 3 = occasionally; 4 = frequently; 5 = always. All items listed used the common stem "In postsecondary education settings, deafness specialists ..."

Part II of the survey requested demographic information and consisted of questions related to (a) selected practitioner variables (such as gender, disability status, amount of experience, job title, highest degree earned, and major area of study); (b) programmatic variables (such as the number of students who are deaf or hard-of-hearing and the size of the program staff); and (c) institutional variables (such as size and type).

Pilot Study

The researcher conducted a pilot study prior to the distribution of the final survey instrument. The subjects for the pilot study included 30 professionals attending the Southeast Regional Institute on Deafness in October 1998. Subjects included interpreters, faculty and administrators from secondary programs for deaf or hard-of-hearing students, rehabilitation counselors for the deaf, staff development specialists, and pre-service training personnel. The pilot study was conducted to ensure that the wording of the questions on the instrument was clear and that consistent meaning was attached to the questions, thus enhancing the content validity of the survey instrument. Feedback from the pilot study was used to clarify the survey directions and wording of items.

The pilot test was designed to be highly similar to the final instrument and response procedures. This similarity included the instructions, all items and response categories, general layout, and return procedures. Participants were asked to rate each competency item on a five-point Likert-type scale and to respond to demographic items.

Data Collection

The survey method followed the procedures for data collection described by Dillman (1978). In November 1998, the researcher mailed a packet to 422 postsecondary education institutions across the United States who have indicated on the Postsecondary Education Programs Network survey (Hopkins & Walter, 1998) that they offered a program for deaf students. Each participant received a copy of the survey, a cover letter (shown in Appendix E), and a self-addressed, stamped return envelope. Letters of support

were solicited (Appendix F) and referred to in the cover letter. Participants were assured confidentiality and were encouraged to complete and return the survey in a timely manner. As an incentive to participate in the study, each packet contained a pen with the inscription "Thanks for your assistance. Special Competencies of Deafness Specialists." A follow-up postcard reminder was sent to nonrespondents approximately three weeks after the initial mailing, encouraging them to complete and return the survey (Appendix G). Finally, a second packet (including a survey, cover letter, and return envelope) was sent in January 1999 to nonrespondents asking for their participation in the study.

The initial mailing yielded 131 returns. Six surveys were returned as undeliverable; and two surveys were not completed. Follow-up postcards yielded an additional 76 completed questionnaires. The second mailing generated 38 more competed questionnaires for a total of 237 usable responses. This response level was deemed sufficient for analysis, and additional follow-up for survey respondents was not initiated. The survey was concluded at the end of January, 1999.

Data Analysis

A researcher-developed instrument, the Special Competencies of Deafness Specialists in Postsecondary Education Settings Inventory, was used to gather the data. To address research question one, a review of the literature and feedback from a panel of content experts were used to identify the special competencies of deafness specialists in postsecondary education settings.

The Statistical Package for the Social Sciences (SPSS) computer program was used to perform the analyses of data necessary to respond to the remaining three research questions. Descriptive statistics (frequencies and percentages) were generated for each of the 10 demographic items to examine the makeup of the respondents and the distribution of the data. Analysis included a multivariate analysis of variance (MANOVA) procedure with the Wilks' Lambda Test criteria used to identify preliminary evidence for further univariate analysis. MANOVA tests for the "significance of the difference between two or more groups of subjects" and is "appropriate when the study involves one or more criterion variables" (Hatcher & Stepanski, 1994, p. 284). A MANOVA is used if there are two or more criterion measures and two or more independent variables or more than two levels of a single independent variable (Huck, Cormier, & Bounds, 1974). The analysis was performed using the competency clusters within each competency domain as dependent variables and the respondent characteristics of hearing status, major area of study, program size, and staff size as the independent variables.

Multivariate analysis of variance could provide F statistics used to test the null hypotheses. If a significant differences were noted, follow-up tests could be performed to identify the groups that are significantly different. Tukey's HSD, a follow-up post hoc test, was used to investigate significant differences. A .05 level of significance was used for all statistical tests.

Summary

The methods and procedures used in this study were presented in this chapter. A survey instrument was developed to identify the special competencies of deafness specialists in postsecondary education settings and to address the major research question guiding this study. Instrument development procedures included an investigation of content validity through expert review. The chapter described the sample for the investigation and an explanation of the data analysis procedures.

CHAPTER IV

Analysis of Data and Results

The purpose of this study was to identify the special competencies of deafness specialists in postsecondary education settings and to study any differences that may have existed in perceptions according to selected practitioner and programmatic variables. As described in the previous chapter, the researcher identified the special competencies and surveyed practitioners to measure their perceptions of the competencies.

Response Rate

The Special Competencies of Deafness Specialists in Postsecondary Education Settings Inventory was mailed to 422 deafness specialists across the United States. The U.S. Postal Service returned six questionnaires as undeliverable, and two questionnaires were not completed. A total of 237 questionnaires were returned, yielding an overall response rate of 56%.

Alpha Reliability

The internal consistency of the Special Competencies of Deafness Specialists in Postsecondary Education Settings Inventory was examined using Cronbach's alpha reliability estimate for each cluster. Table 1 presents the results of this analysis for each of the 12 competency clusters. Each competency cluster had an alpha of above .73, meeting the criterion of .70 suggested by Gable and Wolf (1993). The alpha reliability estimate for the entire 114-item instrument was .9806.

Table 1

Reliability Analysis

Competency Cluster	Number of Items	Number of Cases	Alpha Coefficient
Career Planning and Employment (CP)	14	232	.9209
Case Management (CM)	8	231	.7759
Communication Skills (CM)	6	236	.8208
Consultation (CN)	12	233	.8932
Counseling and Advocacy (CA)	5	233	.7440
Educational and Vocational Planning (VO)	10	234	.8830
Legal Aspects (LE)	4	235	.7420
Professional Development (PD)	15	231	.9161
Program Development and Evaluation (EV)	10	235	.8755
Public Relations (PR)	5	233	.7323
Support Services (SS)	13	232	.9004
Understanding Deafness (DF)	15	232	.9260

Respondent Characteristics

Practitioner Information

Respondents provided information about themselves, their backgrounds, and experiences in Part II of the survey. Demographic data describing the study participants are shown in Table 2.

The overwhelming majority of respondents to the Special Competencies of Deafness Specialists in Postsecondary Education Settings Inventory (77.9%) were female. The majority of respondents (86.7%) also reported having no hearing loss, while only 9.3% reported that they were deaf and 4.0% reported that they were hard of hearing.

Respondents were asked to indicate the amount of experience they had as deafness specialists. Of the respondents, 22.7% indicated having two years or less experience, 17.3% indicated three to five years' experience, 18.2% indicated six to ten years' experience, and 41.8% indicated ten or more years' experience.

Respondents were asked to indicate the number of years they had served in their current positions. The respondents were almost equally distributed among the four categories: 25.0% of the respondents indicated having two years or less experience in their current positions, 26.3% indicated three to five years' experience, 20.8% indicated six to ten years' experience, and 28.0% indicated ten or more years' experience. In terms of level of training, 3.0% of the respondents reported that they had no degree, 4.7% held associate's degrees, 20.5% held bachelor's degrees, 64.1% held master's degrees, and 7.7% held doctorates.

In addition to level of training, respondents also reported their major areas of study for each college degree category completed. The researcher recorded each major

Table 2

Respondents' Demographic Information

Variable and Level of Responses	Frequency	Valid Percent	Cumulative Percent
Gender			
Female	183	77.9	77.9
Male	52	22.1	100.0
Total	235	100.0	
Hearing Status			
Deaf	21	9.3	9.3
Hard-of-hearing	9	4.0	13.3
Hearing	195	86.7	100.0
Total	225	100.0	
Experience as a Deafness Specialist			
2 years or less	50	22.7	22.7
3-5 years	38	17.3	40.0
6-10 years	40	18.2	58.2
10 or more years	92	41.8	100.0
Total	220	100.0	
Experience in Current Position			
2 years or less	59	25.0	25.0
3-5 years	62	26.3	51.3
6-10 years	49	20.8	72.0
10 or more years	66	28.0	100.0
Total	236	100.0	
Highest Level of Education Achieved			
No college degree	7	3.0	3.0
Associate's degree	11	4.7	7.7
Bachelor's degree	48	20.5	28.2
Master's degree	150	64.1	92.3
Doctoral degree	18	7.7	100.0
Total	234	100.0	
Major Area of Study			
Not related	15	7.1	7.1
Semi-related	27	12.7	19.8
Related	66	31.1	50.9
Strongly related	104	49.1	100.0
Total	212	100.0	

area of study and categorized each into one of four groups according to the relationship of the major area of study to the role of deafness specialist. The four categories were (a) strongly related, (b) related, (c) semi-related, and (d) not related. Major areas of study that were strongly related to the role of deafness specialist included those with a focus on deafness, such as rehabilitation counseling for the deaf, sign language interpreting, or deaf education. Other major areas of study that were strongly related to the role of deafness specialist included rehabilitation counseling and disability services in higher education. Major areas of study that were categorized as related to the role of deafness specialist were those that included a focus on disabilities (i.e. special education) or human service areas (i.e. counseling, psychology, or social services). Some of the major areas of study reported were categorized as semi-related because there was not a strong relationship to the role of deafness specialist in the postsecondary setting, but there was a connection to some of the duties the job entailed. Finally, some respondents indicated major areas of study that were not at all related to the role of deafness specialist, such as journalism or business management. The majority of respondents (80.2%) listed major areas of study that were either related or strongly related to the role of deafness specialist. A list of the major areas of study reported by the respondents and the categories assigned by the researcher can be found in Appendix H.

Program Information

Respondents provided information about the programs at their institutions for students who are deaf or hard-of-hearing, including the average number of students who are deaf or hard-of-hearing served annually by the institutions and the number of regular

staff members primarily assigned to work with students who are deaf or hard-of-hearing. As described in Table 3, 29.7% of the respondents reported serving 5 or fewer students who are deaf or hard of hearing, 18.2% reported serving 6 to 10 students, 20.8% reported serving 11 to 20 students, 11.9% reported serving 21 to 30 students, 5.9% reported serving 31 to 40 students, and 13.6% reported serving more than 40 students. Table 3 also describes the number of regular staff members primarily assigned to work with students who are deaf or hard-of-hearing. Of the respondents, 10.8% reported no staff assigned to work with students who are deaf or hard-of-hearing, 40.4% reported one staff member, 16.9% reported two staff members, 8.4% reported three staff members, 5.8% reported four staff members, 5.8% reported five staff members, and 12.4% reported more than five staff members.

Institutional Information

Respondents provided information about the institutions where they were employed, including the total number of students enrolled and the types of institutions. Data describing the respondents' institutions are shown in Table 4. Of the total number of students enrolled, 7.3% of the respondents reported fewer than 1,000 students, 32.5% reported 1,000 to 4,999 students, 15.4% reported 5,000 to 9,999 students, 13.2% reported 10,000 to 14,999 students, 11.1% reported 15,000 to 19,999 students, and 20.5% reported more than 20,000 students. With regard to type of institution, 3.8% of the respondents indicated technical/vocational school, 5.1% indicated 2-year technical college, 43.2% indicated two-year community college, 42.8% indicated four-year college/university, and 5.1% indicated other.

Table 3

Respondents' Program Information

Variable and Level of Responses	Frequency	Valid Percent	Cumulative Percent
Size of Program			
5 or fewer students	70	29.7	29.7
6-10 students	43	18.2	47.9
11-20 students	49	20.8	68.6
21-30 students	28	11.9	80.5
31-40 students	14	5.9	86.4
More than 40 students	32	13.6	100.0
Total	236	100.0	
Staff Size			
No staff members	23	10.2	10.2
1 staff member	91	40.4	50.7
2-5 staff members	83	36.9	87.6
2	38	16.9	
3	19	8.4	
4	13	5.8	
5	13	5.8	
More than 5 staff members	28	12.4	100.0
6	9	4.0	
7	7	3.1	
8	2	.9	
9	1	.4	
10	5	2.2	
12	2	.9	
15	1	.4	
18	1	.4	
Total	225	100.0	

Table 4

Respondents' Institution Information

Variable and Level of Responses	Frequency	Valid Percent	Cumulative Percent
Size of Institution			
Fewer than 1,000 students	17	7.3	7.3
1,000-4,999 students	76	32.5	39.7
5,000-9,999 students	36	15.4	55.1
10,000-14,999 students	31	13.2	68.4
15,000-19,999 students	26	11.1	79.5
More than 20,000 students	48	20.5	100.0
Total	234	100.0	
Type of Institution			
Technical/vocational school	9	3.8	3.8
2-year technical college	12	5.1	8.9
2-year community college	102	43.2	52.1
4-year college/university	101	42.8	94.9
Other	12	5.1	100.0
Total	236	100.0	

Research Question One

Research Question 1: What are the special competencies of deafness specialists in postsecondary education programs?

A review of literature revealed 200 competencies in 22 cluster areas for deafness specialists. As reported in Chapter III, the number of competencies in the original list was reduced from 200 items to 141 items through content analysis and data reduction methods. A panel of content experts reviewed the competency statements for (a) representativeness to the deafness specialist position, (b) clarity, (c) consistency of word use, and (d) elimination of redundant items. The experts added competency statements, identified cluster areas, included comments, and recorded any questions regarding the items.

The original competency clusters were examined in light of the changes made through data reduction and based on feedback from the content experts. While the original competency cluster headings came from either the review of the literature or suggestions from content experts, new competency cluster headings were developed using Patton's (1980) suggested procedure for developing category systems. First the competencies were grouped to establish internal homogeneity. Next, competency cluster headings were chosen to reflect the competencies as a whole; and finally, the competency cluster headings were compared to insure that clear differences between the competency cluster headings existed. The final list contained 114 competencies classified into 12 competency clusters: Communication Skills; Support Services; Case Management; Counseling and Advocacy; Career Planning and Employment; Understanding Deafness; Educational and Vocational Planning; Professional Development; Consultation; Legal

Aspects; Public Relations; and Program Development and Evaluation. Based on the content of the competency statements in each cluster, the researcher grouped the 12 competency clusters into three competency domains: Direct Services to Students, Knowledge and Background, and Program Management. Table 5 shows the three competency domains and the competency clusters associated with each domain. The competency statements are listed according to competency cluster and competency domain in Appendix I.

The competency clusters Career Planning and Employment, Case Management, Communication Skills, Counseling and Advocacy, and Support Services were comprised of items related to providing services directly to students or acting on behalf of students with members of the campus community. The Career Planning and Employment competency cluster contained items related to the services deafness specialists provided to students in such areas as (a) utilizing career and vocational assessment materials, (b) matching a major area of study to a career area, (c) providing employment readiness training, and (d) assisting with the job placement process. The Case Management competency cluster included items related to the services deafness specialists provided to students in such areas as (a) determining eligibility for services, (b) recommending classroom accommodations, and (c) maintaining student records. The Communication Skills competency cluster was comprised of items related to the services deafness specialists provided to students in such areas as knowing and using appropriate modes of communication with students who are deaf or hard-of-hearing and using specialized technology to enhance the communication process. The Counseling and Advocacy competency cluster contained items concerning the services deafness specialists provided

Table 5

Competency Domains and Competency Clusters

Competency Domain	Competency Clusters
Direct Services to Students	Career Planning and Employment (CP)
	Case Management (CM)
	Communication Skills (CS)
	Counseling and Advocacy (CA)
	Support Services (SS)
Knowledge and Background	Educational and Vocational Planning (VO)
	Professional Development (PD)
	Understanding Deafness (DF)
Program Management	Consultation (CN)
	Legal Aspects (LE)
	Program Development and Evaluation (EV)
	Public Relations (PR)

included items related to the services deafness specialists provided to students in such areas as identifying and hiring support service personnel, including the qualifications and skills necessary for various positions. These five competency clusters constituted the competency domain Direct Services to Students.

Educational and Vocational Planning, Professional Development, and Understanding Deafness were competency clusters containing items related to the application of specific information about deafness and/or the ramifications of deafness to the postsecondary education setting. The Educational and Vocational Planning competency cluster included items concerning the knowledge and background needed by deafness specialists regarding the range and scope of postsecondary educational opportunities for students who are deaf or hard-of-hearing, and the ramifications and implications of deafness on the academic and vocational development of individuals who are deaf. The Professional Development competency cluster contained items related to providing training and awareness activities to the college community and the opportunities for ongoing professional development for the deafness specialist to enhance his or her skills. The Understanding Deafness competency cluster was comprised of items related to(a) the knowledge and background needed by deafness specialists regarding the audiological considerations for working with individuals who are deaf, (b) the psychological and social implications of deafness, and (c) the impact and influence of the deaf community on individuals who are deaf. These three competency clusters constituted the competency domain Knowledge and Background.

The competency clusters Consultation, Legal Aspects, Program Development and Evaluation, and Public Relations were comprised of items relating to the administration

or management of the program for students who are deaf. The Consultation competency cluster contained items related to the skills needed by deafness specialists regarding their work with the campus faculty, staff, and administration regarding effective accommodations for students who are deaf or hard-of-hearing, and collaborative efforts with community agencies to provide an appropriate range of services to the student population. The Legal Aspects competency cluster included items concerning the knowledge and skills needed by deafness specialists related to the implementation of legislation that addressed the inclusion of individuals with disabilities on campus. The Program Development and Evaluation competency cluster was comprised of items related to the skills needed by deafness specialists regarding the establishment and implementation of program goals and objectives, including program enhancement and expansion. The Public Relations competency cluster contained items concerning the skills needed by deafness specialists related to communicating information about the program across the campus and community. These four competency clusters constituted the competency domain Program Management.

Research Question Two

Do differences exist in the perceptions among deafness specialists regarding the special competencies related to direct services to students when considering hearing status, major area of study, program size, and staff size?

To answer research question two, four null hypotheses were formulated. The null hypotheses were:

$H_0$1: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to direct services to students when considering hearing status.

$H_0$2: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to direct services to students when considering major area of study.

$H_0$3: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to direct services to students when considering program size.

$H_0$4: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to direct services to students when considering staff size.

Null Hypothesis One

H_O1: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to direct services to students when considering hearing status.

Analysis of data pertaining to Hypothesis One was performed using hearing status to determine whether there was a difference in the perceptions of deafness specialists regarding the special competencies related to direct services to students. A multivariate analysis of variance (MANOVA) procedure was used to test the first hypothesis. The analysis was performed using the five competency clusters (Communication Skills, Support Services, Case Management, Counseling and Advocacy, Career Planning and

Employment) in the Direct Services to Students competency domain as dependent variables and using the respondent characteristic of hearing status as the independent variable.

As reported in Table 6, this analysis revealed no significant differences at the .05 level in the independent variable Hearing Status. Therefore, no follow-up post hoc test was necessary; H_O1 was not rejected.

Null Hypothesis Two

H_O2: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to direct services to students when considering major area of study.

Analysis of data pertaining to Hypothesis Two was performed using major area of study to determine whether there was a difference in the perceptions of deafness specialists regarding the special competencies related to direct services to students. A multivariate analysis of variance (MANOVA) procedure was used to test this hypothesis. The analysis was performed using the five competency clusters (Communication Skills, Support Services, Case Management, Counseling and Advocacy, Career Planning and Employment) in the Direct Services to Students competency domain as dependent variables and using the respondent characteristic of major area of study as the independent variable.

As reported in Table 6, this analysis revealed no significant differences at the .05 level in the independent variable Major Area of Study. Therefore, no follow-up post hoc test was necessary; H_O2 was not rejected.

Table 6

Multivariate Analysis of Variance for Independent Variables and Direct Services to Students Competency Domain

Effect	Wilks' Lambda	F	df	Error df	Significance
Hearing Status	.995	.162	5.000	170.000	.976
Major	.914	1.642	10.000	358.000	.093
Program Size	.833	1.686	20.000	594.626	.031*
Staff Size	.902	1.256	15.000	494.542	.226

*$p < .05$

Null Hypothesis Three

H_O3: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to direct services to students when considering program size.

Analysis of data pertaining to Hypothesis Three was performed using program size to determine whether there was a difference in the perceptions of deafness specialists regarding the special competencies related to direct services to students. A multivariate analysis of variance (MANOVA) procedure was used to test this hypothesis. The analysis was performed using the five competency clusters (Communication Skills, Support Services, Case Management, Counseling and Advocacy, Career Planning and Employment) in the Direct Services to Students competency domain as dependent variables and using the respondent characteristic of program size as the independent variable. The results of this analysis are reported in Table 6.

There was a significant multivariate effect for Program Size, Wilks' Lambda = .833, F (20, 594.626) = 1.686; p = .031. Since the multivariate comparison was significant at the .05 level, univariate comparisons of the competency clusters (dependent variables) as they affected the independent variable of program size were tested. According to the Tests of Between Subjects Effects for Program Size, the competency cluster Communication Skills was significantly different from the other competency clusters (Table 7).

For the univariate analysis in which a significant F was obtained, Tukey's HSD procedure was used to determine which groups differed. As reported in Table 8, Tukey's

Table 7

Tests of Between Subjects Effects for Program Size

Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Significance
Counseling and Advocacy (CA)	3.178	4	.794	1.466	.214
Case Management (CM)	.628	4	.157	.673	.612
Career Planning and Employment (CP)	1.902	4	.476	.547	.701
Communication Skills (CS)	3.763	4	.941	3.087	.017*
Support Services (SS)	.478	4	.120	.337	.853

*$p < .05$

Table 8

Tukey's Honestly Significant Difference (HSD) Procedure for Program Size and Communication Skills (CS)

		Subset		
Program Size	N	1	2	3
5 or fewer	57	4.0468		
11-20 students	40		4.4042	
6-10 students	34		4.4049	
Over 30 students	39		4.6111	4.6111
21-30 students	24			4.7708
Significance		1.000	.505	.736

HSD test showed that staff from programs with 5 or fewer students responded significantly lower on Communication Skills than did staff from any of the other groups. Staff from programs with 21-30 students responded significantly higher than did any other group. There was a noticeable trend to the responses. As the program size grew, the responses became more positive in this area. Therefore, H_O3 was rejected.

Null Hypothesis Four

H_O4: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to direct services to students when considering staff size.

Analysis of data pertaining to Hypothesis Four was performed using staff size to determine whether there was a difference in the perceptions of deafness specialists regarding the special competencies related to direct services to students. A multivariate analysis of variance (MANOVA) procedure was used to test this hypothesis. The analysis was performed using the five competency clusters (Communication Skills, Support Services, Case Management, Counseling and Advocacy, Career Planning and Employment) in the Direct Services to Students competency domain as dependent variables and using the respondent characteristic of staff size as the independent variable.

As reported in Table 6, this analysis revealed no significant differences at the .05 level in the independent variable Staff Size. Therefore, no follow-up post hoc test was necessary; H_O4 was not rejected.

Research Question Three

Do differences exist in the perceptions among deafness specialists regarding the special competencies related to knowledge and background when considering hearing status, major area of study, program size, and staff size?

To answer research question three, four null hypotheses were formulated. The null hypotheses were:

$H_0$5: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to knowledge and background when considering hearing status.

$H_0$6: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to knowledge and background when considering major area of study.

$H_0$7: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to knowledge and background when considering program size.

$H_0$8: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to knowledge and background when considering staff size.

Null Hypothesis Five

H_O5: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to knowledge and background when considering hearing status.

The analysis of data pertaining to Hypothesis Five was performed using hearing status to determine whether there was a difference in the perceptions of deafness specialists regarding the special competencies related to knowledge and background. A multivariate analysis of variance (MANOVA) procedure was used to test this hypothesis. The analysis was performed using the three competency clusters (Understanding Deafness, Educational and Vocational Planning, Professional Development) in the Knowledge and Background competency domain as dependent variables and using the respondent characteristic hearing status as the independent variable.

This analysis revealed no significant differences at the .05 level in the independent variable Hearing Status. The results are shown in Table 9. Based on these results, no follow-up post hoc test was necessary and H_O5 was not rejected.

Null Hypothesis Six

H_O6: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to knowledge and background when considering major area of study.

Analysis of data pertaining to Hypothesis Six was performed using major area of study to determine whether there was a difference in the perceptions of deafness specialists regarding the special competencies related to knowledge and background. A multivariate analysis of variance (MANOVA) procedure was used to test this hypothesis. The analysis was performed using the three competency clusters (Understanding Deafness, Educational and Vocational Planning, Professional Development) in the

Table 9

Multivariate Analysis of Variance for Independent Variables and Knowledge and Background Competency Domain

Effect Significance	Wilks' Lambda	F	df	Error	df
Hearing Status	.993	.421	3.000	181.000	.738
Major	.920	2.575	6.000	362.000	.019*
Program Size	.891	1.780	12.000	479.172	.049*
Staff Size	.879	2.656	9.000	440.657	.005*

*$p < .05$

Knowledge and Background competency domain as dependent variables and the respondent characteristic major area of study as the independent variable.

As reported in Table 9, there was a significant multivariate effect for the independent variable Major Area of Study, Wilks' Lambda = .920, F (6, 362) = 2.575; p = .019. Since the multivariate comparison was significant at the .05 level, univariate comparisons of the special competency clusters (dependent variables) as they affect the independent variable of Major Area of Study were tested. According to the Tests of Between Subjects Effects for Major Area of Study shown in Table 10, the competency clusters Understanding Deafness and Professional Development were significantly different from the other competency clusters.

For the univariate analyses in which a significant F was obtained, Tukey's HSD procedure was used to determine which groups differed. With regard to the competency cluster Understanding Deafness, Tukey's HSD test showed that respondents who had college majors that were strongly related to the role of deafness specialist responded significantly higher than did any other group. This information is summarized in Table 11.

With regard to the competency Professional Development, Tukey's HSD test showed that respondents who had college majors that were strongly related to the role of deafness specialist responded significantly higher than did any other group. This information is summarized in Table 12. Based on these results, H_O3 was rejected.

Table 10

Tests of Between Subjects Effects for Major Area of Study

Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Significance
Understanding Deafness (DF)	4.233	2	2.116	5.604	.004*
Professional Development (PD)	45.107	2	2.554	6.660	.002*
Educational and Vocational Planning (VO)	2.472	2	1.236	2.306	.103

*$p < .05$

Table 11

Tukey's Honestly Significant Difference (HSD) Procedure for Major Area of Study and Understanding Deafness (DF)

		Subset	
Major	N	1	2
Semi- or not related	39	3.6923	
Related	54	3.7704	
Strongly related	101		4.1593
Significance		.781	1.000

Table 12

Tukey's Honestly Significant Difference (HSD) Procedure for Major Area of Study and Professional Development (PD)

		Subset	
Major	N	1	2
Semi- or not related	39	3.6803	
Related	54	3.8580	
Strongly related	101		4.1580
Significance		.285	1.000

Null Hypothesis Seven

H_O7: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to knowledge and background when considering program size.

Analysis of data pertaining to Hypothesis Seven was performed using program size to determine whether there was a difference in the perceptions of deafness specialists regarding the special competencies related to knowledge and background. A multivariate analysis of variance (MANOVA) procedure was used to test this hypothesis. The analysis was performed using the three competency clusters (Understanding Deafness, Educational and Vocational Planning, Professional Development) in the Knowledge and Background competency domain as dependent variables and using the respondent characteristic program size as the independent variable.

There was a significant multivariate effect for the independent variable Program Size, Wilks' Lambda = .891, F (12, 479.172) = 1.780; p = .049. This information is summarized in Table 9. Since the multivariate comparison was significant at the .05 level, univariate comparisons of the competency clusters (dependent variables) as they affected the independent variable of Program Size were tested. According to the Tests of Between Subjects Effects for Program Size shown in Table 13, there were no areas of significant difference among the three competency areas. Therefore, no post hoc follow up tests were conducted; H_O7 was not rejected.

Table 13

Tests of Between Subjects Effects for Program Size

Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Significance
Understanding Deafness (DF)	2.615	4	.654	1.731	.145
Professional Development (PD)	.778	4	.194	.507	.731
Educational and Vocational Planning (VO)	4.336	4	1.084	2.022	.093

Null Hypothesis Eight

$H_0 8$: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to knowledge and background when considering staff size.

Analysis of data pertaining to Hypothesis Eight was performed using staff size to determine whether there was a difference in the perceptions of deafness specialists regarding the special competencies related to knowledge and background. A multivariate analysis of variance (MANOVA) procedure was used to test this hypothesis. The analysis was performed using the three competency clusters (Understanding Deafness, Educational and Vocational Planning, Professional Development) in the Knowledge and Background competency domain as dependent variables and using the respondent characteristic staff size as the independent variable.

There was a significant multivariate effect for the independent variable Staff Size, Wilks' Lambda = .879, F (9, 440.657) = 2.656; p = .005. This information is summarized in Table 9. Since the multivariate comparison was significant, univariate comparisons of the competency clusters (dependent variables) as they affected the independent variable of Staff Size were tested. According to the Tests of Between Subjects Effects for Staff Size shown in Table 14, the competency clusters Understanding Deafness and Professional Development were significantly different at the .05 level from the other competency clusters.

For the univariate analyses in which a significant F was obtained, Tukey's HSD procedure was used to determine which groups differed. With regard to the competency

Table 14

Tests of Between Subjects Effects for Staff Size

Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Significance
Understanding Deafness (DF)	3.687	3	1.229	3.255	.023*
Professional Development (PD)	4.068	3	1.356	3.536	.016*
Educational and Vocational Planning (VO)	3.585	3	1.195	2.230	.086

*$p < .05$

Understanding Deafness, Tukey's HSD test showed that respondents from programs that had zero or one staff member designated to work specifically with deaf students responded significantly lower than did those programs with more than 5 staff members. This information is summarized in Table 15.

With regard to the competency Professional Development, Tukey's HSD test showed that respondents from programs that had no staff members designated to work specifically with deaf students responded significantly lower than did those from any other group. This information is summarized in Table 16. Therefore, H_O8 was rejected.

Research Question Four

Do differences exist in the perceptions among deafness specialists regarding the special competencies related to program management when considering hearing status, major area of study, program size, and staff size?

To answer research question four, four null hypotheses were formulated. The null hypotheses were:

$H_0$9: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to program management when considering hearing status.

$H_0$10: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to program management when considering major area of study.

Table 15

Tukey's Honestly Significant Difference (HSD) Procedure for Staff Size and Understanding Deafness (DF)

		Subset		
Staff Size	N	1	2	3
None	21	3.5850		
1 staff member	78	3.8397	3.8397	
2-5 staff members	68		4.0192	
More than 5 staff members	27			4.4296
Significance		.298	.606	1.000

Table 16

Tukey's Honestly Significant Difference (HSD) Procedure for Staff Size and Professional Development (PD)

		Subset	
Staff Size	N	1	2
None	21	3.5556	
1 staff member	78		3.9529
2-5 staff members	68		4.0176
More than 5 staff members	27		4.2589
Significance		1.000	.158

$H_0 11$: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to program management when considering program size.

$H_0 12$: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to program management when considering staff size.

Null Hypothesis Nine

$H_O 9$: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to program management when considering hearing status.

Analysis of data pertaining to Hypothesis Nine was performed using hearing status to determine whether there was a difference in the perceptions of deafness specialists regarding the special competencies related to program management. A multivariate analysis of variance (MANOVA) procedure was used to test this hypothesis. The analysis was performed using the four competency clusters (Consultation, Legal Aspects, Public Relations, Program Development and Evaluation) in the Program Management competency domain as dependent variables and using the four respondent characteristic hearing status as the independent variable.

As summarized in Table 17, this analysis revealed no significant differences at the .05 level in the independent variable Hearing Status. Therefore, no follow-up post hoc test was necessary; $H_O 9$ was not rejected.

Table 17

Multivariate Analysis of Variance for Independent Variables and Program Management Competency Domain

Effect	Wilks' Lambda	F	df	Error df	Significance
Hearing Status	.961	1.826	4.000	180.000	.126
Major	.942	1.354	8.000	360.000	.216
Program Size	.949	.598	16.000	550.547	.887
Staff Size	.860	2.330	12.000	476.527	.007*

*$p < .05$

Null Hypothesis Ten

H_O10: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to program management when considering major area of study.

Analysis of data pertaining to Hypothesis Ten was performed using major area of study to determine whether there was a difference in the perceptions of deafness specialists regarding the special competencies related to program management. A multivariate analysis of variance (MANOVA) procedure was used to test this hypothesis. The analysis was performed using the four competency clusters (Consultation, Legal Aspects, Public Relations, Program Development and Evaluation) in the Program Management competency domain as dependent variables and using the respondent characteristic major area of study as the independent variable.

As summarized in Table 17, this analysis revealed no significant differences at the .05 level in the independent variable Major Area of Study. Therefore, no follow-up post hoc test was necessary; H_O10 was not rejected.

Null Hypothesis Eleven

H_O11: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to program management when considering program size.

Analysis of data pertaining to Hypothesis Eleven was performed using program size to determine whether there was a difference in the perceptions of deafness specialists regarding the special competencies related to program management. A multivariate

analysis of variance (MANOVA) procedure was used to test this hypothesis. The analysis was performed using the four competency clusters (Consultation, Legal Aspects, Public Relations, Program Development and Evaluation) in the Program Management competency domain as dependent variables and using the respondent characteristic program size as the independent variable.

As summarized in Table 17, this analysis revealed no significant differences at the .05 level in the independent variable Program Size. Therefore, no follow-up post hoc test was necessary; $H_0 11$ was not rejected.

Null Hypothesis Twelve

$H_0 12$: There are no significant differences among the perceptions of deafness specialists regarding the special competencies related to program management when considering staff size.

Analysis of data pertaining to Hypothesis Twelve was performed using staff size to determine whether there was a difference in the perceptions of deafness specialists regarding the special competencies related to program management. A multivariate analysis of variance (MANOVA) procedure was used to test this hypothesis. The analysis was performed using the four competency clusters (Consultation, Legal Aspects, Public Relations, Program Development and Evaluation) in the Program Management competency domain as dependent variables and using the respondent characteristic staff size as the independent variable.

As summarized in Table 17, there was a significant multivariate effect for the independent variable Staff Size, Wilks' Lambda = .860, $\underline{F}$ (12, 476.527) = 2.330; p =

.007. Since the multivariate comparison was significant at the .05 level, univariate comparisons of the competency clusters (dependent variables) as they affected the independent variable of Staff Size were tested. According to the Tests of Between Subjects Effects for Staff Size summarized in Table 18, the competency cluster Public Relations was significantly different from the other competency clusters.

For the univariate analysis in which a significant F was obtained, Tukey's HSD procedure was used to determine which groups differed. Tukey's HSD test showed that programs having no designated staff members to work specifically with deaf students responded significantly lower on this competency area than did any other group of respondents. This information is summarized in Table 19. Therefore, H_O12 was rejected.

Summary of Results

The results of the study were presented in this chapter. Sample characteristics were provided, including practitioner, program, and institutional information. Results were presented for both of the research questions that guided the study.

Table 18

Tests of Between Subjects Effects for Staff Size

Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Significance
Consultation and Collaboration (CN)	1.441	3	.480	1.293	.278
Program Development and Evaluation (EV)	3.163	3	1.054	1.943	.124
Legal Aspects (LE)	.598	3	.199	.304	.823
Public Relations (PR)	6.938	3	2.313	5.869	.001*

*$p < .05$

Table 19

Tukey's Honestly Significant Difference (HSD) Procedure for Staff Size and Public Relations (PR)

		Subset	
Staff Size	N	1	2
None	21	3.4762	
2-5 staff members	68		4.0919
1 staff member	78		4.1244
More than 5 staff members	27		4.3111
Significance		1.000	.453

CHAPTER V

Summary and Conclusions

This chapter contains a summary of the study of the special competencies of deafness specialists in postsecondary education settings. The chapter is divided into the following sections: summary of the study, major findings, conclusions, and recommendations.

Summary of the Study

Purpose of the Study

As a result of recent federal legislation, postsecondary educational institutions have been developing services to provide accessibility for persons with disabilities. Limited information was available regarding the competencies of disability service coordinators who were responsible to provide services to students with a wide range of disabilities. Working effectively with students who are deaf or hard-of-hearing raises the need for additional competencies to meet the unique needs of that student population. However, there has been a scarcity of information available regarding competencies necessary to provide services to students who are deaf or hard-of-hearing. The purpose of this study, therefore, was to identify the special competencies of deafness specialists in postsecondary education and to study any differences in perception according to selected practitioner and programmatic variables. As described in the previous chapter, the

researcher identified the special competencies and surveyed practitioners to measure their perceptions of the competencies.

Methods and Procedures

The study employed both qualitative and quantitative research methods. Through a thorough review of literature about student services professionals, disability support service providers, and deafness specialists in related disciplines, the researcher identified 200 competency statements. The number of competencies in the original list was reduced to 141 through content analysis and data reduction methods. A panel of 11 content experts assisted in the development of the survey by reviewing the competency statements initially identified by the researcher for (a) representativeness to the deafness specialist position, (b) clarity, (c) consistency of word use, and (d) elimination of redundant items. They also (a) added competency statements, (b) identified cluster areas, (c) included comments, and (d) recorded questions about some of the items.

The researcher constructed a survey instrument based on the information generated. The final list contained 114 competencies that were classified into 12 cluster areas: Communication Skills; Support Services; Case Management; Counseling and Advocacy; Career Planning and Employment; Understanding Deafness; Educational and Vocational Planning; Professional Development; Consultation; Legal Aspects; Public Relations; and Program Development and Evaluation. The 12 cluster areas were grouped into three competency domains: Direct Services to Students; Knowledge and Background; and Program Management.

The survey instrument was comprised of two parts. Part I of the survey instrument consisted of rating a list of special competency items according to a five-point Likert-type rating scale. Part II of the survey requested demographic information and consisted of questions related to selected practitioner variables, programmatic variables, and institutional variables. Respondents were given opportunity to write additional comments concerning the survey. A compilation of these comments are included in Appendix J.

The sample for the study consisted of 422 disability services professionals from postsecondary educational institutions from across the United States who were designated as deafness specialists. The sample was drawn from the population of institutions that responded to a 1997 survey and that reported offering programs for deaf students. The institutions in the study could be technical/vocational schools, two-year technical colleges, two-year community colleges, or four-year colleges/universities. Therefore, sample was drawn to reflect a proportion of participants similar to that of the population.

Data collection procedures included an initial mailing in which each participant received a copy of the survey, a cover letter and a pre-addressed, stamped return envelope. Letters of support were solicited and referred to in the cover letter. Non-respondents were sent follow-up postcards approximately three weeks after the initial mailing, asking for their participation in the study. A second packet, including another survey, cover letter, and return envelope, was sent to the remaining nonrespondents eight weeks after the initial mailing. Of the 422 surveys that were distributed, 237 were returned that could be used in the study, yielding a final response rate 56%.

The resultant data were subjected to a variety of statistical procedures. Descriptive statistics were derived for each of the 10 demographic items. The 12 competency clusters were also examined for internal consistency through Cronbach's alpha reliability estimate. Each of the clusters had an alpha level higher than .73, well within the criteria for effective instruments. The alpha level for the entire instrument was .9806.

The 12 competency clusters were grouped into three competency domains to address Research Questions Two, Three, and Four. A multivariate analysis of variance (MANOVA) procedure was employed to test for differences in the perceptions according to selected practitioner and programmatic variables. When the multivariate comparison was found to be significant, univariate comparisons of the competency clusters (dependent variables) as they affected the independent variable of program size were tested. Follow-up post hoc Tukey's HSD tests were used to investigate significant differences identified during the univariate analysis. A .05 level of significance was used for all statistical tests.

Major Findings

This section includes findings on the demographic information variables and the three research questions.

Findings Related to Demographic Information

1. The overwhelming majority of deafness specialists who responded to the questionnaire had no hearing loss. So few individuals who are deaf or hard of

hearing responded that it was not possible to know whether or not their responses were significantly different from the responses of individuals with no hearing loss.

2. The majority of respondents were females.

3. The majority of respondents held graduate degrees. Only a small percentage of respondents held less than a bachelor's degree.

4. While the majority of the respondents have 10 or more years' experience as deafness specialists, the respondents were evenly distributed among the categories with regard to length of time in their current positions.

5. Almost one-half of the respondents held degrees in deafness-related fields while almost one-third held degrees in fields that were related to student services professions but were not identified specifically as related to deafness.

6. Almost one-half of the respondents indicated that their programs were serving 10 or fewer students who are deaf or hard-of-hearing. Approximately 70% of the programs were serving fewer than 20 students.

7. Approximately 40% of the programs had only one staff person designated to work with students who are deaf or hard-of-hearing. Having two staff persons designated to work with students who are deaf or hard-of-hearing was the next most common staffing pattern, with almost 17% of the programs represented in that category.

8. The majority of respondents represented two-year community colleges or four-year colleges and universities, accurately reflecting the distribution of questionnaires in the sampling process.

9. One-third of the respondents indicated that their institutions enrolled between 1,000 and 4,999 students. One fifth of the respondents indicated enrollments of over 20,000 students.

Findings Related to Research Questions Two, Three, and Four

1. In the Direct Services to Students competency domain, respondents from programs with five or fewer students had significantly lower scores on the Communication Skills competency cluster than did respondents who had more students in their programs. A lower score was seen as indicating that the respondent reported that the competency was not as necessary for deafness specialists as those competencies rated higher. As program size grew, the responses became more positive.
2. In the Knowledge and Background competency domain, respondents with majors that were strongly related to the role of deafness specialist had significantly higher scores in the competency clusters Understanding Deafness and Professional Development than did any other group. Respondents with specific training in the field of deafness recognized the ramifications of deafness and the impact on the student in a postsecondary setting. They also recognized the need to participate in ongoing professional development and to share information with others.
3. In the Knowledge and Background competency domain, respondents from programs that had zero or only one staff member designated to work specifically with deaf students had lower scores in the competency cluster Understanding

Deafness than did any other group. When there were several staff members designated to work specifically with students who are deaf or hard-of-hearing, more emphasis was placed on having a better understanding of the social, cultural, and educational implications that hearing loss may have on a student in a postsecondary setting.

4. In the Knowledge and Background competency domain, respondents from programs that had no staff members designated to work specifically with deaf students had significantly lower scores in the competency cluster Professional Development than did any other group. When there was at least one staff member designated to work specifically with students who are deaf or hard-of-hearing, more emphasis was placed on acquiring up-to-date knowledge about issues and strategies and on sharing information with faculty and staff who worked with students who are deaf or hard-of-hearing.

5. In the Program Management competency domain, respondents from programs with no designated staff members working specifically with deaf students had significantly lower scores in the Public Relations competency cluster than did any other group. When there was at least one staff member designated to work specifically with students who are deaf or hard-of-hearing, more emphasis was placed on disseminating program information to students and on conducting outreach activities.

Implications and Discussion of the Results

The implications drawn from this study were based on data analyses from the study's participants, including that obtained from the Special Competencies of Deafness Specialists in Postsecondary Education Settings Inventory. They are as follows:

1. Students who are deaf or hard-of-hearing are clearly taking advantage of opportunities to select postsecondary educational programs without having to be limited to those that have developed specialized comprehensive programs for this population. Almost one-half of the respondents indicated that they typically had 10 or fewer students on their campus who are deaf or hard-of-hearing, and more than half of them indicated that they have five or fewer students. This represented a shift from earlier times when discussions of "critical mass" were common when discussing postsecondary educational opportunities for students who are deaf or hard-of-hearing. Since more than one-third of the respondents indicated that only one staff member was primarily assigned to students who are deaf or hard-of-hearing, this finding also supports the shift in enrollment from specialized comprehensive programs to those not typically associated with serving this population in great numbers. Comprehensive programs, however, still appeared to be meeting the needs of some of the student population.
2. This study surveyed postsecondary institutions that indicated that they had a program of services for students who are deaf or hard-of-hearing. Therefore, the study further described the qualities of those programs, specifically, the role of the deafness specialist. However, since a portion of the respondents indicated little to

no background in the field of deafness or had small numbers of deaf or hard-of-hearing students on campus, the program of services offered by the institutions employing these respondents was probably somewhat different from the program of services offered by institutions with staff who either have backgrounds in the field or a worked with larger number of students who are deaf or hard-of-hearing. Within the PEPNet study, the respondents identified themselves as having a program for students who are deaf or hard-of-hearing and were not scrutinized regarding the extent to which they followed the guidelines established by CEASD (Stuckless, 1973).

Since the passage of legislation mandating access for students with disabilities is over 20 years old, many of institutions of higher education responding may have gained experience serving students who are deaf or hard-of-hearing, whether it be at the comprehensive program level or merely the accessibility level.

3. Since respondents who reported larger numbers of deaf or hard-of-hearing students responded more positively to the Communication Skills competency cluster, having more students may mean that they were more diverse in the communication modes that they preferred to use. The use of different modes of communication may require the staff to place more value on appropriate communication skills to interact directly and effectively with the students. Respondents from larger programs probably had the most experience with different communication modes and recognized the need to demonstrate competence in this area. The results of this study supported reports by Schein

(1973), Levine (1977), and Petty (1987) regarding the need for deafness specialists to have appropriate communication skills to work with individuals who are deaf or hard-of-hearing.

4. On the surface, it may seem that deafness is just an inability to hear; but in reality deafness has a great impact on the overall development of an individual (Allen, 1987; Nash, 1992). The results of this study suggested that professionals with background and training in deafness recognized the importance of understanding the educational implications of hearing loss and its impact onthe development of individuals who are deaf or hard-of-hearing.

5. The need for ongoing professional development is connected with understanding issues related to deafness. Whether the issue is continuing one's own education or providing specialized training and workshops to others, to provide the most effective services it is critical to understand the needs of the student population. Respondents who already have had background in the field recognized the need to continue learning and sharing information with others. Often part of their job is to provide training to faculty and staff members within their campus community. The need for ongoing professional development identified in this study supported the recommendations made by Schein (1973), Levine (1977), and Petty (1987).

6. The Public Relations competency cluster was rated significantly lower in importance by respondents who did not have a designated staff person to work with students who are deaf or hard-of-hearing. Since this cluster involved promoting the program and services to internal and external groups, including

recruiting potential students, it appeared that this activity would not be valued if there were no staff members designated to work specifically with students who are deaf or hard-of-hearing. In such circumstances, there might not be anyone to conduct these activities or there might be little interest in increasing the number of deaf or hard-of-hearing students on campus.

Recommendations

In view of the findings and the implications of the results, the following recommendations are offered:

1. The findings of this study may be used to develop professional standards for deafness specialists in postsecondary educational settings. The individuals currently working in the profession come from a wide variety of professional backgrounds, but there are no specific guidelines or training programs available to prepare individuals to work with postsecondary students who are deaf or hard-of-hearing. Recognized professional standards could assist professionals in planning programs of study to prepare more effective services providers. Sample job descriptions and qualifications could be developed using the competencies identified.
2. Supervisors, disability services directors, and program coordinators should consider using the findings of this study as a basis for selecting, evaluating, and training deafness specialists in postsecondary education settings.

3. Ongoing professional development opportunities on topics included in the competency clusters should be made available to professionals in the field. Such opportunities could be made available through federal outreach and technical assistance projects (i.e. Postsecondary Education Programs Network), or through professional organizations (i.e. Association on Higher Education and Disability).

4. The results of this study should be utilized by specialized training programs for deafness specialists. Training programs should emphasize practical experiences in postsecondary settings as well as theoretical and legal considerations to maximize benefits to students and the population with whom they may soon be working.

5. Further study is needed to assess the competencies of professionals in the field. If professionals indeed possess the identified competencies, can the impact of this be measured in the student population? Are some competencies more essential than others? Are some competencies desirable, but not essential? Outcome-based program evaluation research, therefore, would be indicated to determine impact of the competencies on student success.

6. The study provides general data regarding the roles and responsibilities of deafness specialists. The respondents reported a variety of job titles. Future research should classify these titles and study sub-groups more thoroughly to determine whether or not there are any significant differences among them. For example, the responses of those reporting the job title"lead interpreter" could be studied as could those reporting the job title "counselor."

Conclusions

This study provided information about the special competencies required for deafness specialists in postsecondary education settings. The study represents an important step in the professionalization of the role of deafness specialists. The unique aspects of working with a population of students who are deaf or hard-of-hearing, however, required a knowledge base that represented a blend of skills from the disciplines of general student services, rehabilitation counseling, career counseling, personal counseling, and disability support services. The competencies could be grouped into three competency domains: direct services to students, knowledge and background, and program management.

This study has provided information regarding competency areas that can be used in planning in-service and pre-service training programs. The literature contained a great deal of information regarding student services professionals in higher education, a growing body of knowledge on disability service providers in higher education, and a small amount of information on deafness specialists in higher education. This study has provided some additional information, thereby expanding the body of knowledge to reflect recent changes in legislation and practice.

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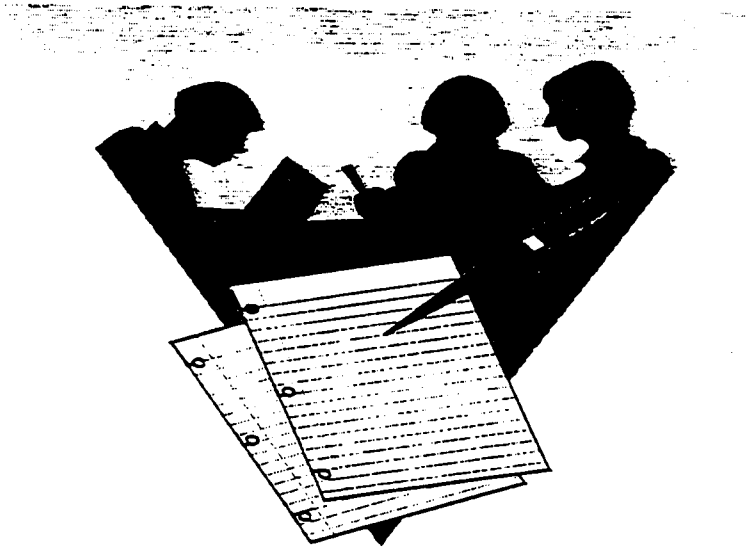
APPENDICES

APPENDIX A

Special Competencies of Deafness Specialists in Postsecondary Education Settings Inventory

Special Competencies of Deafness Specialists in Postsecondary Education Settings Inventory



Postsecondary Education Consortium
The University of Tennessee, Knoxville

Postsecondary Education Program Network
(PEPNet)

Special Competencies of Deafness Specialists in Postsecondary Education Inventory

Part I

This section is designed to gather information about the skills and competencies of deafness specialists in postsecondary education settings.

Instructions:

(1) For each statement, please circle the number that most accurately describes your perception of the what deafness specialists do.

1 = never 2 = seldom 3 = sometimes 4 = usually 5 = always

(2) For each of the following items, consider what deafness specialists in postsecondary education settings do and circle the number that best describes your response.

(3) Be sure to respond to each statement. Even if you believe an item does not apply to you directly, rate its overall importance accordingly. Please do not skip the item.

In postsecondary education settings, deafness specialists . . .

	Never				Always	
1.	1	2	3	4	5	Communicate with deaf and hard of hearing (D/HH) students in their preferred mode of communication (e.g., ASL, Signed English, speech).
2.	1	2	3	4	5	Demonstrate expressive and receptive sign language skills.
3.	1	2	3	4	5	Are knowledgeable of the effects that hearing loss (including age of onset, degree of loss, etiology) has on communication, language acquisition, and educational implications.
4.	1	2	3	4	5	Are knowledgeable of the application of current technology (e.g., computers, TTYs) to D/HH students.
5.	1	2	3	4	5	Arrange individualized accommodations for D/HH students (e.g., tutoring, testing accommodations, interpreting services) and coordinate services.
6.	1	2	3	4	5	Evaluate program staff who are providing services to D/HH students (e.g., interpreters, tutors, notetakers, captioners).
7.	1	2	3	4	5	Understand the various approaches to providing communication access for D/HH students in educational settings (e.g., interpreting, transliterating, oral interpreting, amplification, real-time captioning).
8.	1	2	3	4	5	Advise D/HH students about the steps in acquiring accommodations.
9.	1	2	3	4	5	Provide training for D/HH students on how to use accommodations effectively.
10.	1	2	3	4	5	Understand what quality interpreting is.
11.	1	2	3	4	5	Identify resources for securing quality interpreters.
12.	1	2	3	4	5	Are aware of guidelines for interpreting in an educational setting (e.g., ethical conduct, confidentiality) and provide a structure for maintaining professionalism.
13.	1	2	3	4	5	Orient the interpreter to the special requirements and responsibilities of the interpreting assignment.

	Never				Always	
14.	1	2	3	4	5	Are familiar with RID, NAD, or state certification levels for interpreters.
15.	1	2	3	4	5	Understand the various approaches to providing notetaking services (e.g., student volunteers, paid professional notetakers, computer assisted notetaking).
16.	1	2	3	4	5	Identify resources for securing quality notetakers, tutors, and captioners.
17.	1	2	3	4	5	Are aware of the qualities of effective notetakers, tutors, and captioners.
18.	1	2	3	4	5	Develop and provide training for interpreters, notetakers and tutors, when appropriate.
19.	1	2	3	4	5	Understand what quality real-time captioning is.
20.	1	2	3	4	5	Are aware of guidelines for real-time captioning in an educational setting and provide a structure for maintaining professionalism.
21.	1	2	3	4	5	Understand the various approaches to providing tutoring services (e.g., peer tutors, paid professional tutors, faculty members).
22.	1	2	3	4	5	Provide academic advisement to students regarding issues related to their abilities and limitations related to their hearing loss.
23.	1	2	3	4	5	Suggest appropriate individual accommodations to D/HH students based upon documentation.
24.	1	2	3	4	5	Determine eligibility for program services according to applicable guidelines and standards based upon documentation of hearing loss.
25.	1	2	3	4	5	Are able to read and interpret audiograms.
26.	1	2	3	4	5	Are knowledgeable of the function and characteristics of various types of amplification (e.g., personal hearing aids, assistive listening devices).
27.	1	2	3	4	5	Are aware of the application of amplification to learning and instructional processes.
28.	1	2	3	4	5	Are knowledgeable of use and maintenance of hearing aids and assistive listening devices.
29.	1	2	3	4	5	Are aware of other assistive devices (e.g., telephone amplification systems, captioned TV and films) that may benefit D/HH students.
30.	1	2	3	4	5	Are knowledgeable of environmental factors (e.g., noisy settings, electronic devices) which may affect the use of amplification.
31.	1	2	3	4	5	Maintain confidential student records (e.g., documentation of disability).
32.	1	2	3	4	5	Serve in an advocacy role for D/HH students with faculty, staff, or administrators.
33.	1	2	3	4	5	Assist D/HH students in self-monitoring the effectiveness of accommodations.
34.	1	2	3	4	5	Provide counseling/advisement to enhance student development (e.g., self-advocacy).
35.	1	2	3	4	5	Provide counseling/advisement on managing personal assistants (e.g., interpreters and notetakers).
36.	1	2	3	4	5	Identify and utilize advocacy resources available at the local, state, regional, and national levels for D/HH students.
37.	1	2	3	4	5	Provide workshops/training opportunities to D/HH students on self-advocacy skills.
38.	1	2	3	4	5	Utilize TTYs and other telecommunication systems to communicate with D/HH students.
39.	1	2	3	4	5	Know that D/HH individuals are employed in professional, skilled, and unskilled occupations.
40.	1	2	3	4	5	Are aware of the psychosocial and cultural aspects of deafness.
41.	1	2	3	4	5	Know that secondary disabilities may be associated with deafness.

	Never				Always	
42.	1	2	3	4	5	Know of deaf community issues and activities, including those related to sub-groups (e.g., persons of color, gay/lesbian, religion).
43.	1	2	3	4	5	Participate in deaf community activities and events, if appropriate, when invited.
44.	1	2	3	4	5	Are aware of the major organizations of and for D/HH individuals (e.g., NAD, SHHH, ALDA, NBDA) and maintain institutional membership in these.
45.	1	2	3	4	5	Are knowledgeable of learning disabilities and attention deficit disorder and their effect on D/HH students.
46.	1	2	3	4	5	Are aware of the range of educational achievement levels of D/HH students.
47.	1	2	3	4	5	Apply knowledge of independent living to respond to needs of D/HH students.
48.	1	2	3	4	5	Apply knowledge of the world of work and vocational information to meet the needs of D/HH students.
49.	1	2	3	4	5	Assist in the design of new training programs to ensure the needs of D/HH students are addressed.
50.	1	2	3	4	5	Identify alternate postsecondary opportunities for D/HH students.
51.	1	2	3	4	5	Understand the impact of deafness on hearing families.
52.	1	2	3	4	5	Know how to increase public awareness of the abilities and needs of D/HH students.
53.	1	2	3	4	5	Effectively use collaboration techniques in working with others.
54.	1	2	3	4	5	Establish productive coordination of services with other community organizations serving D/HH persons.
55.	1	2	3	4	5	Utilize effective interpersonal/communication skills when interacting with D/HH students, families, community members, and other professionals.
56.	1	2	3	4	5	Work with designated campus personnel to develop program policies and procedures (e.g., required documentation, course substitutions or waivers) that affect D/HH students.
57	1	2	3	4	5	Consult with other campus departments regarding the needs of D/HH students (e.g., financial aid office, health services, residential life, admissions, tutorial services, counseling services).
58.	1	2	3	4	5	Consult with faculty and administrators regarding the instructional needs of D/HH students.
59.	1	2	3	4	5	Consult with campus personnel regarding job accommodations for faculty or campus staff who are deaf or hard of hearing.
60.	1	2	3	4	5	Work with community or state resources (e.g., rehabilitation services, independent living centers).
61.	1	2	3	4	5	Consult with faculty/staff regarding the use of interpreters or assistive technology devices used for facilitating communication.
62.	1	2	3	4	5	Know of legislation (e.g., ADA, Section 504) impacting on D/HH students.
63.	1	2	3	4	5	Serve on campus committees addressing ADA/Section 504 planning or issues.
64.	1	2	3	4	5	Consult with campus architects and physical plant personnel to ensure that construction of new facilities and modifications to existing facilities address the needs of D/HH students.
65.	1	2	3	4	5	Apply federal education and rehabilitation legislation appropriately for the provision and delivery of services to D/HH students.
66.	1	2	3	4	5	Develop and distribute program brochures or handbooks for student and faculty/staff use.
67.	1	2	3	4	5	Provide information to D/HH students regarding their legal rights and responsibilities.

	Never				Always	
68.	1	2	3	4	5	Communicate information regarding program services and activities (e.g., program brochure, admissions brochure, student catalog, web page)to D/HH students, campus community, local agencies, and secondary school staff and faculty.
69.	1	2	3	4	5	Conduct outreach activities (e.g., college fairs, transition workshops) for D/HH high school students .
70.	1	2	3	4	5	Respond to inquiries about D/HH program services from prospective students, parents, high school personnel, and VR counselors.
71.	1	2	3	4	5	Read professional literature related to postsecondary education for D/HH students.
72.	1	2	3	4	5	Hold membership in professional organizations (e.g., ADARA, AHEAD, NASPA, RID).
73.	1	2	3	4	5	Attend conferences and professional development workshops.
74.	1	2	3	4	5	Demonstrate an understanding of professional ethics and attitudes in interactions, which relate to the role of deafness specialist.
75.	1	2	3	4	5	Understand personal limits related to service provision (e.g., sign language skills, legal knowledge, counseling skills), and provide services within those limits.
76.	1	2	3	4	5	Maintain up-to-date knowledge of adaptive technology used by D/HH individuals.
77.	1	2	3	4	5	Maintain up-to-date knowledge of emerging issues related to deafness (e.g., cochlear implants, use of Cued Speech interpreters, real-time captioning).
78.	1	2	3	4	5	Provide training for faculty, staff, and administrators to increase awareness of deafness and hearing loss.
79.	1	2	3	4	5	Know models of service delivery and best practices for providing support services to D/HH students.
80.	1	2	3	4	5	Provide training to faculty/staff regarding best practices for working with D/HH students.
81.	1	2	3	4	5	Conduct campus-wide activities (e.g., deaf awareness day) in conjunction with student organizations.
82.	1	2	3	4	5	Serve as faculty/staff advisors to student organizations and activity groups, (e.g., campus deaf club, disability awareness organization, sign language club).
83.	1	2	3	4	5	Present at professional conferences regarding best practices for working with D/HH students .
84.	1	2	3	4	5	Plan, develop, and deliver effective in-service training for faculty, staff, and administrators regarding best practices for working with D/HH students, transition issues, accommodations, auxiliary aids, etc.
85.	1	2	3	4	5	Assist staff members in identifying needs for additional training on transition services for D/HH students.
86.	1	2	3	4	5	Identify and establish program goals which support institutional mission.
87.	1	2	3	4	5	Conduct needs assessment to identify areas of program expansion and enhancement.
88.	1	2	3	4	5	Make recommendations for program expansion and enhancement.
89.	1	2	3	4	5	Evaluate D/HH program services on a regular basis.
90.	1	2	3	4	5	Pursue additional funding sources to enhance D/HH program development (e.g., grant-writing, fundraising).
91.	1	2	3	4	5	Process complaints/grievances from D/HH students about the provision of services.
92.	1	2	3	4	5	Develop/assist in the development of program budget.
93.	1	2	3	4	5	Compile reports on program activities/services.
94.	1	2	3	4	5	Analyze, interpret, and evaluate research and professional literature related to providing support services at the postsecondary level for D/HH students.

	Never				Always	
95.	1	2	3	4	5	Apply and utilize existing research for the purposes of curriculum improvement and program development for the D/HH students in postsecondary education programs.
96.	1	2	3	4	5	Understand the factors to be considered when working with D/HH students from varied cultural and ethnic backgrounds.
97.	1	2	3	4	5	Understand the range of services provided by human service programs such as vocational rehabilitation, vocational education, postsecondary education, and special education for D/HH students.
98.	1	2	3	4	5	Understand issues in the transition process relevant to relationships between secondary education and adult service systems for D/HH students.
99.	1	2	3	4	5	Select, utilize, and interpret formal and informal assessment tools and procedures for the purpose of academic evaluation of D/HH students.
100.	1	2	3	4	5	Communicate the results of academic assessment to D/HH students.
101.	1	2	3	4	5	Utilize developmental and academic assessment information to assist D/HH students to develop appropriate long- and short-term goals.
102.	1	2	3	4	5	Utilize functional and vocational assessment information to assist D/HH students to develop appropriate long- and short-term goals.
103.	1	2	3	4	5	Provide D/HH students with appropriate referrals for assessments, when necessary (e.g., audiological, psychological, substance abuse,)
104.	1	2	3	4	5	Understand barriers to employment faced by D/HH individuals.
105.	1	2	3	4	5	Consult with career center staff regarding the needs of D/HH students.
106.	1	2	3	4	5	Apply career education theories and models to the career development of D/HH students.
107.	1	2	3	4	5	Utilize formal and informal methods to assess the career interests and job preferences of D/HH students.
108.	1	2	3	4	5	Interpret and utilize the results of career and vocational assessment to D/HH students.
109.	1	2	3	4	5	Utilize resource materials and information sources to identify employment opportunities and outlook for D/HH students.
110.	1	2	3	4	5	Identify workplace modifications needed to accommodate D/HH students and discuss these with students who are completing their educational programs and seeking employment.
111.	1	2	3	4	5	Assist D/HH students in matching their skills and interests with the skills and demands required by the major, job, or vocational placement.
112.	1	2	3	4	5	Provide direct instruction in job-seeking and job-keeping skills to D/HH students.
113.	1	2	3	4	5	Provide technical assistance to employers and work supervisors to enable D/HH students to maintain employment.
114.	1	2	3	4	5	Educate job placement specialists about needed accommodations for D/HH students who are preparing for the job market.

Please continue to the next section.

Part II

This section is designed to gather information about the respondents, their programs, and their institutions. This information will be used to interpret the results.

Instructions:

(1) For each item, please circle the number of the most appropriate response or fill in the blanks.

(2) Please respond to each item.

Practitioner Information

115. Are you (1) female? (2) male?

116. Are you (1) deaf? (2) hard of hearing? (3) hearing?

117. How many years of experience do you have as a deafness specialist?

(1) 2 years or less (2) 3 to 5 years

(3) 6 to 10 years (4) 10 or more years

118. How many years have you been in your current position?

(1) 2 years or less (2) 3 to 5 years

(3) 6 to 10 years (4) 10 or more years

119. What is your current job title ? _____

120. Please indicate what degrees you have earned and your major area of study for each.

(1) No degree

(2) Associate _____

(3) Bachelors _____

(4) Masters _____

(5) Doctorate _____

Program Information

121. What is the average number of D/HH students served by your office each year?

(1) 5 or fewer students (2) 6 to 10 students

(3) 11 to 20 students (4) 21 to 30 students

(5) 31 to 40 students (6) more than 40 students

122. How many regular staff members are primarily assigned to work with D/HH students? _____

Institutional Information

123. How many students are enrolled in the institution (undergraduate and graduate)?

(1) less than 1,000 students (2) 1,000 to 4,999 students

(3) 5,000 to 9,999 students (4) 10,000 to 14,999 students

(5) 15,000 to 19,999 students (6) more than 20,000 students

124. Type of institution

(1) Technical/vocational school (2) 2-year technical college

(3) 2- year community college (4) 4-year college/university

(5) Other _____

Please use the space below to include any additional comments you may have about the importance of special competencies of deafness specialists in postsecondary education settings.

Please review the completed questionnaire and check that you have responded to all of the items on every page. Once you have completed the questionnaire, please mail it to the PEC Central Office in the enclosed postage paid envelope by November 15, 1998.

You may receive a summary of the results by completing the enclosed card and including it with your returned survey. Please do not put this information on the questionnaire itself.

Thank you for your assistance.

APPENDIX B

List of Content Experts

1. Ms. Marta Belsky
Office of Programs for Handicapper Students
Michigan State University
120 Bessey Hall
East Lansing, MI 48824-1033

2. Ms. Claudia Bergquist
Department of Disability Services
Columbus State Community College
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Columbus, OH 43215

3. Ms. Peggy Brooks
Disabled Student Services
Central Piedmont Community College
PO Box 35009
Charlotte, NC 28235

4. Ms. Susan Queller
Disability Support Services
University of Arkansas
2801 S. University
Little Rock, AR 72204-1099

5. Ms. Lucinda Aborn
Disability Support Services
El Camino College
16007 Crenshaw Boulevard
Torrance, CA 90506

6. Mr. Tom Thompson
Center for Students with Disabilities
William Rainey Harper College
1200 W. Algonquin Road
Palatine, IL 60067-7398

7. Dr. Greg Long
Communicative Disorders
1400 W. Lincoln Highway
Northern Illinois University
DeKalb, IL 60115

8. Ms. Carol LaCava
Educational Interpreting Program
Department of Counseling, Deafness, and Human Services
The University of Tennessee
135 Claxton Addition
Knoxville, TN 37996-3400

9. Dr. Debra Wilcox Hsu
Midwest Center for Postsecondary Outreach
St. Paul Technical College
235 Marshall
St. Paul, MN 55104

10. Mr. Gary Sanderson
Western Region Outreach Center and Consortia
NCOD at CSUN
18111 Nordhoff Street
Northridge, CA 91330

11. Ms. Karen Hopkins
Northeast Technical Assistance Center
NTID at RIT
52 Lomb Memorial Drive
Rochester, NY 14623

APPENDIX C

Cover Letter to Content Experts

August __, 1998

Dear _____,

Thank you for agreeing to participate as a content expert for the study on special competencies of deafness specialists in postsecondary education. Your involvement will provide valuable feedback that will be used in the development of the *Special Competencies of Deafness Specialists in Postsecondary Education Inventory.*

Deafness specialists in postsecondary education settings must frequently use special skills to deliver quality services to students. As a professional in the field of deafness or disability services, you are aware of the importance of these special skills or competencies. Currently, there is little known about which competencies are essential for the successful performance of professionals working with students who are deaf and hard of hearing in postsecondary settings. By collecting professional opinions, we can provide structure toward a systematic approach to identifying needed competencies. Your help is needed as one of 12 experts selected from a national pool to provide feedback that will be used in developing the inventory used in this study.

In the enclosed packet, I have listed many items that have been clustered into broad categories for ease of handling the material. These items are responsibilities or tasks that *may* be performed by deafness specialists in postsecondary education settings. As an expert, I am asking you to consider each of the statements, beginning with the stem "Deafness specialists..." Please review each item for representativeness to the deafness specialist position, clarity, and consistency of word use. Feel free to recommend the elimination of any item, the addition of new items, or the inclusion of additional categories. Your comments are also welcome.

Your responses will remain anonymous and will be used only for the development of the survey instrument. After the study is completed, I will also send you a copy of the findings and recommendations. I would appreciate your feedback via mail or fax within the next four weeks. Please do not hesitate to contact me at 423-974-0650 v/t, 423-974-3522 fax, or via e-mail at <mkolvitz@utk.edu> if you have any questions or concerns.

Sincerely,

Marcia Kolvitz
Project Director

APPENDIX D

Competency Statements Reviewed by Content Experts

Deafness Specialists . . .

I. Consultation & Collaboration	*Please indicate any recommendations for changes or need for clarification here.*
1. Serve on campus committees to develop institutional policies and procedures regarding students who have disabilities, including D/HH students.	
2. Work with designated campus personnel to develop program policies and procedures (e.g., required documentation, course substitutions) that affect D/HH students.	
3. Consult with other campus departments regarding the needs of D/HH students (e.g., health services, residential life, admissions, counseling services).	
4. Consult with faculty regarding the instructional needs of D/HH students.	
5. Consult with campus personnel regarding job accommodations for faculty or campus staff who are deaf or hard of hearing.	
6. Consult with campus administrators regarding the needs of D/HH students (e.g., department directors).	
7. Work with designated campus personnel to develop program policies and procedures (e.g., required documentation, course substitutions) that affect D/HH students.	
8. Consult with community or state resources (e.g., rehabilitation services).	
9. Consult with faculty and campus personnel regarding the use of interpreters or assistive technology devices used for accessing communication.	
II. Legal Issues & Compliance	*Please indicate any recommendations for changes or need for clarification here.*
1. Understand legal issues as applied to D/HH students.	
2. Know of legislation impacting on D/HH students.	
3. Serve on campus committees addressing ADA/Section 504 planning or issues.	
4. Collaborate with campus architects and physical plant personnel to ensure that construction of new facilities and modifications to existing facilities address the needs of D/HH students.	
5. Interpret the various federal education and rehabilitation legislation for the provision and delivery of services to D/HH students.	
6. Serve as advocates by being aware of legislation and policies that will affect D/HH students.	
III. Information Dissemination and Public Relations	*Please indicate any recommendations for changes or need for clarification here.*
1. Develop D/HH program brochure or handbook.	
2. Distribute program brochure or handbook to campus departments (e.g., health services, counseling services).	
3. Provide information to D/HH students regarding their legal rights and responsibilities.	
4. Communicate information regarding program activities and services to D/HH students.	
5. Communicate information regarding D/HH program services to the campus community (e.g., admissions brochure, student catalog).	
6. Conduct outreach activities for D/HH high school students (e.g., college fairs, transition workshops).	

7. Communicate program activities or events to the campus community, including the institutional administration (e.g., via campus newspaper, flyers).	
8. Respond to inquiries about D/HH program services from prospective students and their parents.	
IV. Professional Development	*Please indicate any recommendations for changes or need for clarification here.*
1. Read professional literature related to postsecondary education for D/HH students.	
2. Hold membership in professional organizations (e.g., ADARA, AHEAD).	
3. Attend conferences and professional development workshops.	
4. Demonstrate professional ethics and attitudes in interactions, which relate to the role of deafness specialist.	
5. Participate in the professional field through activities such as conference participation, presentations, planning, and evaluation.	
6. Understand ethical issues as applied to D/HH students.	
7. Maintain up-to-date knowledge of adaptive technology used by D/HH individuals.	
8. Maintain up-to-date knowledge of emerging issues related to deafness (e.g., cochlear implants, use of Cued Speech interpreters).	
V. Training and Education	*Please indicate any recommendations for changes or need for clarification here.*
1. Provide training for faculty, campus staff, and institutional administration regarding awareness of deafness and hearing loss.	
2. Provide training to program staff regarding best practices for working with D/HH students who are deaf and hard of hearing.	
3. Conduct campus-wide activities (e.g., deaf awareness day).	
4. Make presentations at professional conferences.	
5. Conduct training for campus personnel regarding the legal requirements of serving D/HH students.	
6. Provide training for faculty regarding accommodations and auxiliary aids.	
7. Plan, develop, and deliver effective in-service training in the area(s) of young D/HH adults and their transition needs.	
8. Assist local staff members in identifying personal needs for additional training n transition services for D/HH students.	
VI. Program Development	*Please indicate any recommendations for changes or need for clarification here.*
1. Identify and establish program goals.	
2. Make recommendations for program expansion and enhancement.	
3. Evaluate D/HH program services on a regular basis.	
4. Pursue additional funding sources to enhance D/HH program development (e.g., grants, fundraising).	

VII. Administrative	*Please indicate any recommendations for changes or need for clarification here.*
1. Process complaints/grievances from D/HH students about the provision of support services.	
2. Develop/assist in the development of program budget.	
3. Compile reports on program activities/services.	
4. Arrange individualized accommodations for D/HH students (e.g., tutoring, testing accommodations) and coordinate services.	
5. Evaluate program staff who are providing services to D/HH students.	
VIII. Case Management	*Please indicate any recommendations for changes or need for clarification here.*
1. Provide academic advisement to students regarding issues related to the impact of hearing loss.	
2. Suggest appropriate individual accommodations to D/HH students based upon documentation.	
3. Determine eligibility for program services based upon documentation of a hearing loss.	
4. Maintain confidential student records (e.g., documentation of disability).	
5. Serve as advocates for D/HH students with faculty or administrators.	
6. Arrange auxiliary aids for D/HH students.	
7. Assist D/HH students in self-monitoring the effectiveness of accommodations.	
IX. Counseling	*Please indicate any recommendations for changes or need for clarification here.*
1. Provide personal/individual counseling to students regarding issues related to hearing loss.	
2. Provide counseling/advisement to enhance student development (e.g., self-advocacy).	
3. Provide counseling/advisement on managing personal assistants (e.g., interpreters and notetakers).	
X. Advocacy	*Please indicate any recommendations for changes or need for clarification here.*
1. Identify and utilize advocacy resources available at the local, state, regional, and national levels for D/HH students.	
2. Teach self-advocacy skills to D/HH students.	
3. Serve as an advocate for D/HH students in community actions and issues (e.g., legislative, mental health, education).	
XI. Communication Proficiency	*Please indicate any recommendations for changes or need for clarification here.*
1. Communicate with D/HH students in their preferred mode of communication (e.g., ASL, Signed English, speech).	
2. Demonstrate expressive and receptive sign language skills.	
3. Are knowledgeable of the historical development of communication methods.	
4. Are knowledgeable of the effects a hearing loss has on communication and language acquisition.	

5. Are knowledgeable of current communication technology such as computers, TTYs, and other technology applicable to D/HH students.	
6. Utilize a TTY and other telecommunication systems to communicate with D/HH students.	
XII. Cultural & Demographic Issues	*Please indicate any recommendations for changes or need for clarification here.*
1. Know that D/HH individuals are employed in professional, skilled, and unskilled occupations.	
2. Are aware of the psycho-social and cultural aspects of deafness.	
3. Understand the various causes of deafness and the implications of each.	
4. Know that secondary handicaps are often associated with deafness.	
5. Are aware of the relationship between the age of the person when deafness occurs and the education implications.	
6. Identify the unmet needs of D/HH students.	
7. Know of deaf community issues and activities.	
8. Participate in deaf community activities and events.	
9. Are aware of the major organizations of and for D/HH individuals.	
XIII. Vocational & Educational Issues	*Please indicate any recommendations for changes or need for clarification here.*
1. Are knowledgeable of strategies used in educational interventions with D/HH students.	
2. Are knowledgeable of learning disabilities and their affect on D/HH students.	
3. Are aware of the educational achievement levels of D/HH students.	
6. Apply knowledge of independent living to the needs of D/HH students.	
7. Apply knowledge of the world of work and vocational information to meet the needs of D/HH students.	
8. Assist in the design of new programs to meet the needs of D/HH students.	
9. Identify alternate postsecondary opportunities for D/HH students.	
10. Know the impact of various educational settings on D/HH students.	
XIV. Interpersonal Relationships	*Please indicate any recommendations for changes or need for clarification here.*
1. Effectively communicate services available to D/HH persons.	
2. Understand the impact of deafness on hearing families.	
3. Provide a support system for referrals to obtain additional assistance needed by D/HH students and/or their families.	
4. Know how to increase public awareness of the abilities and needs of D/HH students.	
5. Effectively use collaboration techniques in working with others.	

6. Establish productive coordination with other community organizations serving D/HH persons.	
7. Utilize effective interpersonal/communication skills when interacting with D/HH students, families, community members, and other professionals.	
8. Develop, implement, and evaluate a plan to provide consultation to professionals from other disciplines.	
9. Identify and gather additional information and support resources for D/HH students and their families.	
XV. Use of Interpreters	*Please indicate any recommendations for changes or need for clarification here.*
1. Understand the techniques of quality interpreting.	
2. Identify resources for securing quality interpreters.	
3. Are aware of guidelines for interpreting in a professional setting (e.g., confidentiality, professionalism).	
4. Orient the interpreter to the special requirements and responsibilities of the interpreting assignment.	
5. Advise D/HH students the steps in acquiring interpreter services.	
6. Instruct D/HH students in how to use an interpreter in various settings.	
7. Are familiar with RID, NAD, or state certification levels.	
XVI. Implications of Deafness	*Please indicate any recommendations for changes or need for clarification here.*
1. Know of the various degrees of hearing loss (i.e., mild, moderate, severe, profound) and their implications.	
2. Know of the various types of hearing loss (i.e., conductive, sensori-neural, mixed) and their implications.	
3. Are familiar with the techniques of measuring hearing and are able to read and interpret audiograms.	
4. Are knowledgeable of the function and characteristics of various types of amplification.	
5. Are aware of the application of amplification to learning and instructional processes.	
6. Are knowledgeable of use and maintenance of hearing aids and assistive listening devices.	
7. Are aware of other assistive devices (e.g., telephone amplification systems, captioned TV) that may benefit D/HH students.	
8. Are knowledgeable of environmental factors (e.g., noisy settings) which may affect the use of amplification.	
XVII. Program Evaluation & Research	*Please indicate any recommendations for changes or need for clarification here.*
1. Analyze, interpret, and evaluate research and professional literature related to providing support services at the postsecondary level for D/HH students.	
2. Identify future research issues related to the participation of D/HH students in postsecondary education programs.	

3. Apply and utilize existing research for the purposes of curriculum improvement and program development for the D/HH students in postsecondary education programs.	
XVIII. Philosophical & Historical	*Please indicate any recommendations for changes or need for clarification here.*
1. Describe models of service delivery and best practices for providing support services to D/HH students.	
2. Describe the relationship of D/HH students to transitional services, employment needs, and vocational training/postsecondary education possibilities.	
3. Identify the rationale for providing systematic planning, instruction, and programming in transition for D/HH students.	
4. Describe the factors to be considered when working with D/HH students from varied cultural and ethnic backgrounds.	
XIX. Knowledge of Agencies	*Please indicate any recommendations for changes or need for clarification here.*
1. Differentiate and describe the type of direct services provided by human service programs such as vocational rehabilitation, vocational education, postsecondary education, and special education for D/HH students.	
2. Identify community and state programs and organizations (public and private) which can be utilized in providing transition services for D/HH students.	
3. Identify and analyze problems in the transition process related to organizational relationships between secondary education and adult service systems for D/HH students.	
4. Collaborate with other organizations to facilitate problem solving in providing services to D/HH students.	
5. Identify the political, social, and individual efforts that may be effective in overcoming obstacles to service delivery for D/HH students.	
XX. Assessment	*Please indicate any recommendations for changes or need for clarification here.*
1. Select, utilize, and interpret formal and informal assessment tools and procedures for the purpose of academic evaluation of D/HH students.	
2. Communicate the results of academic assessment to D/HH.	
3. Utilize developmental and academic assessment information to assist D/HH students to develop appropriate long- and short-term goals.	
4. Utilize functional and vocational assessment information to assist D/HH students to develop appropriate long- and short-term goals.	
5. Plan and implement assessment activities for the purpose of: screening; instructional program planning; placement; program monitoring; program evaluation; and planning interventions.	
6. Provide D/HH students with appropriate referrals for assessments, when necessary (e.g., psychological assessment, audiological, substance abuse,)	
XXI. Career Counseling	*Please indicate any recommendations for changes or need for clarification here.*
1. Apply career education theories and models to the career development of D/HH students.	
2. Apply various career and guidance counseling approaches to facilitate the vocational, personal, and community adjustment of D/HH students.	
3. Utilize formal and informal methods to assess the career interests and job preferences of D/HH students.	

4. Interpret and utilize the results of career and vocational assessment to D/HH students.	
5. Utilize resource materials and information sources to identify employment opportunities and outlook for D/HH students.	
6. Identify the accommodations within a work environment needed to accommodate D/HH students and discuss these with students who are completing their educational programs and seeking employment.	
7. Match the skills and interests of the D/HH students with the skills and demands required by the major, job, or vocational placement.	
XXII. Employment	*Please indicate any recommendations for changes or need for clarification here.*
1. Understand barriers to employment faced by D/HH individuals.	
2. Provide direct instruction in job-seeking and job-keeping skills to D/HH students.	
3. Provide technical assistance to employers and work supervisors to enable D/HH students to maintain employment.	
4. Provide technical assistance to business and industry in integrating programs to employ D/HH students.	
5. Prepare D/HH students to cope with the potential obstacles in employment settings.	
6. Educate job placement specialists about needed accommodations for D/HH students who are preparing for the job market.	
XXIII. Additional Items?	

APPENDIX E

Cover Letter to Study Participants

October __ , 1998

Dear Colleague,

Deafness specialists who work in postsecondary educational settings frequently must use special skills in order to deliver quality services to students who are deaf and hard of hearing. As a professional working in the area of deafness and disability services, you are aware of the importance of these skills or competencies. We are interested in learning your opinion about the importance of these special competencies. This information will help us determine the special competencies that are the most important for the deafness specialist to possess.

You are one of a small number of professionals who was carefully selected to give your opinion on this matter. We appreciate your response to the needs assessment conducted by the Postsecondary Education Programs Network (PEPNet) last year and value your experiences in working with students who are deaf and hard of hearing.

In order that the results of this study reflect the thinking of professionals working with deaf people, it is important that the deafness specialist at your institution complete the enclosed questionnaire. This professional may be identified by one of several job titles, such as "counselor," "coordinator," "learning specialist," "educational specialist," or "program specialist." If no one on your campus is designated as a deafness specialist, the survey should be completed by a professional who has the most responsibility for working directly with students who are deaf and hard of hearing.

You may be assured of complete confidentiality. The questionnaire has an identification number for mailing purposes only. This is so we may check your name off the mailing list when your completed questionnaire is returned. You may be assured that your name will never be placed on the questionnaire.

Your participation in the survey is greatly appreciated. This study will not only provide much needed up-to-date information about the perceptions of special competencies of deafness specialists, but also will serve as a starting point for identifying the ongoing professional development needs of current and aspiring deafness specialists. Your input is critical to the success of the project.

We anticipate that the results of this study will be useful in planning ongoing staff development activities supported by the four PEPNet centers. You may receive a summary of the results completing and returning the enclosed card. Please do not put this information on the questionnaire itself.

Please return the completed survey in the enclosed envelope by November 15, 1998. If you have any questions, please do not hesitate to contact me at 423-974-8427 v/t or via e-mail at <pec@utk.edu>. Thank you very much for your assistance.

Sincerely,

Marcia Kolvitz, Project Director
Special Competencies Study

APPENDIX F

Letters of Support from PEPNet Directors

R·I·T

Rochester Institute of Technology

National Technical Institute for the Deaf
Northeast Technical Assistance Center
52 Lomb Memorial Drive
Rochester, New York 14623-5604
716-475-6433 V/TTY Fax 716-475-7660

Ms. Marcia Kolvitz
Postsecondary Education Consortium
The University of Tennessee, Knoxville
2225 Dunford Hall
Knoxville, TN 37996-3400

Dear Marcia,

This letter is to provide endorsement of your study of the special competencies of deafness specialists in postsecondary education programs. As one of the directors of the Postsecondary Education Programs Network (PEPNet), I feel this study will provide additional information regarding some of the issues faced by the four regional centers as they continue to provide outreach, technical assistance, and ongoing professional development activities for professionals across the United States who work with students who are deaf and hard of hearing.

I support the study and agree that you may use the national needs assessment database in selecting the sample for the survey. Upon completion of the study, any information generated should be shared with each of the PEPNet regional centers. Submitting presentations for consideration at national conferences and writing articles for publication would be an excellent way of disseminating information to the professionals in the field.

Sincerely,

Karen

Karen Hopkins, Director
Northeast Technical Assistance Center

THE UNIVERSITY OF TENNESSEE
KNOXVILLE

Postsecondary Education Consortium
Rehabilitation, Deafness and Human Services
2229 Dunford Hall
Knoxville, Tennessee 37996-4020
423-974-8427 V/TDD
423-974-3522 FAX
pec@utk.edu E-mail

October 15, 1998

Ms. Marcia Kolvitz
Postsecondary Education Consortium
The University of Tennessee, Knoxville
2225 Dunford Hall
Knoxville, TN 37996-3400

Dear Marcia,

This letter is to provide endorsement of your study of the special competencies of deafness specialists in postsecondary education programs. As one of the directors of the Postsecondary Education Programs Network (PEPNet), I feel this study will provide additional information regarding some of the issues faced by the four regional centers as they continue to provide outreach, technical assistance, and ongoing professional development activities for professionals across the United States who work with students who are deaf and hard of hearing.

I support the study and agree that you may use the national needs assessment database in selecting the sample for the survey. Upon completion of the study, any information generated should be shared with each of the PEPNet regional centers. Submitting presentations for consideration at national conferences and writing articles for publication would be an excellent way of disseminating information to the professionals in the field.

Sincerely,

William E. Woodrick, Director
Postsecondary Education Consortium
The University of Tennessee Center on Deafness

CALIFORNIA STATE UNIVERSITY
NORTHRIDGE

National Center on Deafness
Office of the Director

September 14, 1998

Ms. Marcia Kolvitz
Postsecondary Education Consortium
The University of Tennessee, Knoxville
2229 Dunford Hall
Knoxville, TN 37996-4020

Dear Marcia:

This letter is to provide endorsement of your study of the special competencies of deafness specialists in postsecondary education programs. As one of the directors of the Postsecondary Education Programs Network (PEPNet), I feel this study will provide additional information regarding some of the issues faced by the four regional centers as they continue to provide outreach, technical assistance, and ongoing professional development activities for professionals across the United States who work with students who are deaf and hard of hearing.

I support the study and agree that you may use the national needs assessment database in selecting the sample for the survey. Upon completion of the study, any information generated should be shared with each of the PEPNet regional centers. Submitting presentations for consideration at national conferences and writing articles for publication would be an excellent way of disseminating information to the professionals in the field.

Sincerely,

Herb Larson, Director
Western Region Outreach Center and Consortia
California State University, Northridge

HL/m

18111 Nordhoff Street · Northridge · California · 91330-8267 · V/TDD (818) 677-2611 · fax (818) 677-4899

The California State University · Bakersfield · Chico · Dominguez Hills · Fresno · Fullerton · Hayward · Humboldt · Long Beach · Los Angeles · Maritime Academy
Monterey Bay · Northridge · Pomona · Sacramento · San Bernardino · San Diego · San Francisco · San Jose · San Luis Obispo · San Marcos · Sonoma · Stanislaus

Midwest Center
for
Postsecondary
Outreach

MCPO promotes increased access and availability of postsecondary education for deaf and hard of hearing persons in the Midwest.

Iowa
Illinois
Indiana
Kansas
Michigan
Minnesota
Missouri
Nebraska
North Dakota
Ohio
South Dakota
Wisconsin

September 28, 1998

Ms. Marcia Kolvitz
Postsecondary Education Consortium
The University of Tennessee, Knoxville
2225 Dunford Hall
Knoxville TN 37996-3400

Dear Marcia,

This letter is to provide endorsement of your dissertation study of the special competencies of deafness specialists in postsecondary education programs. As one of the directors of the Postsecondary Education Programs Network (PEPNet), I believe that this study will provide additional information regarding some of the issues faced by the four PEPNet Regional Centers as they continue to provide outreach, technical assistance, and ongoing professional development activities for professionals across the United States who work with students who are deaf and hard of hearing.

I support the study and agree that you may use the PEPNet National Needs Assessment database in selecting the sample for the survey. Upon completion of the study, any information generated should be shared with each of the Regional Centers and a report submitted for distribution through our PEPNet website crediting the survey and yourself. Submitting presentations for consideration at national conferences and writing articles for publication would be an excellent way of disseminating information further to the professionals in the field.

Sincerely,

Raymond C. Olson
MCPO Director

CC: PEPNet Directors
Ramon Rodriguez, Grants Officer
Files

St. Paul Technical College, 235 Marshall Avenue, St. Paul, Minnesota 55102
VOICE/TTY: 612-221-1337 • FAX: 612-221-1416

APPENDIX G

Follow-up Postcard to Study Participants

November 23, 1998

Dear Colleague,

Within the past few weeks, a questionnaire seeking your perspective about the competencies of deafness specialists in postsecondary education was mailed to you. The results of this survey will be useful in planning ongoing staff development activities supported by the four PEPNet centers. As of this date, we have not received your completed survey.

Because the questionnaire was distributed to a small group of professionals, your input and completed survey is very important. If you have already completed and returned the survey, please accept our sincere thanks. However, if you have not yet completed and returned it, please take a few minutes to do so.

If you did not receive a copy of the questionnaire, or if it was misplaced, please contact me at 423-974-8427 (v/t), 423-974-3522 (f), or via e-mail at <pec@utk.edu> and I will be happy to mail you another copy.

Sincerely,

Marcia Kolvitz, Project Director
Special Competencies Study

APPENDIX H

Major Areas of Study Reported by Survey Respondents

Major Areas of Study Reported by Survey Respondents

Category	Major Area of Study	Number of Responses
Strongly Related	Deaf Education	33
	Rehabilitation Counseling	29
	Sign Language Interpreting	19
	Rehabilitation Counseling for the Deaf	11
	Deaf Studies	5
	Sign Language Studies	3
	Communication Disorders	2
	Deaf-Blind	1
	Postsecondary Education and Disabilities	1
Related	Counseling and Guidance	26
	Special Education	13
	Social Work	8
	Psychology	8
	Educational Psychology	4
	Student Personnel Services	3
	Human Services	2
	Applied Social Psychology	1
	Social Services	1
Semi-related	Education	15
	Educational Administration	3
	Adult Education	2
	Health and Wellness	2
	Higher Education	2
	Learning Disabilities	2
	Family Relationships	1
	Reading	1
	Sociology	1
Not Related	Communications	2
	History	2
	Music Literature	2
	Nursing	2
	Business Administration	1
	Business Management	1
	English	1
	Human Resource Development	1
	Journalism	1
	Library Studies	1
	Music Education	1

APPENDIX I

Competency Statements According to Cluster and Domain

Direct Services to Students Competency Domain

Career Planning and Employment (CP) Competency Cluster

104. Understand barriers to employment faced by D/HH individuals.
105. Consult with career center staff regarding the needs of D/HH students.
106. Apply career education theories and models to the career development of D/HH students.
107. Utilize formal and informal methods to assess the career interests and job preferences of D/HH students.
108. Interpret and utilize the results of career and vocational assessment to D/HH students.
109. Utilize resource materials and information sources to identify employment opportunities and outlook for D/HH students.
110. Identify workplace modifications needed to accommodate D/HH students and discuss these with students who are completing their educational programs and seeking employment.
111. Assist D/HH students in matching their skills and interests with the skills and demands required by the major, job, or vocational placement.
112. Provide direct instruction in job-seeking and job-keeping skills to D/HH students.
113. Provide technical assistance to employers and work supervisors to enable D/HH students to maintain employment.
114. Educate job placement specialists about needed accommodations for D/HH students who are preparing for the job market.

Case Management (CM) Competency Cluster

5. Arrange individualized accommodations for D/HH students (e.g., tutoring, testing accommodations, interpreting services) and coordinate services.
6. Evaluate program staff who are providing services to D/HH students (e.g., interpreters, tutors, notetakers, captioners).
22. Provide academic advisement to students regarding issues related to their abilities and limitations related to their hearing loss.
23. Suggest appropriate individual accommodations to D/HH students based upon documentation.
24. Determine eligibility for program services according to applicable guidelines and standards based upon documentation of hearing loss.
31. Maintain confidential student records (e.g., documentation of disability).
32. Serve in an advocacy role for D/HH students with faculty, staff, or administrators.
33. Assist D/HH students in self-monitoring the effectiveness of accommodations.

Counseling and Advocacy (CA) Competency Cluster

34. Provide counseling/advisement to enhance student development (e.g., self-advocacy).
35. Provide counseling/advisement on managing personal assistants (e.g., interpreters and notetakers).
36. Identify and utilize advocacy resources available at the local, state, regional, and national levels for D/HH students.
37. Provide workshops/training opportunities to D/HH students on self-advocacy skills.
82. Serve as faculty/staff advisors to student organizations and activity groups, (e.g., campus deaf club, disability awareness organization, sign language club).

Communication Skills (CS) Competency Cluster

1. Communicate with deaf and hard of hearing (D/HH) students in their preferred mode of communication (e.g., ASL, Signed English, speech).
2. Demonstrate expressive and receptive sign language skills.
3. Are knowledgeable of the effects that hearing loss (including age of onset, degree of loss, etiology) has on communication, language acquisition, and educational implications.
4. Are knowledgeable of the application of current technology (e.g., computers, TTYs) to D/HH students.
7. Understand the various approaches to providing communication access for D/HH students in educational settings (e.g., interpreting, transliterating, oral interpreting, amplification, real-time captioning).
38. Utilize TTYs and other telecommunication systems to communicate with D/HH students.

Support Services (SS) Competency Cluster

8. Advise D/HH students about the steps in acquiring accommodations.
9. Provide training for D/HH students on how to use accommodations effectively.
10. Understand what quality interpreting is.
11. Identify resources for securing quality interpreters.
12. Are aware of guidelines for interpreting in an educational setting (e.g., ethical conduct, confidentiality) and provide a structure for maintaining professionalism.
13. Orient the interpreter to the special requirements and responsibilities of the interpreting assignment.
14. Are familiar with RID, NAD, or state certification levels for interpreters.
15. Understand the various approaches to providing notetaking services (e.g., student volunteers, paid professional notetakers, computer assisted notetaking).
16. Identify resources for securing quality notetakers, tutors, and captioners.
17. Are aware of the qualities of effective notetakers, tutors, and captioners.
19. Understand what quality real-time captioning is.
20. Are aware of guidelines for real-time captioning in an educational setting and provide a structure for maintaining professionalism.
21. Understand the various approaches to providing tutoring services (e.g., peer tutors, paid professional tutors, faculty members).

Knowledge and Background Competency Domain

Educational and Vocational Planning (VO) Competency Cluster

45. Are knowledgeable of learning disabilities and attention deficit disorder and their effect on D/HH students.
46. Are aware of the range of educational achievement levels of D/HH students.
47. Apply knowledge of independent living to respond to needs of D/HH students.
48. Apply knowledge of the world of work and vocational information to meet the needs of D/HH students.
49. Assist in the design of new training programs to ensure the needs of D/HH students are addressed.
50. Identify alternate postsecondary opportunities for D/HH students.
99. Select, utilize, and interpret formal and informal assessment tools and procedures for the purpose of academic evaluation of D/HH students.
100. Communicate the results of academic assessment to D/HH students.
101. Utilize developmental and academic assessment information to assist D/HH students to develop appropriate long- and short-term goals.
102. Utilize functional and vocational assessment information to assist D/HH students to develop appropriate long- and short-term goals.

Professional Development (PD) Competency Cluster

18. Develop and provide training for interpreters, notetakers and tutors, when appropriate.
71. Read professional literature related to postsecondary education for D/HH students.
72. Hold membership in professional organizations (e.g., ADARA, AHEAD, NASPA, RID).
73. Attend conferences and professional development workshops.
74. Demonstrate an understanding of professional ethics and attitudes in interactions, which relate to the role of deafness specialist.
75. Understand personal limits related to service provision (e.g., sign language skills, legal knowledge, counseling skills), and provide services within those limits.
76. Maintain up-to-date knowledge of adaptive technology used by D/HH individuals.
77. Maintain up-to-date knowledge of emerging issues related to deafness (e.g., cochlear implants, use of Cued Speech interpreters, real-time captioning).
78. Provide training for faculty, staff, and administrators to increase awareness of deafness and hearing loss.
79. Know models of service delivery and best practices for providing support services to D/HH students.
80. Provide training to faculty/staff regarding best practices for working with D/HH students.
81. Conduct campus-wide activities (e.g., deaf awareness day) in conjunction with student organizations.
83. Present at professional conferences regarding best practices for working with D/HH students.
84. Plan, develop, and deliver effective in-service training for faculty, staff, and administrators regarding best practices for working with D/HH students, transition issues, accommodations, auxiliary aids, etc.
85. Assist staff members in identifying needs for additional training on transition services for D/HH students.

Understanding Deafness (DF) Competency Cluster

25. Are able to read and interpret audiograms.
26. Are knowledgeable of the function and characteristics of various types of amplification (e.g., personal hearing aids, assistive listening devices).
27. Are aware of the application of amplification to learning and instructional processes.
28. Are knowledgeable of use and maintenance of hearing aids and assistive listening devices.
29. Are aware of other assistive devices (e.g., telephone amplification systems, captioned TV and films) that may benefit D/HH students.
30. Are knowledgeable of environmental factors (e.g., noisy settings, electronic devices) which may affect the use of amplification.
39. Know that D/HH individuals are employed in professional, skilled, and unskilled occupations.
40. Are aware of the psychosocial and cultural aspects of deafness.
41. Know that secondary disabilities may be associated with deafness.
42. Know of deaf community issues and activities, including those related to sub-groups (e.g., persons of color, gay/lesbian, religion).
43. Participate in deaf community activities and events, if appropriate, when invited.
44. Are aware of the major organizations of and for D/HH individuals (e.g., NAD, SHHH, ALDA, NBDA) and maintain institutional membership in these.
51. Understand the impact of deafness on hearing families.
52. Know how to increase public awareness of the abilities and needs of D/HH students.
96. Understand the factors to be considered when working with D/HH students from varied cultural and ethnic backgrounds.

Program Management Competency Domain

Consultation and Collaboration (CN) Competency Cluster

53. Effectively use collaboration techniques in working with others.
54. Establish productive coordination of services with other community organizations serving D/HH persons.
55. Utilize effective interpersonal/communication skills when interacting with D/HH students, families, community members, and other professionals.
56. Work with designated campus personnel to develop program policies and procedures (e.g., required documentation, course substitutions or waivers) that affect D/HH students.
57 Consult with other campus departments regarding the needs of D/HH students (e.g., financial aid office, health services, residential life, admissions, tutorial services, counseling services).
58. Consult with faculty and administrators regarding the instructional needs of D/HH students.
59. Consult with campus personnel regarding job accommodations for faculty or campus staff who are deaf or hard of hearing.
60. Work with community or state resources (e.g., rehabilitation services, independent living centers).
61. Consult with faculty/staff regarding the use of interpreters or assistive technology devices used for facilitating communication.
97. Understand the range of services provided by human service programs such as vocational rehabilitation, vocational education, postsecondary education, and special education for D/HH students.
98. Understand issues in the transition process relevant to relationships between secondary education and adult service systems for D/HH students.
103. Provide D/HH students with appropriate referrals for assessments, when necessary (e.g., audiological, psychological, substance abuse,)

Legal Aspects (LE) Competency Cluster

62. Know of legislation (e.g., ADA, Section 504) impacting on D/HH students.
63. Serve on campus committees addressing ADA/Section 504 planning or issues.
64. Consult with campus architects and physical plant personnel to ensure that construction of new facilities and modifications to existing facilities address the needs of D/HH students.
65. Apply federal education and rehabilitation legislation appropriately for the provision and delivery of services to D/HH students.

Program Development and Evaluation (EV) Competency Cluster

86. Identify and establish program goals which support institutional mission.
87. Conduct needs assessment to identify areas of program expansion and enhancement.
88. Make recommendations for program expansion and enhancement.
89. Evaluate D/HH program services on a regular basis.
90. Pursue additional funding sources to enhance D/HH program development (e.g., grant-writing, fundraising).
91. Process complaints/grievances from D/HH students about the provision of services.
92. Develop/assist in the development of program budget.
93. Compile reports on program activities/services.
94. Analyze, interpret, and evaluate research and professional literature related to providing support services at the postsecondary level for D/HH students.
95. Apply and utilize existing research for the purposes of curriculum improvement and program development for the D/HH students in postsecondary education programs.

Public Relations (PR) Competency Cluster

66. Develop and distribute program brochures or handbooks for student and faculty/staff use.
67. Provide information to D/HH students regarding their legal rights and responsibilities.
68. Communicate information regarding program services and activities (e.g., program brochure, admissions brochure, student catalog, web page)to D/HH students, campus community, local agencies, and secondary school staff and faculty.
69. Conduct outreach activities (e.g., college fairs, transition workshops) for D/HH high school students.
70. Respond to inquiries about D/HH program services from prospective students, parents, high school personnel, and VR counselors.

APPENDIX J

Respondent Comments

Respondent Comments

- It would be ideal for deafness specialists to gain competencies in all areas addressed. I am in an unusual position in that my role it to serve and coordinate services for students with all disabilities, but my background, work experience, and education are in deafness. I volunteer in different capacities in deafness fields – so obviously I have an interest and a skill level. I said all this to make the point that perhaps I am more desirous of competencies in deafness and at the same time I see my peer with no background or interest and realize that their approach would be very different. I tried to temper my responses somewhere in between. Good luck with your survey!

- It is my feeling that a specialist in this area is extremely necessary, however for small institutions like ours in limited population areas, we are happy to have qualified interpreters.

- The list you have compiled is the most comprehensive job description of what I do that I have ever seen. Those items circled 5 are those things I strive to do regularly. Those items circled 4 are things I know are valuable and important, but would probably be better to have additional staff work on. Good luck with the project!

- Disability services is approximately 1/3 or my work. We have only 1 D/HH student this semester. Sometimes we have 3-4 at most.

- We have a coordinator of interpreters who works with our office in a cooperative situation to meet the needs of our h.i. students, therefore the answers to some of these questions is reflective of their responsibilities in cooperation with overall disability service provision.

- Ability to interpret and transliterate ASL and Sign English very important. Use of orientation prior to each semester important. Ability to assess competencies of non-certified interpreters important. Knowledge of teaching strategies/accommodations/alternative teaching and testing formats, etc. important.

- I think you have to be careful when using knowledge, etc… of amplification devices as a criterion. Being a specialist in deafness and being an audiologist are not necessarily the same things. I think it is dangerous for one person to be an expert in all areas covered by this survey. It causes over-dependency in the students rather than creating more independent students. Knowing where campus and community resources are and how to access them is equally as important. I don't go along with the idea of having duplicate programs just because a student has a disability. If he is to fit in with the mainstream society, the student needs to be learning how to use the services that are available for the general population, with appropriate accommodations provided, as needed. Past experience in this office, where the deaf specialist did everything for the students, served to isolate the students from other things that were going on around campus – the students were not really a part of the

college as a whole.

- Our office also has a counselor within the disabled student services who signs, to work with the deaf/hh students.

- Frustrating to answer your questions because so much depends on the exact position/number of students and other variables. Anyone who works with Deaf students should have the resources available to them to understand the language, community, and special needs of Deaf students.

- We have only one D/HH student on our campus who has requested services. This person is the only one I've worked with during my time as ADA Coordinator so my responses reflect a very limited background in this area. Most of my help comes from the student's vocational rehabilitation counselor – a person with whom I work very closely.

- Understanding the dynamics of race in conjunction with disability

- I always need help in determining if the interpreter is not only a competent signer, but is also a competent interpreter. Higher level, specialized courses are problematic, at times. My function at this 4-year residential private small college is to serve as the entire DS department, so I have curtailed my duties to academic support for students only.

- State and/or national certification – sign language

- Computer technology has changed very rapidly and cause some deaf/hh to back off due to technology language. Not just them, but interpreters. New signs to deaf students. Another example, phone registration now appears in few colleges here, Oregon. We don't have TTY phone registration yet. As a faculty, computer takes over here for presenting to students, many faculty have taken the trainings. I had to find interpreters to match the dates, etc. Computer language seems for they to comprehend while myself ASL user, takes extra time.

- I had a difficult time with the survey because I felt a conflict between describing my background and that of my counselors who actually work with all students w/disabilities, including D/HH. For the most part, I responded based on my counselor knowledge and experience because I think it is much more typical of the filed of DSS in public and private institutions.

- In our setting – community college, rural area, small – there is not enough demand to justify a "deafness specialist" on staff. Our D/HH population usually runs <5. It is important as coordinator of services for all students that I remain on top of issues, technology, etc. that impact not only the D/HH student but all students with disabilities. Daunting – yes! But I rely on a network of experts (with the student at the

top of the list) to help, advise and direct.

- Our staff must be able to handle all disabilities. I'm sure we would be better off with ASL/Deaf specialist. Although we do not have presently have a person on staff recognized by Deaf community, it would most likely make our communication with deaf students much better or at least, the students may be happier.

- I think too often deafness specialists expect too little out of their d/hh students. Saying that a deaf student can never reach a certain level because of their language differences is untrue. Bridge the language differences, provide the English training and let's see some more professional deaf graduates!

- Filling this out is like reading a job description. We are expected to do and know all the issues on the survey. Unfortunately, many departments are understaffed and there is not the time to deal with all the components in a postsecondary setting – educational, vocational, advocacy, psychosocial, training of other faculty, etc. In filling out this survey, I could have circled #5 for all the statements. They are all important. However, as 1 counselor working with 250 students, I found myself choosing #3. I began to prioritize what's most important for a "deaf specialist" to do, rather than what knowledge is most important.

- Depending on the educational setting, some or all of the previously listed skills and competencies are important for a deafness specialist. For a program having more than one specialist, it may not be necessary to be fully involved in all aspects of deafness. A team of deafness specialists might more adequately address all of the needs of the deaf. An office of one may require that this one person be knowledgeable in a vast array of the previously listed skills and competencies.

- The deafness specialist must have excellent interpersonal communication skills. The person is like a hub of a wheel with many spokes. These skills work holistically for the whole. Not only should the specialist know deaf culture, but he/she should also have the knowledge and savvy to work within the higher education culture. The deafness specialist must be resourceful and a networking specialist. This network is for information sharing, and people connecting to people for effective outcomes for all parties involved. Even though the deafness specialist should be knowledgeable, educated, and talented in many areas, the sole responsibility and many "hat" wearing will also depend on the community where the university is located. The more rural, isolated the community, the more responsibility the specialist will incur.

- Although a wide, broad knowledge of deafness and hearing loss and their impact on individual students is important, even crucial, to their success in community college, most CCs employ one or just a few people to deal with students with all disabilities. This means we become jack of all trades, master of none. I wish I had half, or even a quarter, of the competencies listed in this questionnaire, but I don't. I have responsibility for providing support services to about 50 students a semester, and

usually one is deaf and one or two are H of H. I just don't get a chance to become as competent as I'd like to be in this one area.

- Deafness specialists need to be kept up to date on new developments of software and technology, as well as best practices. Though my college is very supportive – in theory and financially – of me attending conferences, many colleges and universities seem to not be knowledge of and inclusion in the transition process seems to be another missing link.

- Not really additional comments, but a suggestion. In the future keep your questions consistent. You wanted to begin all questions with the base verb. "Are" is not the bast verb. "Be" is the base verb.

- I believe that anyone who works with people who are deaf or hh need to look at every aspect of the individual's life. Just because one knows the language of a culture does not mean they know that culture. I wish I could devote more time to deaf/hh but I serve all individuals with all types of disabilities (blindness, LD, ADD). I believe every one of my answers should be a "5" – if deaf/hh was the only population that a deafness specialist serves.

- I am the coordinator of disability services on a small campus. However, since we have a SLI/ASL major, many chores normally carried out by the deafness specialists are done by our departmental faculty.

- There is no one on campus who is a deafness specialist. Many of the items in the survey are broken up in different areas which include counselors, advisors, campus directors of disabilities or district coordinator of disabilities. Out of all these people I have the most interaction with deaf and hh students is my background as LD teacher and special ed counselor for 12 years and I don't know much. We have a very small number of students who are deaf. Last year, 2; this year none. Only 1 hh student this year.

- Unfortunately, the administrators on staff are not open minded or accepting of change in relation to any of the disabilities on campus. Many of the questions, I felt applied to vocational rehabilitation and not to this particular institution. It would be beneficial if this institution could provide more training in self-advocacy, job-seeking skills, etc.

- Needs training and workshops designed for deaf employees in universities in different regional areas. Past teleconference videotapes shows success but need "lively" presentations. What's the relationship between voc rehab and deaf specialist should be? Train and be aware of client advocacy project (CAP) which often lacks by deaf students and deaf specialists.

- This survey was difficulty to complete ...my "opinion" doesn't constitute a fact. I'm concerned that this survey is so subjective. I would have preferred to answer

questions specifically related to my own job position. I agree that deaf specialists have to wear many hats, but we DO NOT replace academic advisors, job placement staff, counselors, tutors, audiologists, et al. If I stray too far beyond the role of ensuring access to deaf/hh students, then I do a disservice to students – those qualified persons already exist on my campus. I can be/am a consultant, but I don't share their expertise in their given areas. Good luck with your survey!

- While I am the person designated to facilitate support services/equipment for any students who are d/hh, I by no means describe myself as a deafness specialist. My responses to this survey have been rendered from the perspective of the "ideal, well-qualified deafness specialist."

- We have an interpreter coordinator so some items I felt would fall under her responsibilities, although all three "specialists" do interpret and have knowledge of that area.

- I think that many "Deafness specialists" start off as coordinators of interpreting and often have no formal training in many of the areas you listed. It is important for them to receive this education to really be "deafness specialists."

- I am not a deafness specialist. I am the individual who works with all disabled students enrolled here at this community college. I attended AHEAD's training in Boca Raton, Fla. this past May. I have had no formal training. I am constantly reading as much as I can regarding disabilities and their related accommodations, however, there is always room for growth.

- A deafness specialist would need to have a great amount of specific education in the specialized field of deafness. For most colleges that do not serve adequate numbers of students that are deaf, it may be low on the college's priority to employ or create a position for a deaf specialist. Unfortunately in my immediate region the biggest problem in serving students is the shortage of qualified available interpreters. I would appreciate any information that you could provide to me in the proper evaluation and specific qualifications that an interpreter would need to posses in order to provide interpreter services to students that are on the college campus. Also, I have heard about real-time captioners in place of notetakers. If you could please send me any information for the selection and hiring of a qualified captioner as well as equipment requirements I would appreciate it. I do not consider myself as a deaf specialist. I do consider myself as a developing professional in the field of serving students with various disabilities. I work closely with outside agencies and non-profit organizations. My office also works closely with all college academic support services. A deafness specialist would benefit from having all the qualities and knowledge that this survey addresses.

- I do feel strongly that the competencies a deafness specialist holds are pivotal to a deaf student's success. I am concerned by the move to a generalist model at the

postsecondary level.

- Resources to employ a trained deaf specialist are extremely limited so as coordinator of learning disabilities services, I have encouraged grants and self-education to enhance our programs and services to the deaf community. Our greatest concern is increasing the competency levels of educational interpreters at the local level in order to increase the academic levels of the students coming into our institution and those currently served. Training individuals to be encouraged as deafness specialist is a primary thrust out of interpreter training at the community college level.

- We have a career program linked with voc rehab and one counselor that works with all interested students from the disability resource center. I consult with that counselor. This counselor takes care of questions 107-113.

- I completed the survey because the ADA coordinator's position is currently vacant. We expect to hire one of our finalists within the next month. The ADA office reports to me.

- Career Planning and Placement is a separate dept. that provides excellent services.

- E-mail & computer knowledge; ability to interpret or C-print has come in handy

- I work in a university setting and that affected my responses to some questions in this survey. It is not necessary for me to know quality interpreting, etc. nor is it necessary for me to identify resources providing those services. It is usually best if I understand both job performance issues and resources available. This survey was very difficult to complete, given the range of types of postsecondary institutions. A job training program and a 4-year research university will have very different needs and programs. Also, many schools/institutions are still working under a "what do we have to have" mentality rather than a "program for students" mentality (the former limited to "access" questions and the latter to "success-oriented" questions).

- We currently are not serving any deaf students at our campus. There is a severe shortage of qualified interpreters in this area. As a result, most of the deaf community will attend postsecondary ed in California where they can receive a higher caliber of services – thus, we have no need for a deaf specialist. We are working on changing this!

- Obviously there are programs that are run by people with fewer skills/less knowledge in this area than I indicated is necessary & d/hh students get by. But I prefer to have d/hh students thrive in their educational settings & to do so I think the way I answered above is crucial. A lot depends on what agencies _____ ____ support deaf/hh ____ _____ too. I will xerox that list and show my director all we/I do! Thanks

- At first I answered all of the questions by trying to guess what the "average" deafness

specialist would do. Once I realized that was impossible, I went back and changed the answers based on what my school does. I have blended my own expertise and actions with those of my colleague, who works with the deaf students in a more limited role than I do, but who was the only deafness specialist until I was hired 6 months ago.

- The interpreter training has been invaluable in working with this population.

- This survey was filled out by just one leg of a three person team. We have a coordinator of interpreter services who works on those issues specifically and a director of 504 services who works on campus-wide accessibility issues. Many of these questions did not apply to me. I work mainly w/undergrad, hearing, LD students.

- Deafness specialists competencies and skills can vary significantly depending upon the role they have. Their primary job could be: administrative only, counseling, direct service provision and coordination – or some combination of these roles. Apart from the 100 or so institutions that have deaf/hh "programs," a deafness specialist in most other institutions is probably a counselor/coordinator or an interpreter/coordinator who wears many hats. Thus the need for training and education varies quite a bit.

- Use of computers – word processing with grammar & spell check; internet – finding info/downloading; 2) ability to believe in a higher power (12-step program-wise) in order to secure interpreters; 3) ability to work with DRS

- The administration still doesn't think I, as a deaf person, can do the job. The budget cut has prevented me from being able to attend conferences or workshops to learn.

- Our institution actually has 2 persons who are deafness specialists.

- Deafness specialists should not be compelled to be "all things" to every deaf student. The deafness specialist is better utilized as the conduit to enlist other professionals to meet their legal responsibilities to this unique population.

- I believe almost all of the things you listed ARE important for deafness specialists to know. Unfortunately, the various settings in which they work at a variety of post-secondary institutions may limit the kinds of services they are allowed to do/offer. Also, the size of the institution may present barriers in reaching faculty/staff to provide appropriate awareness/training. Working in a disabilities office also may limit you legally in what kinds of academic/career/vocational assessment and advising you can provide. Ideally, there would be a deafness specialist in academic affairs AND one in student affairs.

- With a rehabilitation counseling degree, one of my several responsibilities is to provide accommodations for students with disabilities. Our hearing impaired coordinator left and that assignment was added to my responsibilities. I do not sign

very much so I hire interpreters to help me communicate and in the classrooms. These interpreters are considered part-time employees. We also use notetakers. We have captioned TV in our student lounge, but no student has ever requested a captioner in class. We provide accommodations as needed and as requested by the students or faculty members.

- In my current position as well as my former position as a rehabilitation counselor with the deaf, I benefited from the knowledge of evaluation techniques and resources. Being familiar and understanding how to interpret these reports will enable specialists to assist students in career/vocational choices.Thanks for the opportunity to participate in your survey.

- More and more specialists with the deaf have to be generalists and work with all disabilities or prepared too.

- I am responsible for all the items circled "5." The other items are covered by the counselor who has training working with d/hh students. If this counselor was not on staff, I am sure I would do more to be sure services were provided. We work together to cover all the bases.

- Often time referrals are made to prevent duplication of services, i.e., job club, job placement, etc.

- I don't like question #22 – it implies an attitude that deafness itself presents barriers. We have only 2.5 FTE support staff. One for interpreting services and one for everything else. Resources and time are obviously limited, but we manage to maintain our services with quality and access.

- Feel there is a continued need to expand/enrich our network of cohorts across "the campus"
  -- how to improve working relationships
  -- development of team approach
  -- productive relationships
  Specialist need to understand dynamics at secondary level as well – productive relationships, transition efforts, problems, needs

- Our responses reflect the fact that we have a large program and we have two full time coordinators and a supervisor to manage it. No one person needs to have all of the competencies listed here as we can use the expertise of other staff in the disability office team.

- We really have no "specialist" only 2 part time staff work with students. One knows sign language and understands deafness, but the other is in charge of hiring. This makes it very difficult.

- The ability to accommodate a student's communication mode is undoubtedly of most importance since effective communication gets things accomplished in an efficient manner. It is also helpful for specialists to be clear on the advocacy aspect of the job. Do we advocate for the d/hh students, be on the school's side, or maintain neutrality as much as possible? We are the "last gate keeper" in the students' transition to adulthood so enabler roles need to be avoided if the students are to lead fulfilling lives as an adult.

VITA

Marcia Ellen Kolvitz was born in Hillside, Illinois on August 8, 1955. She graduated from Proviso West High School, in Hillside, Illinois, in June 1973. She entered Northern Illinois University in DeKalb, Illinois and received a Bachelor of Science degree in Communication Disorders in May 1977. She continued her education at Northern Illinois University and completed a Master of Arts degree in Communication Disorders with an emphasis in counseling individuals who are deaf or hard-of-hearing in May 1979.

After graduation, she accepted a position within the Hearing Division of Northwestern Illinois Association in St. Charles, Illinois where she worked as a counselor with students who are deaf or hard-of-hearing. In 1984, she assumed the role of counselor within the Disabled Student Programs at Waubonsee Community College in Sugar Grove, Illinois.

She completed additional coursework from 1987-91 in the counselor education program at Northern Illinois University. In 1990, she was invited to participate in a professional development program at San Diego State University where she completed the certificate in Post-Employment Training in Deafness Administration (PET-D).

In 1992, she accepted a position as In-Service Training Coordinator within the Postsecondary Education Consortium at The University of Tennessee, Knoxville. In 1999 she was promoted to Associate Director of the project. In addition, she serves as an adjunct faculty member in the department of Counseling, Deafness, and Human Services.

She pursued coursework in the department of Human Resource Development at The University of Tennessee, Knoxville in August of 1993 and was admitted as a doctoral student in 1995. She received a Doctor of Philosophy degree in August of 1999.

She is currently a member of several professional organizations related to disability services. Active in ADARA: Professionals Networking for Excellence in Service Delivery with Individuals who are Deaf and Hard of Hearing, she served as national conference chairperson (1991), associate newsletter editor (1993-95), Secretary (1995-97), President-elect (1997-99), and President (1999-2001).

She currently resides in Knoxville, Tennessee with her husband, Dr. A. Eric Schultze.