DOCUMENT RESUME

ED 398 716 EC 305 009

AUTHOR Tannenbaum, Richard J.; Rosenfield, Michael
TITLE The Practice of Audiology: A Study of Clinical Activities and Knowledge Areas for the Certified Audiologist. Research Report.
INSTITUTION Educational Testing Service, Princeton, N.J.
SPONS AGENCY American Speech-Language-Hearing Association, Rockville, MD.
PUB DATE Apr 96
NOTE 269p.
PUB TYPE Reports - Evaluative/Feasibility (142) -- Statistical Data (110)

EDRS PRICE MF01/PC11 Plus Postage.
DESCRIPTORS *Allied Health Personnel; *Audiology; *Certification; *Communication Disorders; Competency Based Education; Employment Qualifications; Hearing Impairments; Higher Education; *Job Analysis; Job Skills; Knowledge Level; Language Impairments; *Professional Education; Skill Analysis; Speech Impairments; Speech Language Pathology; Surveys

ABSTRACT

This job analysis study examined the tasks, knowledge, and skills involved in the practice of audiology, to modify and update the audiology performance domains identified in a 1987 study. The job analysis involved a multi-method approach that included a panel of 14 subject matter experts and a survey of 1,331 practicing audiologists, 87 educators, and 126 clinical fellowship supervisors of audiologists. The survey asked participants to: rate the importance of specific clinical activities and knowledge areas for newly certified audiologists; identify where the clinical activities and knowledge areas are learned by newly certified audiologists; and identify where clinical activities and knowledge areas should be learned. Findings indicated that practitioners, educators, and clinical-fellowship supervisors were in agreement in terms of the clinical activities and knowledge areas needed by entry-level audiologists and of their relative importance. Practitioners and clinical-fellowship supervisors agreed that many of the clinical activities and knowledge areas should be learned or acquired earlier in the educational process than is currently the case. Educators, however, did not share this belief, feeling that clinical activities and knowledge areas were being learned and acquired at the appropriate time. Findings have implications for modification of certification standards and redesign of curriculum and design of certification examinations. (CR)

RR-96-10

RESEARCH REPORT

THE PRACTICE OF AUDIOLOGY A STUDY OF THE CLINICAL ACTIVITIES AND KNOWLEDGE AREAS FOR THE CERTIFIED AUDIOLOGIST

Richard J. Tannenbaum
Michael Rosenfeld

Educational Testing Service
Princeton, New Jersey
April 1996

THE PRACTICE OF AUDIOLOGY

A STUDY OF CLINICAL ACTIVITIES AND KNOWLEDGE AREAS FOR THE CERTIFIED AUDIOLOGIST

A job analysis conducted on behalf of the American Speech-Language-Hearing Association

Richard J. Tannenbaum, PhD
Michael Rosenfeld, PhD

Division of Applied Measurement Research
Educational Testing Service
Princeton, NJ
November 8, 1995

EXECUTIVE SUMMARY

Richard J. Tannenbaum, PhD and Michael Rosenfeld, PhD
Educational Testing Service

INTRODUCTION

In 1987 the American Speech-Language-Hearing Association (ASHA) commissioned a job analysis study to delineate the tasks, knowledge, and skills underlying the practice of audiology and speech-language pathology, respectively. The purpose of that study [1] was to evaluate the requirements for the Certificates of Clinical Competence awarded by ASHA in these two professional areas; that is, to determine the extent to which the requirements were related to the knowledge and skills needed for competent, entry-level professional practice.

Then in 1994, responding to the changing nature of professional practice, ASHA commissioned Educational Testing Service (ETS) to conduct an independent job analysis study of the practice of audiology. The purpose of that study was to modify and update the audiology performance domain identified in 1987 so that it accurately reflected the current state-of-the-art in audiology. This report describes the job analysis study conducted by ETS. It documents both the methods used in developing the performance domain of audiology and the analyses conducted to verify the importance of the performance domain; it also presents the results of these and related analyses, and the implications of the study outcomes for standards modification, curriculum redesign, and test development.

Job Analysis

Job analysis refers to a variety of systematic procedures designed to obtain descriptive information about the tasks performed on a job and/or the knowledge, skills, and abilities thought necessary to perform those tasks (Arvey & Faley, 1988; Gael, 1983). A job analysis is the primary mechanism for establishing the job-relatedness of decisions concerning standards and curriculum redesign and professional certification. That is, if certification standards and curriculum can be directly linked to the outcomes of a job analysis, they may be said to be job-related. Similarly, if the content of a certification test can be directly linked to the outcomes of a job analysis, it may be said to be job-related, and inferences from test scores may be supported by arguments of content validity. The rationale that supports the content of certification standards, curriculum, and certification tests is the demonstrable linkage that exists between each and the performance domain of the associated occupation or profession.

Professional standards and legal precedents recommend that a job analysis include the participation of various subject-matter experts (Mehrens, 1987) and that the information collected be representative of the diversity within the occupation (Kuehn, Stallings, & Holland, 1990). Diversity refers to regional or job context factors and to subject-matter-expert factors such as race or ethnicity, experience, and sex. The job analysis conducted to define the performance domain for newly certified audiologists was designed to be consistent with the Standards for Educational and Psychological Testing (American Educational Research Association et al., 1985) and current professional practice.

[1] Greenberg, S., & Smith, I. L. (1987). Evaluation of the Requirements for the Certificates of Clinical Competence of the American Speech-Language-Hearing Association. New York: Professional Examination Service.

Overview of the Job Analysis Methodology

The job analysis described in this study involved a multi-method approach that included a panel of subject-matter experts and a large-scale survey of practicing audiologists as well as educators of and supervisors of audiologists. The panel consisted of 14 experienced and accomplished audiologists working in a variety of settings (e.g., university, private practice, hospital). These experts also had representation by gender, race/ethnicity, and geographic region. The primary responsibility of the expert panel was to define the performance domain of a newly certified audiologist. This domain (defined by the panel to consist of task statements and knowledge areas) served as the content of the job analysis survey. This survey was then administered, by mail, to 3,612 practicing audiologists, 260 educators (academic and clinical directors of audiology programs), and 420 clinical-fellowship supervisors [2]. These survey recipients were asked to make three judgments: First, they were asked to rate the importance of the clinical activity statements and knowledge areas for newly certified audiologists. Next, they were asked to identify where the clinical activities and knowledge areas are learned by newly certified audiologists. Finally, they were asked to identify where the clinical activities and knowledge areas should be learned by newly certified audiologists. The judgments of those responding to the survey were then analyzed to identify core clinical activities and knowledge areas. That is, clinical activities and knowledge areas that all groups (practicing audiologists, educators, and supervisors) and subgroups of practicing audiologists (defined by practice setting, years certified, educational degree, sex, gender, and geographic region) rated to be important. Judgments were also analyzed to determine if, and where, there were discrepancies between indications of where the clinical activities and knowledge areas were learned and where they should be learned.

DATA ANALYSIS OF SURVEY RESPONSES

Analyses were conducted separately for each of the three groups of survey respondents: practitioners, educators, and clinical-fellowship supervisors. These group-level analyses were followed by a series of subgroup analyses. That is, the practitioners were partitioned into subgroups defined by their responses to background information. The following six subgroups were created: gender, race/ethnicity, geographic region, years certified, practice setting, and educational level. Both levels of analyses are critical to ensure the job-relatedness and fairness of the decisions that will be made based upon the outcomes of this job analysis study.

To assist in the interpretation of the survey results, criteria (cut-points) were established to differentiate more relevant or appropriate clinical activities and knowledge areas from less relevant or appropriate clinical activities and knowledge areas. Clinical activities and knowledge areas not meeting one or more of the criteria were flagged and should be reviewed by the members of the Standards Council. Cut-points are decision rules that are set to assist in the accomplishment of certain objectives. They can vary depending on the purposes for which they are used. Cut-points can be more stringent for some purposes than for others. For example, cut-points used to identify content for use in high-stakes certification examinations need to be set at a higher level (to defend in the event of litigation) than cut-points set for use in curriculum development (a lower stakes use of the results). Cut-points need to be set so they are consistent with legal and professional standards, provide adequate coverage of the domains in question, and are credible to the relevant constituencies. The cut-points that were set in this study and their rationales are provided below.

- The first phase of analysis consisted of computing frequency counts of zero (0) responses to the importance scale for both clinical activity statements and knowledge areas. The zero response signified that a clinical activity was not performed by a newly certified audiologist and that a knowledge area was not needed by a newly certified audiologist. A clinical activity or knowledge area was considered part of the performance domain for entry-level audiologists if more than half of the respondents indicated that it was performed or needed (i.e., a non-zero response). Therefore, if

[2] Eighty percent of the educators had a doctorate in audiology. Also, although three groups were identified based on their main area of practice, we recognize that clinical-fellowship supervisors are practicing audiologists.

51% or more indicated that a clinical activity was not performed or that a knowledge area was not needed it was flagged. The 51% standard was selected for two reasons. First, it represents a majority opinion. It seems reasonable to argue that a clinical activity or knowledge area should be considered part of the performance domain of entry-level practice if at least half of the respondents indicate that it is performed or needed. Second, the standard is flexible enough to accommodate the array of work settings in which audiologists practice (e.g., hospitals, private offices, schools, and universities). Any chosen standard would need to allow for the potential variability of professional practice across work settings, while not inappropriately attenuating the performance domain. The 51% standard was selected because it satisfied these design requirements.

- Next, mean importance ratings were computed for all clinical activity statements and all knowledge areas. The mean analysis was conducted to differentiate more important job content from less important job content. Clinical activities and knowledge areas with mean importance ratings of 3.50 (the midpoint between the two scale points signifying moderately important and important) or higher were classified as more important. Clinical activities and knowledge areas with mean ratings less than 3.50 were flagged. Importance ratings play a critical role in the design of certification examinations. Professional and legal guidelines indicate that if content is to be included in a certification examination, the developer or user must be able to demonstrate that it is related to an important part of professional practice. The 3.50 cut-point is consistent with this requirement of demonstrating job relevance. Clinical activities and knowledge areas with a mean of 3.50 or higher may be considered for inclusion in a certification examination. Flagged job content, clinical activities and knowledge areas with a mean importance rating less than 3.50, should only be considered for inclusion, if the Standards Council can provide compelling, written justifications. The 3.50 cut-point is a conservative indicator of importance: it's a more effective safeguard against the use of less important clinical activities and knowledge areas in defining the performance domain than other plausible cut-points, for example, 3.00, which still signifies that content is moderately important.

  It is worth reiterating that the 3.50 cut-point directly applies to decisions regarding certification examinations. It need not apply to decisions regarding curriculum development or redesign. As long as a clinical activity or knowledge area is judged to be part of the performance domain for entry-level audiologists, it may be included in curriculum-related decisions. In other words, if at least half of the respondents judged a clinical activity or knowledge area to be performed or needed, regardless of its mean importance rating, it may be used to inform curriculum development or redesign decisions.

- The last set of analyses focused on determining if there were perceived discrepancies between where practitioners, educators, and clinical-fellowship supervisors said clinical activities and knowledge areas were learned and acquired, and where respondents said the clinical activities and knowledge areas should be learned and acquired. (Similar analyses were conducted for practitioners with five or less years certification and practitioners with more than five years certification.) A zero (0) discrepancy score signified that a clinical activity or knowledge area was being learned and acquired where respondents said it should be learned and acquired. A non-zero discrepancy score signified that a clinical activity or knowledge area was not being learned or acquired where it should be learned or acquired. If more than 25% of the respondents indicated that a clinical activity or knowledge area was not being learned or acquired where it should be (a non-zero discrepancy score), it was flagged. This cut-point was chosen to bring to the attention of the Standards Council clinical activities and knowledge areas that were judged by meaningful numbers of respondents -- for example, 25% of the practitioners represents, on average, 298 respondents -- as not being learned or acquired where they should have been. This cut-point was purposefully established to provide the Standards Council with the opportunity to consider relatively large numbers of clinical activities and knowledge areas. Given the impact that modifications to curriculum and certification standards may have on the profession, we believed it was critical to employ a cut-point value that would foster high levels of discussion.

SUMMARY OF RESULTS

Frequency Analysis

- Only one clinical activity statement (#11 -- "Evaluate and document changes in the functional status of neural tissue or structures during operative procedures)" was flagged as not being part of the performance domain for newly certified audiologists. No knowledge areas were flagged. These results clearly indicate that the performance domain defined by the panel of subject-matter experts is job-relevant. The adequacy of the performance domain is further supported by the responses of practitioners, educators, and clinical-fellowship supervisors indicating that the clinical activities and knowledge areas did, in fact, cover what an entry-level audiologist should be able to do and know.

Mean Analysis

- There was a high level of agreement among the practitioners, educators, and clinical-fellowship supervisors in terms of their classifications of more important and less important clinical activity statements and knowledge areas. For clinical activity statements, the level of classification agreement was 97% for educators and clinical-fellowship supervisors, 93% for educators and practitioners, and 97% for clinical-fellowship supervisors and practitioners. For knowledge areas, the level of agreement was 89% for educators and clinical-fellowship supervisors, 92% for educators and practitioners, and 96% for clinical-fellowship supervisors and practitioners.

- Comparable levels of classification agreement were obtained for the subgroups of practitioners.

- Twelve of 58 clinical activities (21%) were flagged by practitioners, educators, and clinical-fellowship supervisors due to a mean importance rating of less than 3.50; 28 of 118 knowledge areas (24%) were similarly flagged.

- Six additional clinical activity statements and 10 additional knowledge areas were flagged by the subgroup analysis.

- Across all respondent groups and subgroups, therefore, 40 of 58 clinical activity statements (69%) and 80 of 118 knowledge areas (68%) were judged to be important (i.e., met or exceed the mean criterion of 3.50).

Discrepancy Score Analysis

- Educators did not agree with either practitioners or clinical-fellowship supervisors regarding perceived discrepancies between where clinical activities and knowledge areas are learned and acquired and where they should be learned and acquired.

- Educators believed 91% of the clinical activities and 96% of the knowledge areas were being learned and acquired where they should be learned and acquired. In contrast, practitioners believed that only 45% of the clinical activities and 48% of the knowledge areas were being learned and acquired where they should be learned and acquired. And clinical-fellowship supervisors believed that only 38% of the clinical activities and 39% of the knowledge areas were being learned and acquired where they should be learned and acquired.

- An inspection of the discrepancy scores further revealed that respondents believed that clinical activities and knowledge areas should be learned and acquired earlier in the educational process. In particular, clinical-fellowship supervisors believed that 69% of the clinical activities they flagged, though learned during the clinical fellowship, should be learned in school. And practitioners believed

that 90% of the knowledge areas they flagged, though acquired after certification, should have been acquired in school.

- Consistent with the group-level analysis, practitioners defined by their years of certification, indicated that clinical activities and knowledge areas should be learned earlier in the educational process.

- In particular, practitioners with five or less years certification indicated that 66% of the clinical activities they flagged, though learned during the clinical fellowship, should be learned in school.

- Practitioners with five or less years of certification indicated that 70% of the knowledge areas they flagged, though acquired after certification, should have been acquired in school.

IMPLICATIONS

The Modification of Certification Standards

The current standards for certification in audiology consist of four components: (a) specific academic coursework and clinical coursework from an accredited program; (b) a graduate degree; (c) a 9-month, supervised clinical fellowship; and (d) passing a national examination. The results of this job analysis study may be used by the Standards Council as it considers modifying the current certification standards. We recommend that the Council first examine the clinical activity statements and knowledge areas defined by the panel subject-matter experts and verified by the survey results as being part of the performance domain for entry-level audiologists. Though we have applied certain criteria to evaluate the defined performance domain, it is ultimately the Council that needs to come to agreement in terms of what it considers to be important and relevant clinical activities and knowledge areas for entry-level audiologists. To this end, the Council may elect to apply its own criteria to the judgments obtained in this study as well as to consider the results of other studies or judgments made by other professional bodies.

For purposes of standards modification, we invite the Council to examine the judgments regarding where clinical activities and knowledge areas are learned and acquired (Tables 12 and 13). These data provide valuable insights into the perceived appropriateness of the current professional education and training of audiologists. That is, the data nicely illustrate which clinical activities and knowledge areas are learned and acquired during the school-based experience, during the clinical-fellowship experience, and after certification. The Council may examine these data to determine if any clinical activities and knowledge areas that are reported to be learned and acquired after certification, for example, should be incorporated into either the school-based experiences or the clinical-fellowship experiences of audiologists. Also, the Council may benefit by reviewing the ratings provided in Appendixes J, K, and L that summarize where practitioner, educators, and clinical-fellowship supervisors believed clinical activities and knowledge areas should be learned and acquired in the educational process. The Council may use the latter ratings, as well, to determine if clinical activities or knowledge areas should be learned or acquired earlier in the process of professional education and training. Large-scale modifications to the scope or sequence of professional education and training may necessitate that the existing certification standards be reevaluated.

The Redesign of Curriculum

The job analysis procedures used in this study were sensitive enough to identify differences of opinion on the part of educators and the other two respondent groups concerning where clinical activities and knowledge areas should be learned. This input should be useful to educators and other decision-makers in redesigning or modifying curricula required for competent professional practice. More job-based communication between relevant stakeholders should help to improve the preparation and competence of newly certified audiologists.

We believe that these discussions should encompass the entire educational process. This could include what is taught at the bachelor's level as well as the curriculum in graduate professional education. We believe, in particular, that there needs to be clear understanding and communication between educators and clinical-fellowship supervisors concerning the aspects of professional education and training that are to be provided by each group. The results obtained in this study indicate that clinical-fellowship supervisors expect graduates of professional schools to be able to perform more clinical activities and to know more content areas, before the start of the clinical fellowship. Recently certified audiologists also indicated that they believed many of the things they learned during their clinical fellowship should have been learned in school. It seems clear that both clinical-fellowship supervisors and practitioners believe that the school-based component of the professional education and training of audiologists should assume a more prominent role. This perceived need for a change in emphasis provides a solid basis for considering the redesign of existing curriculum.

A study of curricula may be performed if judged to be appropriate and/or feasible. As an alternative approach, educators could be presented with the clinical activities and knowledge areas that the Standards Council believes reflect the core of professional practice and be asked to indicate where in their program these clinical activities and knowledge areas are taught. If they are not taught, educators could be asked to consider revising their curriculum to include this additional content.

The Design of Certification Examinations

Although this was not the main purpose of conducting the study, the results of the job analysis can be used to design a certification examination. As noted above, those clinical activity statements and knowledge areas with a mean importance rating of 3.50 or higher should be considered the primary pool from which test specifications are built. Building test specifications requires the exercise of sound professional judgment. If test development committees composed of practicing audiologists decide that several of the clinical activity statements and knowledge areas that were not universally endorsed as being important must be included in the test specifications, then a compelling, written justification must be provided. Otherwise, the results of the job analysis study provide a sound defensible rationale for building test specifications.

Test questions and formats need to be developed to measure each part of the test specifications. Questions written to those specifications need to be linked back to the specifications by the question writer as well as by an independent group of practitioners. Linkages from test questions to test specifications, and from test specifications to the job analysis, provide a strong network for use in documenting the validity of certification examinations.

SHORT SUMMARY

The results of this study indicated that practitioners, educators, and clinical-fellowship supervisors were in agreement in terms of the clinical activities and knowledge areas that form the performance domain for entry-level audiologists. Only one clinical activity ("Evaluate and document changes in the functional status of neural tissue or structures during operative procedures") was not considered part of the performance domain. All three groups were also in agreement in terms of their classifications of more important and less important clinical activities and knowledge areas; agreement in classification ranged from 89% to 97%. Finally, both practitioners and clinical-fellowship supervisors agreed that many of the clinical activities and knowledge areas should be learned and acquired earlier in the educational process than is currently the case. Educators, however, did not share this belief; they believed that most clinical activities and knowledge areas were being learned and acquired where they should be learned and acquired. The results of this study provide a solid foundation on which to base decisions regarding standards modification, curriculum redesign, and test development.

TABLE OF CONTENTS

LIST OF TABLES

INTRODUCTION

In 1987 the American Speech-Language-Hearing Association (ASHA) commissioned a job analysis study to delineate the tasks, knowledge, and skills underlying the practice of audiology and speech-language pathology, respectively. The purpose of that study [1] was to evaluate the requirements for the Certificates of Clinical Competence awarded by ASHA in these two professional areas; that is, to determine the extent to which the requirements were related to the knowledge and skills needed for competent, entry-level professional practice.

Then in 1994, responding to the changing nature of professional practice, ASHA commissioned Educational Testing Service (ETS) to conduct an independent job analysis study of the practice of audiology. The purpose of that study was to modify and update the audiology performance domain identified in 1987 so that it accurately reflected the current state-of-the-art in audiology. This report describes the job analysis study conducted by ETS. It documents both the methods used in developing the performance domain of audiology and the analyses conducted to verify the importance of the performance domain; it also presents the results of these and related analyses, and the implications of the study outcomes for standards modification, curriculum redesign, and test development.

Job Analysis

Job analysis refers to a variety of systematic procedures designed to obtain descriptive information about the tasks performed on a job and/or the knowledge, skills, and abilities thought necessary to perform those tasks (Arvey & Faley, 1988; Gael, 1983). A job analysis is the primary mechanism for establishing the job-relatedness of decisions concerning standards and curriculum redesign and professional certification. That is, if certification standards and curriculum can be directly linked to the outcomes of a job analysis, they may be said to be job-related. Similarly, if the content of a certification test can be directly linked to the outcomes of a job analysis, it may be said to be job-related, and inferences from test scores may be supported by arguments of content validity. The rationale that supports the content of certification standards, curriculum, and certification tests is the demonstrable linkage that exists between each and the performance domain of the associated occupation or profession.

Professional standards and legal precedents recommend that a job analysis include the participation of various subject-matter experts (Mehrens, 1987) and that the information collected be representative of the diversity within the occupation (Kuehn, Stallings, & Holland, 1990). Diversity refers to regional or job context factors and to subject-matter-expert factors such as race or ethnicity, experience, and sex. The job analysis conducted to define the performance domain for newly certified audiologists was designed to be consistent with the Standards for Educational and Psychological Testing (American Educational Research Association et al., 1985) and current professional practice.

Overview of the Job Analysis Methodology

The job analysis described in this study involved a multi-method approach that included a panel of subject-matter experts and a large-scale survey of practicing audiologists as well as educators of and supervisors of audiologists. The panel consisted of 14 experienced and accomplished audiologists working in a variety of settings (e.g., university, private practice, hospital). These experts also had representation by gender, race/ethnicity, and geographic region. The primary responsibility of the expert panel was to define the performance domain of a newly certified audiologist. This domain (defined by the panel to consist of task statements and knowledge areas) served as the content of the job analysis survey. This survey was then

[1] Greenberg, S., & Smith, I. L. (1987). Evaluation of the Requirements for the Certificates of Clinical Competence of the American Speech-Language-Hearing Association. New York: Professional Examination Service.

administered, by mail, to 3,612 practicing audiologists, 260 educators (academic and clinical directors of audiology programs), and 420 clinical-fellowship supervisors [2]. These survey recipients were asked to make three judgments: First, they were asked to rate the importance of the clinical activity statements and knowledge areas for newly certified audiologists. Next, they were asked to identify where the clinical activities and knowledge areas are learned by newly certified audiologists. Finally, they were asked to identify where the clinical activities and knowledge areas should be learned by newly certified audiologists. The judgments of those responding to the survey were then analyzed to identify core clinical activities and knowledge areas. That is, clinical activities and knowledge areas that all groups (practicing audiologists, educators, and supervisors) and subgroups of practicing audiologists (defined by practice setting, years certified, educational degree, sex, gender, and geographic region) rated to be important. Judgments were also analyzed to determine if, and where, there were discrepancies between indications of where the clinical activities and knowledge areas were learned and where they should be learned.

METHODS

Build a Draft Performance Domain

Typically, the first step in a job analysis is to construct a draft performance domain. This draft serves as a starting point, a "straw person," for a panel of subject-matter experts to review critically and revise. Experience indicates that it is much easier and more productive for panel members to react to an existing draft performance domain than for them to create a performance domain. The performance domain defined in the 1987 job analysis study served as the draft domain for the current job analysis study. That domain consisted of three job dimensions (Evaluation, Treatment, and Administration) each defined by task statements, knowledge statements, and skill statements.

Assemble a Panel of Subject-Matter Experts

ASHA was asked to select approximately 12 members to serve on the expert panel. The criteria for selection were: (1) members were to be recognized experts in audiology, (2) members were to come from a range of practice settings, (3) members needed to be able to work cooperatively with other experts towards coming to consensus on a definition of a performance domain for newly certified audiologists, and (4) members were to be diverse with respect to gender, race/ethnicity, and geographic region. ASHA selected 14 individuals to serve on the expert panel (see Appendix A). The median year in which panel members received their Certificates of Clinical Competence was 1976. Eight of the members were female and 12 were White (non-Hispanic); 10 members were from the Central region of the country, two were from the Northeast region, and one each was from the West and Southern regions of the country.

Conduct a Meeting of the Subject-Matter-Expert Panel

The panel of subject-matter experts met with ETS Research staff on December 9, 10 and 11; the meeting was held at ASHA's national office in Rockville, Maryland. The purpose of this meeting was to critically review the draft performance domain, and to come to consensus on any modifications believed by the panel to be necessary. That is, panel members were asked to revise the domain (to add, delete, or reorganize content, and to make wording changes) so that it accurately reflected their consensus of the content important for newly certified audiologists.

[2] Eighty percent of the educators had a doctorate in audiology. Also, although three groups were identified based on their main area of practice, we recognize that clinical-fellowship supervisors are practicing audiologists.

Prior to the meeting. Prior to this meeting, each panel member was asked to review one of the three job dimensions (either Evaluation, Treatment, or Administration) from the draft performance domain. They were asked to review and modify any of the task statements, knowledge statements, and skill statements that defined the one job dimension. This pre-meeting assignment was done to facilitate the revision process during the actual panel meeting. Only one job dimension was assigned to each member to reduce each member's workload. All three job dimensions were reviewed by multiple panel members. The panel members were asked to bring their comments and recommendations for revision to the December meeting.

During the meeting. Considerable discussion took place during the December meeting. From the outset, it was clear that the draft performance domain was not adequate. Panel members did not believe that it reflected current professional practice, nor did they believe that the domain was defined in sufficient detail. One of the primary issues that arose was the confusion between task statements and skill statements. Panel members had a very difficult time trying to differentiate between tasks and skills, as represented in the draft performance domain. For example, the skill "Select and adapt test, materials, and procedures to meet the unique characteristics of the client" was believed to be too similar to the task "Select valid and reliable evaluation procedures, instruments, and materials to match the unique characteristics of the client." Similarly, skill statements such as, "Read professional literature applicable to the treatment program, "Gather and maintain up-to-date information about instrumentation and materials for treatment," and "Document the treatment program" were believed by the panel to be tasks and not skills. After much thoughtful deliberation, the panel members, in agreement with the ETS Research representatives, decided to forgo the inclusion of separate sections of skill statements. Instead, the members decided to "fold" relevant skill statements into the appropriate task-statement sections of the domain. That is, skill statements believed to be important were included among the task statements for each job dimension. The panel members agreed that the performance domain for a newly certified audiologist could be appropriately and comprehensively defined by job dimensions that were defined by both task statements and knowledge areas.

In addition to consolidating the skill statements and task statements, the panel members restructured the dimensionality of the performance domain. As noted previously, the performance domain defined in 1987 was represented by the job dimensions Evaluation, Treatment, and Administration; each dimension being defined by task statements, knowledge statements, and skill statements. This structure was modified by the panel members. The two dimensions, Evaluation and Treatment were retained, but the dimension Administration was replaced by two dimensions, Related Professional Activities and Other Professional Activities. These latter two dimensions dealt with supervisory and legislative professional responsibilities, as well as administrative responsibilities. The structure of the knowledge areas was also modified. Knowledge statements that were originally clustered under the dimension Evaluation and the dimension Treatment, were consolidated and subsumed under the new knowledge dimension, Basic Knowledge for Evaluation and Treatment. A new dimension, Stimulus Factors, was added; this dimension dealt with knowledge of acoustic and non-acoustic factors. The dimension, Methods, was also added; this dimension dealt primarily with knowledge associated with relevant "preferred practice patterns," as defined in Preferred Practice Patterns for the Professions of Speech-Language Pathology and Audiology (ASHA, 1993). Finally, the dimension, Knowledge for Related Professional Activities, was added; this dimension dealt with knowledge in support of supervisory, legislative, and administrative responsibilities. The last series of modifications to the performance domain were directed towards the individual task statements and knowledge statements that defined the job dimensions. A large proportion of the statements (task and knowledge) from the 1987 domain were reworded to reflect more accurately the current state of professional practice in audiology. Additionally, many statements were judged to be irrelevant and/or vague; these were deleted and replaced with more appropriate statements.

After the meeting. The revised performance domain was edited and "cleaned up" (e.g., the format was revised, correct terminology and spelling were verified) by the ETS Research team. This revised domain was then mailed to four members of the subject-matter-expert panel. These four members were asked to review the revised domain for accuracy and to suggest any further modifications. Their recommendations (primarily wording changes to task statements and knowledge areas) were incorporated into the domain and then shared

with the remaining members of the panel. These members were, likewise, asked to review the second revision of the performance domain. The recommendations of these members (again, primarily minor wording changes) were also incorporated into the performance domain. This two-phased post-meeting review process was used to facilitate the overall revision of the domain. (That is, it is much more productive to interpret and integrate a few members' comments first and then to ask the other members to comment on the newly revised version, than it is to interpret and integrate the comments of all 15 members at the same time.)

The final version of the performance domain was then placed into a survey format by ETS Research staff. A cover letter (encouraging participation in the survey) and an introduction (briefly describing the survey content and how it was developed) were added. Instructions and three rating scales (Importance, Where Learned, and Where Should Be Learned-- allons regarding test construction and curriculum redesign.were also added, as was a section asking for biographical information from eventual survey respondents. This job analysis survey was then shared with both the panel members and the ASHA project staff. The members and project staff were asked to review the job analysis survey and to offer any recommendations for revision. Panel members commented primarily on the descriptors that served to anchor the points on the ratings scales. The ASHA project staff commented, appropriately, on all components of the job analysis survey (cover letter, introduction, rating scales, and biographical information). The recommendations from both the panel members and the ASHA project staff were used to revise the job analysis survey. Most revisions dealt with minor wording changes to clarify meaning. One salient modification, however, was the changing (in title only) from task statements to clinical activity statements. ASHA project staff believed that clinical activities, and not tasks, better represented the performance domain for a newly certified audiologist. This change in title was made and shared with the panel members. The revised job analysis survey, approved by the ASHA project staff, was then pilot tested on a sample of experts in the field of audiology. The pilot test is described next.

Conduct a Pilot Test of the Job Analysis Survey

The job analysis survey was mailed to a total of 34 experts in the field of audiology. These experts were selected by ASHA and represented a range of practice settings (e.g., hospitals, universities, private offices, clinics). These 34 participants represented 18 randomly selected practitioners and educators/supervisors, persons similar to those who would be participating in the actual, large-scale survey administration, and 16 professionals from important constituencies within the field of audiology (see Appendix B for a list of the constituencies represented. The purpose of the pilot test was to determine if the job analysis survey (including the cover letter and instructions) was clearly written and easy to complete. In addition, the pilot test provided the job experts with the opportunity to comment on the clinical activity statements and knowledge areas. It also provided an indication of the time it took participants to complete the survey. The 34 experts were asked to indicate their suggestions for revising the survey on a separate Pilot Test Questionnaire (see Appendix C) that was developed by ETS Research staff.

In total, 18 of the 34 participants (53%) responded to the pilot test; this total represented 9 respondents from each of the two groups. The responses to the Pilot Test Questionnaire indicated that the cover letter and the instructions were clear and easy to understand. Similarly, they reported that the biographical information was appropriate and easy to complete. While there were suggestions to change the wording of some clinical activity statements and knowledge areas, there was no consistency in the particular statements or areas that were mentioned or in the wording that was suggested. Since the wording had been carefully reviewed several times by the panel of subject-matter experts, no changes were made to the wording of the statements or areas. Respondents also commented that the rating scales had not printed out clearly on some of the pages of the survey; this was corrected.

On average, it took the respondents 50 minutes to complete the job analysis survey; this is consistent with our initial estimate of 45 minutes to complete the survey. Even so, some respondents believed that the survey took too long to complete in one sitting, and suggested that we change the cover letter to emphasize the criticality of each person responding to the survey. This suggestion was included in a revision to the cover

letter. We also added a statement to the cover letter indicating that the participants may prefer to complete the survey in more than one sitting, for example, to complete the clinical activities in one sitting and the knowledge areas at another time.

Description of the Job Analysis Survey

The job analysis survey consisted of both clinical activity statements and knowledge areas. The clinical activity statements (N = 58) were clustered within four major job dimensions: Evaluation (n = 18), Treatment (n = 19), Related Professional Activities (n = 19), and Other Professional Activities (n = 2). The knowledge areas (N = 118; the 118 includes 61 domains and 57 subdomains) were clustered within five major sections: Basic Knowledge for Evaluation and Treatment (n = 17), Stimulus Factors (n = 6), Methods (n = 24 domains and 54 subdomains), Test Analysis (n = 1 domain and 3 subdomains), and Knowledge for Related Professional Activities (n = 13). The job analysis survey also included a section that asked respondents to indicate how well the clinical activity statements and knowledge areas covered what a newly certified audiologist should be able to do and know. The last section of the survey asked the respondents to provide background information (e.g., gender, race/ethnicity, year received certificate of clinical competence).

As will be described below, the job analysis survey was administered to three different groups of professionals in the field of audiology: practitioners, educators (academic directors and clinical directors of audiology programs), and clinical-fellowship supervisors. To accommodate the different perspectives that these groups of professionals may have in relation to the practice of audiology, two versions of the job analysis survey were constructed (see Appendix D). One version was administered to practitioners. The second version was administered to the educators and supervisors. The clinical activity statements and knowledge areas were identical in the two versions of the survey, as were the other two sections of the survey (content coverage and background information). The difference between the two versions was in the wording of two of the three rating scales that the respondents were asked to use as they judged each clinical activity statement (N = 58) and each knowledge area (N = 118).

Each clinical activity statement and knowledge area was judged on three rating scales: Importance, Where Learned, and Where Should Be Learned. The wording of the Importance scale was the same in the two versions of the survey. However, the wording of the latter two scales was different in the two versions. In the practitioner survey, the focus was on the practitioner himself or herself. In the educator/supervisor survey, the focus was on newly certified audiologists, in general. The three sets of rating-scale stems for clinical activity statements and knowledge areas are presented in Tables 1 and 2, respectively. The scale anchors (definitions of the scale points) for the three sets of rating scales were the same for the clinical activity statements and the knowledge areas. They were also the same across the two versions of the survey. The scale anchors are presented in Table 3.

TABLE 1
RATING SCALES: CLINICAL ACTIVITY STATEMENTS

	Practitioners	Educators/Supervisors
Importance	How important is the correct performance of this clinical activity for a newly certified audiologist to be considered competent for independent practice?	How important is the correct performance of this clinical activity for a newly certified audiologist to be considered competent for independent practice?
Where Learned	Where did you, as a newly certified audiologist, learn to perform this activity?	Where does a newly certified audiologist learn to perform this activity?
Where Should Be Learned	Where would you, as a newly certified audiologist, have preferred to learn to perform this activity?	Where should a newly certified audiologist learn to perform this activity?

TABLE 2
RATING SCALES: KNOWLEDGE AREAS

	Practitioners	Educators/Supervisors
Importance	How important is this knowledge area for a newly certified audiologist to be considered competent for independent practice?	How important is this knowledge area for a newly certified audiologist to be considered competent for independent practice?
Where Learned	Where did you, as a newly certified audiologist, acquire this knowledge area?	Where does a newly certified audiologist acquire this knowledge area?
Where Should Be Learned	Where would you, as a newly certified audiologist, have preferred to have acquired this knowledge area?	Where should a newly certified audiologist acquire this knowledge area?

TABLE 3
RATING SCALE ANCHORS

Importance	0 = Not performed or not needed 1 = Not important 2 = Marginally important 3 = Moderately important 4 = Important 5 = Very important
Where Learned	1 = School - Classroom 2 = School - Practicum 3 = Clinical fellowship 4 = On the job, after certification 5 = Continuing education, after certification
Where Should Be Learned	1 = School - Classroom 2 = School - Practicum 3 = Clinical fellowship 4 = On the job, after certification 5 = Continuing education, after certification

Administer the Job Analysis Surveys

Select survey samples. Three groups of professionals in the field of audiology were surveyed: (1) practitioners-- individuals who had received their certificate of clinical competence and who were in current practice; (2) educators-- directors of academic programs in audiology and directors of clinical programs in audiology; and (3) clinical-fellowship supervisors-- individuals responsible for supervising audiologists during the clinical-fellowship experience. These three groups of professionals were believed to represent the most relevant and knowledgeable constituencies involved in the education and training of audiologists.

The practitioners (N = 3,612) were randomly selected by ASHA from its membership database. Though selected randomly, certain guidelines were established to frame the selection process. That is, in total, the sample selected was to: (1) only include certified audiologists, (2) over represent audiologists who received their Certificate of Clinical Competence within the past five years (to ensure representation in the survey of newly certified audiologists), and (3) cover a range of practice settings (e.g., hospital, school, physician's office, own office). The sample was also to have representation by gender, race/ethnicity, and geographic region.

The educators (N = 260; 130 academic program directors and 130 clinical program directors) were also selected from the database maintained by ASHA. These educators represent the population of academic and clinical program directors from educational institutions granting degrees in audiology. The clinical-fellowship

supervisors (N = 420), similar to the educators, were selected from the ASHA database and represent the population of current clinical-fellowship supervisors.

Mail surveys. ASHA project staff provided ETS Research staff with two sets of pre-addressed mailing labels for all three groups. The first set was used to mail the surveys to the professionals in each of the three groups; the mailing occurred in March of 1995. The second set of labels was used to mail a follow-up post card; this post card was mailed approximately one week after the surveys were mailed, and reminded the recipients to complete and return their surveys. With the exception of the clinical program directors, surveys were mailed directly to the intended professionals. In the case of the educators, two copies of the survey were mailed directly to each academic program director. This person was asked to complete one survey and to give the second copy to the audiology program director to complete. This procedure was followed because a list of audiology program directors was not readily available.

In addition to the follow-up post cards, each academic program director was contacted by telephone. The academic directors were asked if they had received the two copies of the survey and if they had returned their completed survey. They were also asked if they were able to forward the second copy to the person responsible for directing the audiology program and if they would remind that person to complete and return the survey.

Data Analyses

Levels of analysis. Analyses were conducted at multiple levels of aggregation. First analyses were conducted for each of the three groups of survey respondents: practitioners, educators, and clinical-fellowship supervisors. These group-level analyses were followed by a series of subgroup analyses. That is, the practitioners were partitioned into subgroups as defined by their responses to the background information [3]. The following six subgroups were created: gender, race/ethnicity, geographic region, years certified, practice setting, and educational level. Both levels of analyses are critical to ensure the relevance and fairness of the decisions that will be made based upon the outcomes of this job analysis study.

Verification of responses. The working definition of a practitioner, for this study, was a certified, practicing audiologist (i.e., part-time or full-time clinical service provider) with either a master's degree or a doctorate in audiology. Only practitioners who meet the study's criteria were included in subsequent data analyses. The working definition of an educator was someone who identified himself/herself as either (1) a college or university educator or (2) as a chairperson, department head, or director. And the working definition of a clinical-fellowship supervisor was someone who identified himself/herself as either (1) a clinical service provider, (2) an administrator or manager, or (3) a supervisor of clinical activity. Similar to the practitioners, only those educators and clinical-fellowship supervisors who met the study's criteria were included in subsequent data analyses.

Frequency counts of zero responses. As noted above, each clinical activity statement and each knowledge area was rated on a 6-point importance scale. The zero point on this scale indicated that the statement or area was either not performed by or not needed by a newly certified audiologist. For each statement and area, the percent of zero responses was computed separately for practitioners, educators, and clinical-fellowship supervisors. If 51% or more of the respondents from any of the three groups provided a zero response, the clinical activity statement and/or knowledge area was flagged (cf. Rosenfeld, Freeberg, & Bukatko, 1992). Any flagged statements or areas would signify, therefore, that less than a majority of the respondents from any group believed them to be relevant parts of the performance domain of newly certified audiologists. Clearly, if the job-relatedness of clinical activity statements and knowledge areas is to be supported, a majority

[3] A minimum of 50 practitioners was needed in a subgroup for that subgroup to be included in any formal analyses. This minimum was established to ensure the stability and accuracy of the outcomes.

of respondents should indicate that the statements and areas are a legitimate part of the performance domain of newly certified audiologists.

Mean importance ratings. The mean importance rating for each clinical activity statement and each knowledge area was computed. Means were computed separately for practitioners, educators, and clinical-fellowship supervisors; they were also computed for relevant subgroups of practitioners. The mean provides an indication of the absolute level of importance attributed to the statements and areas. It is used to differentiate between more important and less important clinical activity statements and more important and less important knowledge areas. A mean of 3.50 (the midpoint between the two scale points signifying moderatelv important and important) was established as the criterion for classifying more important and less important statements and areas. That is, clinical activity statements that meet or exceed the 3.50 mean importance criterion for all three groups and all relevant subgroups of practitioners were classified as more important; any statement not meeting or exceeding the 3.50 criterion for all groups and all subgroups was classified as less important and flagged for review by the Standards Council. (The same standards were applied to each of the knowledge areas.) As noted by Tannenbaum and Rosenfeld (1994), this 3.50 criterion is consistent with a content validation strategy that appropriately reduces the probability of defining performance domains by job content that is judged to be of minimal importance by large numbers of practicing professionals.

Content coverage ratings. Respondents were asked to rate how well the clinical activity statements covered what a newly certified audiologist should be able to do and how well the knowledge areas covered what a newly certified audiologist should know. These judgments provide an indication of the comprehensiveness of the performance domain defined in the job analysis survey. The rating scale anchors for these judgments ranged from (1) very poorly to (5) very well; the midpoint was (3) adequately. The judgments were computed separately for practitioners, educators, and clinical-fellowship supervisors.

Discrepancy scores. Two related issues of particular interest to ASHA are standards modification and curriculum redesign. That is, ASHA would like the outcomes from this job analysis study to assist in any future decisions that the Standards Council may make with respect to recommending changes to current certification standards and current audiology curriculum. One source of information (though not the only source) that may be useful is to determine if practitioners, educators, and clinical-fellowship supervisors perceive that newly certified audiologists are learning to perform clinical activities and acquiring relevant knowledge at the perceived appropriate points in their education. In other words, are newly certified audiologists learning to perform clinical activities where they should be learning to perform them? And are they acquiring relevant knowledge where they should be acquiring this knowledge?

To address these questions discrepancy scores were computed: for each clinical activity statement and each knowledge area, frequency counts (reported as percentages) were computed for each of the response categories for the Where Learned and Where Should Be Learned rating scales; then the Where Should Be Learned responses were subtracted from the Where Learned responses, i.e., Where Learned minus Where Should Be Learned [4]. These differences were the discrepancy scores. Discrepancy scores were computed separately for practitioners, educators, and clinical-fellowship supervisors, as well as for practitioners who have been certified for five years or less and practitioners who have been certified for more than five years. For each statement and area, seven discrepancy scores were possible: -3, -2, -1, 0, +1, +2, and +3. Each of these values has a unique meaning (see Table 4). Nonetheless, a negative discrepancy score indicates that the clinical activity (knowledge area) should be learned (acquired) later in the educational process. A zero (0) discrepancy score indicates that the clinical activity (knowledge area) is being learned (acquired) where it should be learned (acquired). And a

[4] Discrepancy scores were computed on recoded values for the Where Learned and Where Should Be Learned rating scales. That is, on both scales, values 1 and 2 were recoded to equal a value of 1; and values 4 and 5 were recoded to equal a value of 4. A value of 3 was not recoded. This recoding enabled uniquely defined discrepancy scores to be computed.

positive discrepancy score indicates that the clinical activity (knowledge area) should be learned (acquired) earlier in the educational process. Clinical activity statements and knowledge areas were flagged if the zero (0) discrepancy score accounted for less than 75% of the responses. In other words, if more than 25% of the responses indicated that a clinical activity or knowledge area was not being learned (acquired) where it should be (any non-zero value), it was flagged. The 25% criterion was used because it signifies that a meaningful number of respondents (in the case of practitioners, approximately 300) do not believe that newly certified audiologists are learning to perform clinical activities or acquiring professional knowledge at the appropriate points in their professional education. And while other, less stringent, criteria could certainly be applied, we believe that given the high-stakes decisions that the information generated from this study will support, the conservative standard we have used is both reasonable and appropriate.

TABLE 4
DISCREPANCY SCORES FOR CLINICAL ACTIVITY STATEMENTS AND KNOWLEDGE AREAS

Value	Meaning
-3	Although learned (acquired) in school, should be learned (acquired) after certification
-2	Although learned (acquired) in school, should be learned (acquired) during the clinical fellowship
-1	Although learned (acquired) during the clinical fellowship, should be learned (acquired) after certification
0	Is being learned (acquired) where it should be learned (acquired)
+1	Although learned (acquired) after certification, should be learned (acquired) during the clinical fellowship
+2	Although learned (acquired) during the clinical fellowship, should be learned (acquired) in school
+3	Although learned (acquired) after certification, should be learned (acquired) in school

RESULTS

Response Rates

Surveys were mailed to 3,612 practicing audiologists, 260 educators (academic and clinical directors of audiology programs), and 420 clinical-fellowship supervisors. Surveys were returned by 1,331 practitioners (37% response rate), 83 educators (32% response rate), and 126 clinical-fellowship supervisors (30% response rate). These response rates are consistent with mail surveys of this type and are sufficient for the analysis to be conducted in this study (cf. Rosenfeld & Tannenbaum, 1991; Reynolds & Rosenfeld, 1992; Tannenbaum, 1994).

Respondent Demographics

The demographic distributions of the three groups of respondents (practitioners, educators, and clinical-fellowship supervisors) are presented in Table 5. (The percentages have been rounded to the nearest whole number and, therefore, may not equal 100). A summary of the demographic characteristics for each group of respondents is presented in the text below.

Practitioners. First, of the 1,331 respondents, 1,192 (90%) met the working definition of a practitioner. That is, 1,192 were certified, practicing audiologists with either a master's degree or a doctorate in audiology. The majority of respondents were female (85%) and White (95%). Many practitioners (40%) had been practicing as a certified audiologist for six or less years; though nearly as many (37%) had been practicing for 10 or more years. Most practitioners were employed full time (79%), had received their certificate of clinical competence (CCC) more than five years ago (71%), and held a master's degree in audiology (96%). Practitioners reported working in schools (7%), hospitals (27%), private physician's office (27%), SLP's or AUD's office (7%), or their own office (9%). Finally, the practitioners were geographically representative: Northeast (30%), Central (28%), South (23%), and Far West (17%).

Educators. Approximately half of the respondents (51%) were female, and nearly all of the respondents (94%) were White. Most educators (64%) had been practicing as a certified audiologist for 16 or more years; few (11%) had been practicing for six or less years. Almost all of the educators (95%) had received their CCC more than five years ago. The majority of educators (80%) had a doctorate in audiology. As expected, the majority (90%) worked in a college or university setting. Finally, the educators were geographically representative: Northeast (29%), Central (27%), South (29%), and Far West (14%).

TABLE 5
DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

	Practitioners		Educators		Clinical-Fellowship Supervisors	
	N	%	N	%	N	%
Gender						
Female	1,009	85	42	51	80	63
Male	180	15	40	48	46	37
No Response			1	1		
Race/Ethnicity						
White (non-Hispanic)	1,126	95	78	94	118	94
African American	17	1			2	2
Hispanic	11	1	1	1	1	1
Asian American	24	2	1	1	1	1
No Response	9	1	3	4	2	2
Years in Certified Practice						
≤ 6	481	40	9	11	26	21
7-9	268	23	8	10	10	8
10-12	198	17	4	5	11	9
13-15	77	7	7	8	26	21
≥ 16	167	14	53	63	53	42
No Response			2	2		
Years Since Received CCC						
≤ 5	341	29	4	5	19	15
> 5	847	71	79	95	107	85
Highest Educational Level						
Master's	1,148	96	17	20	108	86
Doctorate	44	4	66	80	18	14
Work Setting						
School	79	7			9	7
College/University	30	3	75	90	16	13
Hospital	319	27	5	6	28	22
Private Physician's Office	324	27	2	2	28	22
SLP's or AUD's Office	84	7			7	6
Own Office	109	9			23	18
Residential Healthcare Facility	31	3			1	1
Other/Multiple Responses	216	18	1	1	14	11
Geographic Region						
Northeast	361	30	24	29	39	31
Central	338	28	22	27	34	27
Southern	272	23	24	29	36	29
Far West	206	17	12	14	16	13
No Response	15	1	1	1		

Clinical-fellowship supervisors. Most of the respondents (63%) were female, and nearly all of the respondents (94%) were White. Although a large proportion of clinical-fellowship supervisors (42%) had been practicing as a certified audiologist for 16 or more years, many (21%) had been doing so for six or less years. Similarly, a large proportion (85%) had received their CCC more than five years ago. The majority (86%) held a master's degree in audiology. The majority of clinical-fellowship supervisors (75%) reported working in the following settings: hospital (22%), private physician's office (22%), own office (18%), and college/university (13%). The clinical-fellowship supervisors were also geographically representative: Northeast (31%), Central (27%), South (29%), and Far West (13%).

Frequency Counts of Zero Responses

The percentage of zero responses for each clinical activity statement and each knowledge area are presented in Appendix E. Statements and areas were flagged, if 51% or more of the respondents from any of the three groups (practitioners, educators, clinical-fellowship supervisors) provided a zero response. Only one clinical activity statement was flagged, #11 -- "Evaluate and document changes in the functional status of neural tissue or structures during operative procedures." This statement was flagged by 61% of the practitioners. No knowledge areas were flagged. These results indicate that the panel of subject-matter experts had successfully defined a performance domain that was relevant to the job of a newly certified audiologist.

Mean Importance Ratings: Clinical Activity Statements

Practitioners, educators, and clinical-fellowship supervisors. Mean importance ratings were computed for clinical activity statements separately for the three groups of respondents. The mean ratings are presented in Appendix F. Any statement with a mean rating of less than 3.50, for any of the respondent groups, was flagged (i.e., highlighted in gray in the Appendix). In total, 12 of the 58 clinical activity statements (21%) were flagged by one or more of the respondent groups (see Table 6, shaded means). The practitioners had flagged 11 statements, and the educators and clinical-fellowship supervisors had flagged nine statements each. Of the 12 that failed the 3.50 cut-point, four were within the Evaluation dimension and seven were among the cluster of statements within the Related Professional Activities dimension that dealt specifically with administrative responsibilities. All of the clinical activity statements within the Treatment dimension passed the 3.50 cut-point. We recommend that the 12 clinical activity statements that failed the 3.50 cut-point be excluded from the test specifications that define the content domain for a certification examination in audiology. (Flagged statements should only be considered for inclusion if compelling, written justifications can be supplied.)

TABLE 6
CLINICAL ACTIVITY STATEMENTS THAT FAILED THE 3.50 CUT-POINT

		Practitioners	Educators	Clinical-Fellowship Supervisors
	Evaluation			
#3	"Screen speech-language and other factors affecting communication function to facilitate referrals"	3.18	3.36	3.14
#7	"Remove cerumen by a variety of techniques and equipment"	3.09	2.89	2.96
#9	"Calibrate equipment to accepted standards"	3.41	3.74	3.50
#11	"Evaluate and document changes in the functional status of neural tissue or structures during operative procedures"	2.51	2.52	2.38
	Related Professional Activities			
#38	"Establish supervisory procedures that ensure quality patient/consumer care in evaluation and treatment"	3.43	3.63	3.60
#48	"Identify unmet programmatic needs, create new programs, or develop links with existing programs"	3.30	3.46	3.16

TABLE 6 (Cont'd)

#49	"Plan and implement in-service and public information programs . . . concerning the prevention, identification, evaluation, and treatment of communicative disorders"	3.53	3.49	3.53
#50	"Seek current information regarding the procurement of private, governmental, and third-party financial support"	3.41	3.77	3.49
#51	"Oversee those activities necessary for the efficient administration of the program"	3.10	3.31	3.12
#54	"Promote cultural diversity in recruitment and retention of staff"	2.78	3.23	2.85
#55	"Identify multi-cultural and underserved populations and promote access to care"	3.19	3.49	3.22
	Other Professional Activities			
#57	"Conduct and/or participate in research"	2.70	3.21	2.66

The percent of agreement in the groups' classifications (i.e., the number of statements in common that passed the 3.50 cut-point and the number of statements in common that failed the 3.50 cut-point) was computed. The percent agreement for educators and clinical-fellowship supervisors was 97% (48 passed for both and 8 failed for both); the percent agreement for educators and practitioners was 93% (46 passed and 8 failed); and the percent agreement for clinical-fellowship supervisors and practitioners was 97% (47 passed and 9 failed). These results indicate a high level of agreement between the paired groups of respondents in terms of their classifications of more important and less important clinical activity statements.

Subgroups of practitioners. In addition to the main groups of respondents, we conducted mean analyses for relevant subgroups of practitioners. Subgroup analyses are critical because they often uncover less important content that was masked by the main-group analysis. That is, a clinical activity statement, for example, that passed the 3.50 cut-point for the total group of practitioners may very well be flagged by one or more subgroups of practitioners (e.g., females, non-Whites, practitioners working in hospital settings). Subgroup analyses provide a safeguard for the sole reliance on main-group analyses. The following subgroups of practitioners were formed:

- **Gender** (female, male)
- **Race/Ethnicity** (White, non-White)
- **Practice Setting** (school, hospital, private physician's office, SLP's or AUD's office, own office)
- **Years Certified** (≤ 5, > 5)
- **Highest Educational Level** (Master's, Doctorate) [5]
- **Geographic Region** (Northeast, Central, Southern, Far West)

The mean importance ratings across all the subgroups were compared to the 3.50 cut-point. Any clinical activity statement with a mean rating of less than 3.50, for any of the subgroups, was flagged (i.e., highlighted in gray in Appendix G). Of the 58 clinical activity statements, 18 (31%) were flagged by one or more of the subgroups of practitioners. However, 12 of these 18 had already been flagged by the main-group analyses. Therefore, the subgroup analysis identified six additional statements that had gone "undetected" by the main-group analyses. These six statements are:

- #27 -- "Calibrate equipment to accepted standards"
- #40 -- "Provide supervisees . . . with appropriate practical experiences to develop professional expertise"
- #42 -- "Provide instruction in ethical, legal, and regulatory aspects of the profession"
- #45 -- "Promote legislation and regulation that will ensure an acceptable quality and availability of services

[5] Although only 44 practitioners held a Doctoral degree, this subgroup was included because of the relevance and importance of their judgments to informing potential future decisions regarding test construction and curriculum redesign.

while monitoring and opposing legislation harmful to the communicatively handicapped"
- #46 -- "Promote legislation beneficial to the profession"
- #47 -- "Advocate for direct third-party payment to credentialed audiologists"

The percent of agreement within each of the subgroups' classifications was also computed. These percentages are presented in Table 7. As illustrated, the lowest percent of agreement (84%) was between practitioners working in their own office and practitioners working in either a hospital or a private physician's office. The highest percent of agreement (100%) was between practitioners in the Northeast and Southern regions of the country. The median value was 93%, indicating that, overall, there was a high level of within subgroup agreement.

Content Coverage: Clinical Activity Statements

All three groups of respondents were asked to judge how well the clinical activity statements, in total, covered what a newly certified audiologist should be able to do. Judgments were made on a 5-point scale. The scale points were: (1) very poorly, (2) poorly, (3) adequately, (4) well, and (5) very well. The results for the three groups are presented in Table 8. Nearly 100% of the respondents in each of the three groups judged the performance domain to be at least adequately covered. Close to 75% of the respondents in each group judged the domain to be either well covered or very well covered.

TABLE 7
PERCENT OF AGREEMENT WITHIN SUBGROUPS: CLINICAL ACTIVITY STATEMENTS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Gender																	
1 Female																	
2 Male	93																
Race/Ethnicity																	
3 White (non-Hispanic)																	
4 Non-White			93														
Years Since Received CCC																	
5 ≤ 5																	
6 > 5					95												
Highest Educational Level																	
7 Master's																	
8 Doctorate							93										
Work Setting																	
9 School																	
10 Hospital									86								
11 Private Physician's Office									86	93							
12 SLP's or AUD's Office									90	90	97						
13 Own Office									84	84	91	91					
Geographic Region																	
14 Northeast																	
15 Central														95			
16 Southern														100	95		
17 Far West														98	93	98	

TABLE 8
CONTENT COVERAGE: CLINICAL ACTIVITY STATEMENTS

	Practitioners		Educators		Clinical-Fellowship Supervisors	
	N	%	N	%	N	%
Very Poorly	1	0	0	0	0	0
Poorly	14	1	2	3	1	1
Adequately	247	23	21	27	30	25
Well	521	48	40	51	53	45
Very Well	296	27	16	20	34	29

Mean Importance Ratings: Knowledge Areas

Practitioners, educators, and clinical-fellowship supervisors. Mean importance ratings were computed for knowledge areas separately for the three groups of respondents. The mean ratings are presented in Appendix H. Any area with a mean rating of less than 3.50, for any of the respondent groups, was flagged (i.e., highlighted in gray in the Appendix). In total, 28 of the 118 knowledge areas (24%) were flagged by one or more of the respondent groups (see Table 9, shaded means). The practitioners had flagged 27 areas, the educators had flagged 17 areas, and the clinical-fellowship supervisors had flagged 24 areas. Of the 28 that failed the 3.50 cut-point, four were within the Basic Knowledge for Evaluation and Treatment section. All the knowledge areas dealing with methods related to Speech-Language Screening ($n = 3$) and Neurophysiologic Intraoperative Monitoring ($n = 4$) were flagged; similarly, all areas related to Test Analysis ($n = 4$) were flagged. As before, we recommend that the 28 knowledge areas that failed the 3.50 cut-point be excluded from the test specifications that define the content domain for a certification examination in audiology. (Flagged knowledge areas should only be considered for inclusion if compelling, written justifications can be supplied.)

Overall, the educators were the most "liberal" in their judgments; that is, more knowledge areas passed the 3.50 cut-point for this group than for either practitioners or clinical-fellowship supervisors. One noticeable trend was that while neither clinical-fellowship supervisors nor practitioners believed that "Electrical Stimulation for Cochlear Implant," "Implant Selection and Rehabilitation," and "Test Analysis (statistical principles, including parametric and non-parametric statistics, and clinical decision analysis)" were important, educators judged these areas to be important. Nevertheless, the percent of agreement in the groups' classifications (i.e., the number of areas in common that passed the 3.50 cut-point and the number of areas in common that failed the 3.50 cut-point) was high. The percent agreement for educators and clinical-fellowship supervisors was 89% (91 passed for both and 14 failed for both); the percent agreement for educators and practitioners was 92% (91 passed and 17 failed); and the percent agreement for clinical-fellowship supervisors and practitioners was 96% (90 passed and 23 failed).

Subgroups of practitioners. Mean importance ratings for each knowledge area was computed for each of the subgroups of practitioners (i.e., gender, race/ethnicity, practice setting, years certified, highest educational level, and geographic region). As before, any knowledge area with a mean rating of less than 3.50 was flagged (i.e., highlighted in gray in Appendix I). Of the 118 knowledge areas, 38 (32%) were flagged by one or more of the subgroups of practitioners. However, 28 of these 38 had already been flagged by the main-group analyses. The 10 additional knowledge areas flagged by the subgroup analyses are:

Knowledge of. . .

- #22 -- [Non-Acoustic Stimulus Factors] "how these characteristics are affected by properties of the delivery medium or system (e.g., stimulus electrode impedance)"
- #33a -- [Auditory Evoked Potential Assessment] "Ecoch G"
- #33c -- [Auditory Evoked Potential Assessment] "middle"

- #35a -- [Balance System Assessment] "ENG"
- #39c -- [Product Dispensing] "cochlear implant processors"
- #41e -- [Hearing Aid Assessment] "administration of communication inventories or questionnaires"
- #43 -- Sensory Aids Assessment
- #52 -- [Legislative Professional Activities] "workers' compensation"
- #56 -- [Administrative Professional Activities] "third-party reimbursement"
- #57 -- [Administrative Professional Activities] "quality improvement techniques"

The percent of agreement within each of the subgroups' classifications was also computed. These percentages are presented in Table 10. As illustrated, the lowest percent of agreement (84%) was between practitioners with a Mater's degree and practitioners with a Doctorate. The lower level of agreement was due to many more knowledge areas (n = 19) failing the 3.50 cut-point for those with a Master's degree, but passing the cut-point for those with a Doctorate. The highest percent of agreement (98%) was between practitioners in the Northeast and Far West regions of the country. The median value was 94%, indicating that, overall, there was a high level of within subgroup agreement.

TABLE 9
KNOWLEDGE AREAS THAT FAILED THE 3.50 CUT-POINT

		Practitioners	Educators	Clinical-Fellowship Supervisors
	Basic Knowledge for Evaluation and Treatment			
#3	"phonologic, morphologic, syntactic, and pragmatic aspects of human communication in normal and disordered systems"	3.40	3.89	3.36
#15	"cerumen management"	3.42	3.31	3.43
#16	"pharmacology	3.20	2.99	3.21
#17	"basic electronics"	3.21	3.26	3.33
	Stimulus Factors [Non-Acoustic]			
#21	"physical characteristics of non-acoustic stimuli . . . used to elicit non-auditory responses . . ."	3.21	3.21	3.29
#23	"non-auditory stimulus analysis, including calibration of safe limits of stimulation"	3.52	3.53	3.49
	Methods			
#25	"Speech-Language Screening"	3.37	3.58	3.30
#25a	"formal"	2.92	3.49	2.83
#25b	"informal"	3.45	3.68	3.33
#33d	[Auditory Evoked Potential Assessment] "late"	3.49	3.48	3.62
#33e	[Auditory Evoked Potential Assessment] "event-related (P300) or auditory-cognitive potential (P300)"	3.34	3.42	3.50
#34	"Neurophysiologic Intraoperative Monitoring"	3.12	3.15	3.13
#34a	"auditory"	3.26	3.36	3.25
#34b	"non-auditory"	2.87	2.65	3.02
#34c	"effects of anesthesia and pharmacological agents on electrophysiologic events"	3.29	3.33	3.38
#35b	[Balance System Assessment] "rotational-chair"	3.26	3.21	3.19
#35c	[Balance System Assessment] "posturography"	3.24	3.23	3.19
#38e	[Audiological Rehabilitation] "balance function rehabilitation"	3.31	3.12	3.17
#39d	[Product Dispensing] "tinnitus maskers"	3.30	3.27	3.52
#39e	[Product Dispensing] "tactile/sensory devices"	3.36	3.41	3.46
#45	"Sensory Aids Fitting/Orientation"	3.47	3.71	3.50
#46	"Electrical Stimulation for Cochlear Implant"	3.24	3.58	3.29

TABLE 9 (Cont'd)

#47	"Implant Selection and Rehabilitation"	3.19	3.53	3.09
	Test Analysis			
#48	"Statistical Principles"	2.88	3.71	2.89
#48a	"parametric"	2.80	3.66	2.84
#48b	"non-parametric"	2.80	3.54	2.79
#48c	"clinical decision analysis"	3.05	4.00	3.13
	Knowledge for Related Professional Activities			
#61	[Administrative] "human resources management"	3.20	3.31	3.27

Content Coverage: Knowledge Areas

All three groups of respondents were asked to judge how well the knowledge areas, in total, covered what a newly certified audiologist should know. The results for the three groups are presented in Table 11. As before, nearly 100% of the respondents in each of the three groups judged the performance domain to be at least adequately covered; and more than 75% of the respondents in each group judged the domain to be either well covered or very well covered.

TABLE 10
PERCENT OF AGREEMENT WITHIN SUBGROUPS: KNOWLEDGE AREAS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Gender																	
1 Female																	
2 Male	94																
Race/Ethnicity																	
3 White (non-Hispanic)																	
4 Non-White			93														
Years Since Received CCC																	
5 ≤ 5																	
6 > 5					95												
Highest Educational Level																	
7 Master's																	
8 Doctorate							84										
Work Setting																	
9 School																	
10 Hospital									91								
11 Private Physician's Office									90	97							
12 SLP's or AUD's Office									88	96	93						
13 Own Office									89	92	92	91					
Geographic Region																	
14 Northeast																	
15 Central														97			
16 Southern														95	95		
17 Far West														98	97	97	

TABLE 11
CONTENT COVERAGE: KNOWLEDGE AREAS

	Practitioners		Educators		Clinical-Fellowship Supervisors	
	N	%	N	%	N	%
Very Poorly	1	0	0	0	0	0
Poorly	11	1	1	1	2	2
Adequately	213	20	17	22	24	20
Well	503	47	43	55	57	48
Very Well	349	32	17	22	35	30

Discrepancy Scores: Clinical Activity Statements

As reported earlier, recoded judgments of where clinical activities should be learned were subtracted from recoded judgments of where clinical activities were learned. Seven unique outcomes (discrepancy scores) were possible: -3, -2 , -1, 0, +1, +2, and +3 (the meaning of these scores is presented in Table 4). In brief, however, a negative sign (-) indicates that a clinical activity should be learned later in the educational process (i.e., during the clinical fellowship or after certification). A zero (0) indicates that the clinical activity is being learned where it should be learned. And a positive sign (+) indicates that the clinical activity should be learned earlier in the educational process (i.e., in school or during the clinical fellowship). A clinical activity statement was flagged if the zero (0) discrepancy score accounted for less than 75% of the responses.

Practitioners, educators, clinical-fellowship supervisors. The discrepancy scores for each clinical activity statement were computed separately for practitioners, educators, and clinical-fellowship supervisors. These values are presented in Appendix J (flagged statements are highlighted in gray). Accompanying the discrepancy scores for each group of respondents are the raw (i.e., pre-recoded) percentages of responses across each of the five options (anchors) for each of the two rating scales. For example, accompanying the discrepancy scores for practitioners, are the percentage of practitioners responding 1, 2, 3, 4, and 5 to the rating scale Where Learned and the percentage of practitioners responding 1, 2, 3, 4, and 5 to the rating scale Where Should Be Learned.

In total, 41 of the 58 clinical activity statements (71%) were flagged by one or more of the respondent groups (see Appendix J for the flagged (highlighted) statements). The practitioners flagged 32 statements (55%); and the clinical-fellowship supervisors flagged 36 statements (62%). In contrast, the educators flagged five statements (9%). In other words, while practitioners believed that only 45% of the clinical activities were being learned where they should be learned and clinical-fellowship supervisors believed that only 38% of the clinical activities were being learned where they should be learned, educators believed that 91% of the clinical activities were, in their judgment, being learned where they should be learned. Clearly, there are differences of opinion between the educators and the other two groups of respondents. Nonetheless, in all cases, for all three groups, the direction or sign of the discrepancy scores was positive (+), indicating that the flagged clinical activity statements should be learned earlier in the educational process. And the most prominent trends that emerged were: (1) that the job dimension of Treatment accounted for the largest proportion of flagged statements for both clinical-fellowship supervisors (50%) and practitioners (47%), and (2) that clinical-fellowship supervisors believed that 25 of the 36 statements they flagged (69%), though learned during the clinical fellowship, should be learned in school.

The percent agreement between practitioners' and clinical-fellowship supervisors' classifications (i.e., the number of clinical activity statements in common passing the 75% cut-point and the number of statements in common failing the 75% cut-point) was moderately high, 78%. This level of agreement was due to 14 statements that passed the cut-point for one group, but failed for the other group. Five statements failed the cut-point for practitioners, but passed the cut-point for clinical-fellowship supervisors; and nine statements failed the

cut-point for clinical-fellowship supervisors, but passed the cut-point for practitioners. All five clinical activity statements that failed the cut-point for practitioners but passed for clinical-fellowship supervisors were within the job dimension of Related Professional Activities; and, not surprisingly, four of the five statements dealt with either supervisory or administrative activities:

- #38 -- "Establish supervisory procedures that ensure quality patient/consumer care in evaluation and treatment"
- #46 -- "Promote legislation beneficial to the profession"
- #50 -- "Seek current information regarding the procurement of private, governmental, and third-party financial support"
- #51 -- "Oversee those activities necessary for the efficient administration of the program (e.g., materials acquisition, budgeting, recruitment, and retention)"
- #56 -- "Develop programs for conservation of hearing and for prevention of hearing impairment/deafness, including identification of genetic, prenatal, and postnatal factors, and all exogenous (e.g., noise) factors resulting in preventable hearing loss"

Subgroup analysis. Discrepancy scores were also computed separately for practitioners who have been certified for five years or less and practitioners who have been certified for more than five years. This subgroup comparison was considered to be the most relevant for purposes of determining if a discrepancy was perceived to exist between where clinical activities are learned by newly certified audiologists and where they should be learned by newly certified audiologists. The discrepancy scores (along with the raw percentages for the five response options for the Where Learned and Where Should Be Learned rating scales) are presented in Appendix K. As before, statements that failed the 75% cut-point have been highlighted in gray.

In total, 36 of the 58 clinical activity statements (62%) were flagged. Twenty-eight statements were flagged by practitioners who have been certified for five years or less and by practitioners who have been certified for more than five years. One statement was flagged only by practitioners with five or less years of certification; seven statements were flagged only by practitioners with more than five years certification. However, all but 2 of the 36 statements were previously flagged by the main-group analyses (i.e., practitioners, educators, clinical-fellowship supervisors). The two additional statements flagged by this subgroup comparison were #48 -- "Identify unmet programmatic needs, create new programs, or develop links with existing programs"; and #55 -- "Identify multi-cultural and underserved populations and promote access to care." The former was flagged only by those practitioners who have been certified for five years or less, and the latter was flagged only by those who have been certified for more than five years. Although there was a high level of within subgroup agreement (86%), six statements, in addition to #55, failed the cut-point for those with more than five years certification, but passed the cut-point for those with five or less years certification:

- #8 -- [Evaluation] "Maintain equipment according to manufacturer's specifications and recommendations"
- #19 -- "Review evaluation data to develop treatment plan"
- #26 -- [Treatment] "Maintain equipment according to manufacturer's specifications and recommendations"
- #36 -- "Document the procedures and results of the treatment process"
- #38 -- "Establish supervisory procedures that ensure quality patient/consumer care in evaluation and treatment"
- #42 -- "Provide instruction in ethical, legal, and regulatory aspects of the profession"

Consistent with the main-group analyses, the discrepancy scores for the total of 36 clinical activity statements flagged by the subgroup analysis were in the positive (+) direction, indicating that the clinical activities should be learned earlier in the educational process. Nevertheless, a difference in trends was observed. Practitioners with five or less years certification indicated that 19 of the 29 statements they flagged (66%), though learned during the clinical fellowship, should be learned in school. However, practitioners with more than five years certification indicated that only 6 of the 35 statements they flagged (17%), though learned during the clinical fellowship, should be learned in school. For the latter group of practitioners, most of the discrepancy scores (more than 50%) revealed that clinical activities learned after certification, should be learned in school. The different trends may reflect how the curriculum of audiology or the structure of the education of audiologists has changed over time.

Discrepancy Scores: Knowledge Areas

Practitioners, educators, and clinical-fellowship supervisors. Discrepancy scores were computed separately for practitioners, educators, and clinical-fellowship supervisors. These values are presented in Appendix L (flagged knowledge areas are highlighted in gray). As before, the discrepancy scores are accompanied by the raw percentages of responses to each of the options for the Where Learned and Where Should Be Learned rating scales. In total, 73 of the 118 knowledge areas (62%) were flagged by one or more of the respondent groups (see Appendix L). The practitioners flagged 61 areas (52%) and the clinical-fellowship supervisors flagged 72 areas (61%). In contrast, the educators flagged only five knowledge areas (4%). These results are consistent with those obtained for the clinical activity statements, and indicate a difference in perceptions between the educators and the other two groups of respondents. (The percent agreement between practitioners and clinical-fellowship supervisors was 89%). All discrepancy scores were in the positive (+) direction, indicating that the knowledge areas should be acquired earlier in the educational process. Clusters of knowledge areas (including subdomains) that failed the 75% cut-point for both practitioners and clinical-fellowship supervisors are presented below:

- #28 -- "Counseling" (and all subdomains)
- #32 -- "Electrodiagnostic Test Procedures [non-auditory]"
- #33 -- "Auditory Evoked Potential Assessment" (and all subdomains)
- #34 -- "Neurophysiologic Intraoperative Monitoring" (and all subdomains)
- #39 -- "Product Dispensing" (and all subdomains)
- #41 -- "Hearing Aid Assessment" (and all but one subdomain-- "Electroacoustic Evaluation" passed the cut-point for practitioners)
- #42 -- "Assistive Listening System/Device Selection"
- #43 -- "Sensory Aids Assessment"
- #44 -- "Hearing Aid Fitting/Orientation" (and all subdomains)
- #47 -- "Implant Selection and Rehabilitation"

A trend was also observed in the discrepancy scores for practitioners. The practitioners indicated that approximately 90% of the knowledge areas they flagged, though acquired after certification, should have been acquired in school.

Subgroup analysis. Discrepancy scores were computed separately for practitioners who have been certified for five years or less and practitioners who have been certified for more than five years (see Appendix M). In total, 69 of the 118 knowledge areas (58%) were flagged. Practitioners who have been certified for five years or less flagged 46 areas; and practitioners who have been certified for more than five years flagged 69 areas. (All 46 areas flagged by the practitioners with five or less years of certification were flagged by those practitioners with more than five years of certification.) All discrepancy scores were in the positive (+) direction, indicating the knowledge areas should be acquired earlier in the educational process. An analysis of trends indicated that approximately 70% of the knowledge areas flagged by practitioners with five or less years of certification, though acquired after certification, should have been acquired in school. This same trend was observed for practitioners with more than five years of certification, but the percentage was much higher, approximately 97%. As noted before, this difference may reflect how the curriculum of audiology or the structure of the education of audiologists has changed over time.

IMPLICATIONS

The Modification of Certification Standards

The current standards for certification in audiology consist of four components: (a) specific academic coursework and clinical coursework from an accredited program; (b) a graduate degree; (c) a 9-month, supervised clinical fellowship; and (d) passing a national examination. The results of this job analysis study may be used by the Standards Council as it considers modifying the current certification standards. We recommend

that the Council first examine the clinical activity statements and knowledge areas defined by the subject-matter experts who participated in this study. Though we have applied certain criteria to evaluate the defined performance domain, it is ultimately the Council that needs to come to agreement in what it considers to be important and relevant clinical activities and knowledge areas for entry-level audiologists. To this end, the Council may elect to apply its own criteria to the judgments obtained in this study as well as to consider the results of other studies or judgments made by other professional bodies.

For purposes of standards modification, we invite the Council to examine, in particular, the judgments regarding where clinical activities and knowledge areas are learned and acquired (Tables 12 and 13). These data provide valuable insights into the perceived appropriateness of the current professional education and training of audiologists. That is, the data nicely illustrate which clinical activities and knowledge areas are learned and acquired during the school-based experience (scale values 1 and 2), during the clinical-fellowship experience (scale value of 3), and after certification (scale values 4 and 5, highlighted in gray). The Council may examine these data to determine if any clinical activities and knowledge areas that are reported to be learned and acquired after certification should be incorporated into either the school-based experiences or the clinical-fellowship experiences of audiologists. As one example, the results in Table 13 indicate that 72% of the practitioners and 62% of the clinical-fellowship supervisors reported that knowledge of cerumen management was acquired after certification (39% of the educators reported the same). The Council may wish to consider whether or not cerumen management should, in fact, be taught before audiologists receive their Certificates of Clinical Competence. Any such large-scale modifications to the scope or sequence of professional education and training may necessitate that the existing certification standards be reevaluated.

Table 12
Where Learned: Clinical Activity Statements

	Practitioners					Educators					Clinical-Fellowship Supervisors				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
EVALUATION															
1. Identify high risk individuals.	67%	20%	6%	6%	1%	71%	22%	4%	3%	0%	55%	25%	14%	5%	1%
2. Screen for hearing deficits	30%	64%	3%	3%	0%	26%	73%	1%	0%	0%	14%	76%	7%	3%	0%
3. Screen speech-language and other factor	52%	39%	4%	5%	1%	51%	42%	1%	5%	0%	50%	38%	5%	6%	2%
4. Gather, review, evaluate information	21%	30%	27%	22%	1%	25%	45%	26%	4%	0%	19%	18%	39%	22%	2%
5. Obtain in-depth case history	29%	53%	11%	7%	0%	28%	65%	5%	3%	0%	23%	47%	24%	6%	0%
6. Perform otoscopic exam	18%	60%	11%	10%	1%	9%	82%	6%	3%	0%	7%	61%	21%	7%	2%
7. Remove cerumen by variety of techniques	1%	5%	7%	37%	50%	6%	28%	10%	18%	39%	5%	10%	9%	20%	56%
8. Maintain equipment	36%	27%	15%	20%	1%	42%	30%	10%	16%	1%	29%	29%	15%	26%	0%
9. Calibrate equipment	47%	33%	8%	10%	1%	58%	31%	0%	9%	1%	49%	29%	6%	11%	5%
10. Administer screening and asses. measures	24%	48%	14%	12%	2%	26%	56%	8%	7%	3%	35%	36%	17%	11%	2%
11. Eval. chgs. in neural tissue during surgery	13%	10%	11%	32%	34%	11%	11%	13%	36%	30%	12%	3%	12%	37%	37%
12. Document. procedures/results of eval. process	26%	55%	13%	6%	1%	20%	73%	5%	3%	0%	20%	46%	30%	3%	1%
13. Interpret results of evaluation	49%	42%	6%	2%	1%	40%	53%	5%	3%	0%	34%	46%	18%	2%	0%
14. Generate recommendations	27%	48%	18%	7%	0%	18%	71%	9%	3%	0%	16%	41%	32%	11%	0%
15. Communicate results and recommendations	10%	49%	26%	14%	1%	5%	74%	15%	5%	0%	6%	38%	39%	17%	0%
16. Write formal reports	21%	60%	11%	8%	0%	8%	84%	8%	1%	0%	19%	47%	25%	8%	0%
17. Monitor patient/consumer status	7%	28%	33%	31%	1%	5%	62%	19%	14%	0%	9%	26%	44%	21%	1%
18. Maintain patient/consumer records.	12%	30%	28%	29%	1%	8%	59%	24%	10%	0%	10%	29%	38%	23%	0%
TREATMENT															
19. Review eval. data/develop treatment plan	18%	44%	25%	12%	0%	24%	62%	14%	1%	0%	0%	1%	0%	72%	5%
20. Develop rapport with patient/consumer	3%	42%	31%	24%	0%	4%	59%	28%	9%	0%	0%	1%	0%	70%	9%
21. Communicate results/discuss prognosis	4%	40%	34%	22%	0%	5%	65%	25%	4%	0%	0%	1%	0%	63%	9%
22. Provide ongoing counseling	5%	26%	37%	33%	1%	6%	49%	37%	8%	0%	0%	1%	0%	58%	15%
23. Develop management strategies	6%	21%	32%	40%	2%	9%	46%	32%	12%	1%	0%	1%	0%	55%	15%
24. Participate in case coordination	4%	17%	33%	45%	1%	5%	36%	41%	18%	1%	1%	1%	1%	57%	18%
25. Communicate treatment plans for appr.	2%	7%	31%	58%	2%	7%	23%	40%	27%	2%	0%	1%	1%	56%	19%
26. Maintain equipment	29%	34%	16%	19%	1%	33%	45%	15%	7%	0%	1%	1%	0%	76%	5%
27. Calibrate equip. to accepted standards	41%	38%	9%	11%	1%	43%	45%	6%	4%	2%	2%	1%	0%	83%	2%
28. Select methods, instrumentation, etc.	22%	46%	19%	13%	1%	24%	58%	13%	4%	0%	0%	1%	0%	80%	4%

Table 12 (Cont'd)

	Practitioners					Educators					Clinical-Fellowship Supervisors				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
29. Recommend prosthetic/assistive devices	10%	42%	24%	22%	3%	15%	69%	13%	2%	1%	1%	1%	0%	58%	7%
30. Establish methods to monitor treatment	12%	29%	28%	29%	2%	16%	49%	28%	7%	0%	0%	1%	0%	62%	11%
31. Monitor and summ. treatment outcomes	7%	28%	30%	34%	1%	10%	50%	30%	10%	0%	0%	1%	0%	60%	12%
32. Provide info. about treatment outcomes	5%	24%	37%	33%	1%	7%	45%	37%	10%	0%	0%	1%	0%	60%	14%
33. Establish treatment discharge criteria	7%	23%	33%	36%	1%	11%	43%	33%	12%	0%	0%	1%	0%	61%	12%
34. Make referrals for add. eval. and trtmnt.	6%	20%	32%	41%	1%	9%	40%	37%	13%	0%	0%	1%	0%	57%	17%
35. Follow-up on referrals/recommendations	4%	18%	36%	42%	1%	7%	39%	39%	16%	0%	0%	0%	0%	58%	16%
36. Document the procedures and results	11%	45%	25%	19%	0%	14%	60%	20%	6%	0%	0%	0%	0%	75%	6%
37. Maintain patient/consumer records	12%	33%	27%	27%	1%	21%	51%	22%	6%	0%	0%	0%	0%	64%	9%
RELATED PROFESSIONAL ACTIVITIES															
[Supervisory]															
38. Establish supervisory procedures.	3%	7%	11%	70%	8%	7%	12%	22%	49%	10%	1%	1%	1%	74%	13%
39. Deliver direct patient care	2%	14%	13%	68%	4%	4%	18%	19%	54%	6%	1%	1%	2%	80%	9%
40. Provide supervisees w/practical experiences	1%	7%	12%	74%	5%	4%	12%	17%	58%	9%	0%	0%	1%	82%	8%
41. Provide supervisees with feedback	1%	9%	10%	73%	7%	5%	13%	17%	54%	11%	1%	0%	0%	82%	8%
42. Provide ethical, legal & regulatory instructn	21%	6%	9%	51%	13%	34%	12%	13%	30%	11%	1%	0%	1%	70%	8%
43. Provide instrctn in rpt. writing/recrd keepng	18%	24%	11%	44%	3%	23%	28%	12%	32%	5%	1%	0%	1%	81%	5%
[Legislative]															
44. Follow laws, regulations, respective mandates	28%	13%	21%	33%	6%	43%	21%	20%	13%	4%	0%	1%	1%	66%	8%
45. Promote legislation and regulations	10%	3%	8%	60%	20%	25%	6%	17%	39%	13%	1%	0%	1%	67%	12%
46. Promote legislation beneficial to the profssn	7%	2%	6%	60%	24%	22%	5%	15%	40%	17%	0%	0%	0%	69%	11%
[Administrative]															
47. Advocate for direct third-party payment	3%	2%	7%	66%	22%	17%	6%	20%	43%	14%	0%	0%	0%	67%	14%
48. Identify unmet programmatic needs	2%	1%	10%	74%	12%	9%	5%	20%	56%	11%	0%	0%	1%	76%	12%
49. Implement public information programs	3%	5%	18%	64%	8%	12%	14%	27%	41%	8%	0%	0%	2%	67%	13%
50. Seek current financial support Info.	3%	1%	12%	67%	17%	14%	6%	24%	40%	16%	0%	0%	0%	68%	15%
51. Oversee efficient administration activities	2%	2%	8%	80%	8%	12%	5%	19%	56%	9%	0%	0%	2%	71%	13%
52. Maintain compliance with calibration standard	23%	25%	20%	32%	1%	28%	34%	21%	16%	1%	0%	1%	0%	75%	8%
53. Introduce and implement new procedures	3%	6%	12%	47%	32%	6%	12%	18%	31%	33%	0%	0%	1%	79%	9%
54. Promote cultural diversity in staff	7%	1%	6%	67%	18%	15%	4%	11%	54%	16%	0%	0%	1%	81%	7%

Table 12 (Cont'd)

	Practitioners					Educators					Clinical-Fellowship Supervisors				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
55. Identify multi-cultural/underserved populatns	8%	5%	11%	64%	12%	17%	11%	16%	44%	12%	1%	0%	1%	75%	9%
56. Develop programs for conservation of hearing.	22%	8%	13%	47%	10%	30%	18%	17%	26%	9%	1%	1%	1%	69%	9%
OTHER PROFESSIONAL ACTIVITIES															
57. Conduct and/or participate in research	42%	15%	9%	24%	10%	45%	18%	10%	18%	9%	2%	2%	1%	82%	3%
58. Update clinical/professional knowledge/ skill	5%	3%	8%	14%	70%	7%	4%	9%	9%	72%	1%	0%	1%	94%	2%

Table 13
Where Learned: Knowledge Areas

	Practitioners					Educators					Clinical-Fellowship Supervisors				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
BASIC KNOWLEDGE FOR EVALUATION AND TREATMENT															
1. professional codes of ethics	62%	7%	18%	11%	3%	93%	2%	2%	2%	0%	61%	5%	23%	11%	0%
2. patient characteristics	46%	25%	15%	14%	1%	66%	20%	6%	8%	0%	40%	15%	32%	11%	2%
3. aspects of human communication	90%	6%	1%	2%	1%	93%	5%	1%	1%	0%	82%	8%	7%	2%	2%
4. effects of hearing impairment	71%	10%	8%	10%	1%	86%	8%	3%	4%	0%	67%	5%	16%	9%	3%
5. anatomy/physiology of various syst	97%	1%	1%	0%	0%	98%	1%	1%	0%	0%	94%	1%	2%	1%	2%
6. pathophysiology of various systems	93%	2%	2%	2%	1%	96%	1%	2%	0%	0%	91%	1%	3%	2%	3%
7. embryology/devel. of various systems	96%	1%	0%	1%	1%	99%	1%	0%	0%	0%	91%	2%	2%	1%	4%
8. etiologic factors affecting various systems	93%	2%	2%	2%	1%	96%	0%	1%	2%	0%	83%	5%	6%	2%	3%
9. normal devel. of speech and language	97%	1%	0%	1%	0%	99%	0%	1%	0%	0%	94%	4%	2%	0%	0%
10. normal devel. of auditory behavior/function	96%	2%	1%	1%	0%	98%	0%	1%	1%	0%	92%	5%	2%	2%	0%
11. normal processes of speech and language	94%	1%	1%	3%	1%	98%	0%	2%	0%	0%	88%	2%	2%	6%	2%
12. normal processes of auditory behavior	93%	2%	1%	3%	1%	96%	0%	1%	2%	0%	88%	2%	3%	6%	2%
13. neuroanatomy and neurophysiology	89%	1%	1%	4%	4%	95%	0%	1%	1%	2%	82%	2%	4%	4%	7%
14. psychoacoustics	94%	2%	0%	1%	2%	98%	1%	0%	0%	1%	92%	1%	2%	2%	4%
15. cerumen management	10%	8%	10%	31%	41%	21%	30%	10%	16%	23%	13%	13%	13%	26%	36%
16. pharmacology	41%	2%	9%	33%	16%	52%	4%	6%	22%	16%	43%	3%	7%	22%	24%
17. basic electronics	63%	7%	5%	18%	7%	74%	1%	1%	16%	7%	63%	4%	3%	17%	12%
STIMULUS FACTORS															
[Acoustic]															
18. temporal/spectral/amplitude chrctrstc of snds	91%	3%	2%	2%	2%	98%	0%	1%	1%	0%	87%	5%	3%	2%	2%
19. Effects of propagation and transmission	89%	3%	2%	4%	2%	95%	0%	1%	4%	0%	86%	4%	3%	4%	2%
20. sound analysis and quantification	88%	7%	1%	2%	2%	95%	1%	1%	3%	0%	83%	6%	5%	5%	1%
[Non-Acoustic]															
21. physical characteristics of non-acoustic stim	70%	5%	4%	9%	12%	70%	1%	3%	16%	10%	61%	4%	8%	13%	14%
22. Effect of the delivery medium or system	66%	9%	5%	10%	9%	76%	7%	1%	13%	3%	61%	5%	14%	6%	13%
23. non-auditory stimulus analysis	66%	8%	5%	12%	9%	73%	3%	1%	19%	4%	62%	7%	10%	9%	11%

40

41

Table 13 (Cont'd)

	Practioners					Educators					Clinical-Fellowship Supervisors				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
METHODS															
24. Hearing Screening	40%	55%	3%	2%	0%	66%	30%	1%	1%	1%	33%	57%	8%	3%	0%
a. Behavioral (VRA, etc.)	25%	60%	9%	5%	1%	53%	42%	4%	1%	0%	23	53%	17%	7%	0%
b. Objective (ABR, OAE, OAES, etc)	24%	35%	12%	15%	15%	60%	35%	3%	3%	0%	26%	33%	22%	13%	6%
c. Written (high risk register, etc)	57%	19%	9%	11%	4%	74%	16%	6%	3%	1%	54%	16%	16%	13%	2%
25. Speech-Language Screening	52%	38%	3%	6%	1%	66%	29%	4%	1%	0%	52%	35%	6%	5%	2%
a. Formal	52%	39%	3%	5%	2%	55%	39%	4%	1%	0%	52%	35%	6%	3%	4%
b. Informal	44%	38%	8%	9%	1%	43%	47%	9%	1%	0%	44%	31%	11%	10%	3%
26. Consultation	9%	18%	24%	45%	4%	18%	21%	28%	32%	1%	11%	17%	25%	45%	3%
27. Prevention	59%	15%	11%	13%	2%	78%	6%	5%	9%	1%	48%	16%	17%	17%	2%
28. Counseling	19%	35%	23%	22%	1%	32%	44%	15%	9%	0%	18%	29%	34%	19%	0%
a. Informational	21%	37%	21%	20%	0%	36%	44%	13%	8%	0%	18%	28%	33%	19%	1%
b. Affective	16%	31%	24%	27%	2%	28%	34%	19%	16%	3%	15%	21%	35%	25%	4%
29. Basic Audiologic Assessment	44%	55%	1%	0%	0%	56%	42%	3%	0%	0%	35%	53%	11%	0%	0%
a. Behavioral (pure tone, speech, etc)	39%	59%	1%	1%	0%	46%	51%	3%	0%	0%	31%	60%	9%	0%	0%
b. Objective (immittance, etc)	37%	57%	3%	1%	2%	50%	47%	3%	0%	0%	30%	56%	12%	2%	0%
c. Self-assessment inventories	45%	31%	7%	13%	5%	58%	30%	7%	5%	0%	43%	33%	14%	8%	2%
30. Pediatric Audiologic Assessment	32%	49%	13%	6%	1%	54%	38%	5%	3%	0%	26%	42%	24%	8%	0%
a. Behavioral	27%	54%	12%	7%	1%	48%	44%	7%	1%	0%	22%	46%	20%	11%	0%
b. Objective	25%	49%	10%	9%	8%	49%	43%	5%	3%	0%	25%	39%	21%	12%	2%
31. Comprehensive Audiologic Assessment	41%	47%	8%	3%	1%	52%	41%	5%	1%	0%	32%	41%	21%	7%	0%
a. Sensory vs. Neural	45%	40%	8%	4%	2%	47%	44%	6%	3%	0%	31%	42%	20%	7%	0%
b. Central auditory nervous system disorders	42%	26%	10%	13%	9%	56%	31%	8%	3%	3%	34%	26%	17%	14%	9%
c. Pseudohypacusis	43%	36%	13%	8%	1%	57%	34%	6%	3%	0%	30%	28%	30%	12%	0%
d. Tinnitus	42%	24%	13%	17%	5%	59%	21%	9%	8%	4%	37%	22%	20%	15%	5%
32. Electrodiagnostic Test Procedures(non-audtry)	29%	24%	16%	15%	16%	50%	26%	9%	7%	7%	25%	23%	19%	18%	15%

Table 13 (Cont'd)

	Practitioners					Educators					Clinical-Fellowship Supervisors				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
33. Auditory Evoked Potential Assessment	30%	26%	14%	14%	16%	63%	25%	6%	7%	0%	29%	32%	22%	12%	5%
a. Ecoch G	23%	13%	11%	20%	32%	54%	17%	8%	16%	5%	28%	25%	15%	18%	15%
b. ABR	26%	31%	13%	13%	16%	49%	42%	5%	3%	1%	28%	33%	24%	8%	7%
c. Middle	27%	18%	8%	15%	32%	51%	24%	6%	12%	6%	31%	22%	11%	17%	19%
d. Late	27%	17%	8%	15%	34%	50%	22%	10%	9%	9%	32%	21%	9%	17%	20%
e. Event-related/auditory-cognitive potential	26%	14%	8%	14%	38%	49%	20%	9%	15%	7%	31%	21%	8%	17%	23%
34. Neurophysiologic Intraoperative Monitoring	19%	9%	8%	20%	45%	25%	7%	6%	37%	25%	16%	5%	16%	30%	33%
a. Auditory	19%	7%	8%	22%	44%	24%	9%	7%	35%	25%	14%	5%	15%	30%	35%
b. Non-auditory	18%	7%	6%	20%	49%	22%	8%	5%	35%	31%	13%	4%	13%	32%	37%
c. Effects of anesthesia/pharmacological agents	22%	6%	7%	20%	44%	36%	7%	9%	24%	24%	18%	4%	12%	33%	33%
35. Balance System Assessment	29%	24%	18%	17%	13%	56%	23%	13%	5%	3%	22%	23%	27%	20%	8%
a. ENG	22%	25%	20%	18%	16%	47%	33%	12%	7%	1%	19%	27%	27%	16%	10%
b. Rotational-chair	18%	10%	9%	19%	44%	32%	14%	12%	25%	17%	24%	13%	15%	24%	25%
c. Posturography	18%	10%	8%	18%	46%	38%	11%	12%	22%	18%	22%	15%	15%	24%	24%
36. Hearing Conservation	65%	11%	7%	13%	4%	82%	8%	3%	8%	0%	61%	12%	13%	11%	3%
a. Occupational	62%	13%	8%	13%	4%	77%	10%	4%	8%	1%	61%	12%	13%	11%	3%
b. Non-occupational	61%	11%	8%	15%	5%	77%	10%	3%	8%	3%	62%	10%	14%	11%	2%
c. Ototoxic agents	62%	11%	8%	14%	5%	78%	10%	4%	5%	3%	58%	11%	18%	12%	2%
37. Audiological Rehabilitation Assessment	54%	28%	8%	9%	2%	78%	14%	3%	4%	0%	50%	24%	12%	14%	0%
a. Pediatric	48%	28%	10%	12%	3%	68%	21%	4%	6%	1%	45%	26%	12%	16%	1%
b. Adult	48%	31%	8%	10%	3%	64%	22%	7%	7%	0%	46%	28%	13%	11%	2%
c. Geriatric	47%	31%	9%	11%	3%	64%	22%	8%	6%	0%	46%	27%	13%	12%	3%
38. Audiological Rehabilitation	43%	31%	9%	13%	5%	71%	18%	3%	8%	0%	39%	26%	15%	16%	3%
a. Pediatric	40%	31%	10%	15%	5%	65%	25%	3%	8%	0%	41%	26%	17%	14%	3%
b. Adult	40%	35%	9%	12%	3%	68%	23%	4%	5%	0%	42%	30%	15%	12%	2%
c. Geriatric	38%	34%	9%	15%	4%	67%	23%	4%	7%	0%	42%	29%	15%	13%	2%
d. Alternative communication modes/systems	41%	18%	8%	20%	13%	62%	16%	4%	14%	4%	39%	19%	12%	18%	11%
e. Balance function rehabilitation	20%	10%	8%	24%	37%	39%	12%	7%	29%	13%	24%	9%	13%	22%	33%

44

45

Table 13 (Cont'd)

	Practitioners					Educators					Clinical-Fellowship Supervisors				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
39. Product Dispensing	24%	37%	18%	18%	3%	49%	38%	8%	5%	0%	18%	32%	32%	16%	2%
a. Hearing aids	20%	41%	18%	18%	3%	40%	48%	6%	5%	0%	18%	34%	32%	13%	3%
b. Assistive devices	17%	25%	15%	33%	10%	50%	31%	9%	5%	5%	21%	24%	31%	16%	7%
c. Cochlear implant processors	22%	11%	9%	20%	39%	42%	12%	12%	20%	14%	22%	9%	21%	24%	24%
d. Tinnitus maskers	22%	13%	16%	34%	14%	33%	15%	10%	29%	13%	23%	15%	21%	31%	9%
e. Tactile/sensory devices	26%	17%	10%	28%	19%	41%	14%	14%	21%	10%	22%	17%	19%	27%	15%
f. Earmold impressions	15%	63%	9%	11%	2%	32%	62%	4%	3%	0%	11%	56%	24%	7%	2%
40. Product/Repair Modification	7%	30%	22%	34%	8%	10%	47%	10%	23%	9%	4%	25%	31%	29%	12%
41. Hearing Aid Assessment	22%	45%	17%	14%	2%	51%	39%	7%	4%	0%	18%	43%	24%	11%	3%
a. Developmentally appropriate behavioral testin	21%	48%	17%	12%	1%	41%	46%	6%	5%	1%	14%	43%	26%	15%	2%
b. Real-ear measurement	9%	28%	11%	31%	22%	48%	47%	3%	3%	0%	17%	48%	13%	15%	7%
c. Electroacoustic evaluation	21%	53%	7%	12%	6%	50%	49%	1%	0%	0%	21%	50%	14%	10%	6%
d. Determination of earmold characteristics	31%	37%	13%	15%	3%	54%	37%	5%	3%	1%	31%	33%	22%	11%	3%
e. Administration of communication inventories	39%	24%	9%	20%	8%	52%	37%	5%	3%	3%	38%	29%	15%	13%	6%
42. Assistive Listening System/Device Selection	17%	19%	14%	38%	13%	47%	23%	9%	18%	3%	19%	21%	28%	26%	7%
43. Sensory Aids Assessment (e.g., tactile aids)	22%	17%	10%	33%	17%	42%	14%	12%	21%	12%	25%	12%	25%	27%	12%
44. Hearing Aid Fitting/Orientation	17%	49%	18%	15%	1%	45%	52%	1%	1%	0%	14%	49%	24%	12%	1%
a. Behavioral	15%	54%	16%	14%	1%	35%	61%	3%	1%	0%	16%	48%	26%	10%	1%
b. Real-ear measurments	9%	32%	12%	30%	18%	37%	58%	1%	4%	0%	13%	48%	22%	12%	6%
c. Earmold modification	13%	42%	19%	22%	5%	35%	51%	9%	5%	0%	8%	40%	31%	14%	6%
d. Self-assessment inventories	33%	27%	11%	21%	8%	46%	35%	10%	8%	1%	29%	31%	22%	16%	2%
e. Counseling/rehabilitation	16%	45%	20%	17%	2%	33%	49%	8%	10%	0%	16%	38%	28%	16%	3%
45. Sensory Aids Fitting/Orientation	20%	20%	11%	30%	20%	32%	21%	15%	24%	8%	18%	19%	22%	26%	14%
46. Electrical Stimulation for Cochlear Implant	16%	8%	8%	20%	49%	18%	8%	12%	38%	24%	12%	6%	15%	31%	35%
47. Implant Selection and Rehabilitation	17%	5%	8%	20%	49%	27%	11%	11%	30%	21%	12%	3%	16%	35%	34%

Table 13 (Cont'd)

	Practitioners					Educators					Clinical-Fellowship Supervisors				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
TEST ANALYSIS															
48. Statistical Principles.	86%	5%	2%	3%	5%	97%	0%	0%	1%	1%	86%	5%	1%	4%	5%
a. Parametric	85%	4%	2%	4%	5%	97%	0%	0%	1%	1%	85%	5%	1%	4%	5%
b. Non-parametric	85%	4%	2%	4%	5%	94%	0%	0%	3%	4%	85%	5%	1%	4%	5%
c. Clinical decision analysis	79%	7%	4%	6%	5%	90%	4%	1%	3%	3%	76%	10%	4%	3%	8%
KNOWLEDGE FOR RELATED PROFESSIONAL ACTIVITIES															
[Legislative]															
49. legislation/regulation relevant to the profession	30%	3%	11%	41%	15%	63%	1%	10%	19%	6%	31%	2%	20%	40%	6%
50. rights of patient/consumer	33%	10%	18%	32%	7%	66%	8%	9%	15%	3%	34%	7%	26%	29%	4%
51. sales of hearing aids	18%	12%	26%	37%	6%	51%	17%	15%	15%	1%	17%	9%	36%	32%	5%
52. workers' compensation	18%	4%	19%	50%	9%	39%	4%	19%	33%	6%	20%	1%	21%	52%	6%
53. noise exposure and hearing conservation	51%	12%	13%	20%	4%	75%	5%	8%	11%	1%	46%	9%	17%	24%	3%
54. public laws related to clinical practice	35%	4%	16%	35%	9%	69%	1%	10%	19%	1%	35%	5%	18%	35%	7%
55. state-licensure/regulation	28%	5%	28%	32%	7%	70%	3%	13%	14%	1%	36%	5%	31%	24%	3%
[Administrative]															
56. third-party reimbursement	6%	1%	19%	65%	9%	26%	6%	25%	36%	6%	7%	2%	28%	60%	4%
57. quality improvement techniques	7%	3%	17%	58%	15%	24%	5%	14%	46%	10%	8%	7%	21%	55%	10%
58. safety and health/universal precautions	14%	11%	15%	48%	12%	55%	17%	8%	15%	5%	18%	12%	30%	33%	7%
59. calibration standards, documentation, procedures	48%	20%	12%	17%	3%	63%	18%	8%	9%	3%	44%	19%	19%	17%	2%
60. professional standards/accreditation	50%	9%	19%	18%	4%	79%	3%	3%	13%	4%	43%	11%	20%	24%	2%
61. human resources management	13%	3%	11%	62%	12%	21%	1%	14%	51%	11%	9%	5%	19%	51%	16%

49

48

The Redesign of Curriculum

Job analysis also provides a sound basis for curriculum develop or redesign. All clinical activities that are performed and the knowledge required for competent performance of those activities should be part of the preparation for professional practice. Educators and other practicing professionals should participate in deciding where the relevant knowledge required for professional practice should be learned. This study has provided some interesting findings that are important to consider when revising the curriculum. These are discussed below.

1. While there is good agreement among practitioners, clinical-fellowship supervisors, and educators concerning the clinical activities and knowledge areas judged important for the competent practice of a newly certified audiologist, there was much less agreement between educators and practitioners and educators and clinical-fellowship supervisors regarding where these clinical activities and knowledge areas should be learned. Educators appear to be very comfortable with where things are learned. They perceived that 91% of the clinical activities and 96% of the knowledge areas were being learned in the appropriate place. This should not seem surprising. After all, they played the primary role in deciding where the clinical activities and knowledge areas would be learned and seem to think that only minor "tweaking" is necessary to improve it. Clinical-fellowship supervisors and practitioners, however, flagged the majority of clinical activities and knowledge areas, indicating they believed they were not being learned in the appropriate place. There was a consistent pattern on the part of both practitioners and clinical-fellowship supervisors that more of the clinical activities and knowledge areas should be learned in school.

2. There was a high level of agreement between practitioners who had been certified for five years or less, and those who have been certified for more than five years regarding whether or not the clinical activities (86%) and knowledge areas (89%) were being learned in the appropriate place. Both subgroups believed more learning should take place in school. Although there was good agreement, practitioners certified for more than five years tended to flag more clinical activities and knowledge areas than did practitioners certified for five years or less. Given the effects of memory and the likelihood that the curriculum has changed over the years, it is recommended that, for practitioners, most attention be paid to the where-learned ratings provided by those certified for five years or less.

3. It is important to remember that this report describes the perceptions of various groups of respondents. If perceptions differ, it does not necessarily mean that one is correct and the others are incorrect. If one were to consider the professional education and training of audiologists in the context of a customer service model, we would see the providers of service (educators) satisfied with their product. However, the consumers of that product (clinical-fellowship supervisors and practitioners) appear to be having some difficulties with it. It would seem that the results of this study would best serve the profession of audiology if they are used to start a dialogue among the various constituencies within the profession concerning the changes that are desired in professional education and training.

4. Keep in mind while reviewing the results of the where-learned analyses that the cut-point was set at 26% for each of the three respondent groups and the two subgroups of practitioners. This means that a clinical activity or knowledge statement could be flagged with 74% of the respondents in that group or subgroup indicating that the clinical activity or knowledge area was being learned in the appropriate place. The cut-point of 26% is clearly an arbitrary one. It could have been set higher. The researchers decided to set it at 26% because we believed that represented a meaningful proportion of respondents and that their perceptions should be noted when consideration is given to modifying or revising the curriculum.

5. The use of these results requires the application of sound professional judgment. For example, practitioners indicated they wanted to learn to perform more supervisory and administrative activities in

school. That may not be appropriate or feasible. It might be more reasonable to have specific issues related to supervisory and administrative activities left to the individual employer. However, there may be some general areas of supervisory knowledge that could be learned in school that would facilitate learning on the job.

6. The job analysis procedures used in this study were sensitive enough to identify differences of opinion on the part of educators and the other two respondent groups concerning where clinical activities and knowledge areas should be learned. This input should be useful to educators and other decision-makers in redesigning or modifying curricula required for competent professional practice. More job-based communication between relevant stakeholders should help to improve the preparation and competence of newly certified audiologists.

   We believe that these discussions should encompass the entire educational process. This could include what is taught at the bachelor's level and well as the curriculum in graduate professional education. We believe, in particular, that there needs to be clear understanding and communication between educators and clinical-fellowship supervisors concerning the aspects of professional education and training that are to be provided by each group. The results obtained in this study indicate that clinical-fellowship supervisors expect graduates of professional schools to be able to perform more clinical activities and to know more content areas, before the start of the clinical fellowship. Recently certified audiologists also indicated that they believed many of the things they learned during their clinical fellowship should have been learned in school. To the extent possible, there should be a well-articulated transition from one stage of education and training to the next. It seems reasonable to expect that a newly certified audiologist be competent to engage in independent practice. After that, it would appear that professional mechanisms should be put in place to provide opportunities for audiologists to maintain their competence and update their knowledge through programs of continuing education.

7. We recommend that a study of curricula be performed if judged to be appropriate and/or feasible. Furthermore, programs may demonstrate where clinical activities and knowledge areas identified as reflecting the core of the profession by the Standards Council are taught. If these items are not taught or included in the curriculum, then educators may be asked to consider revising their curriculum to include this additional content.

The Design of Certification Examinations

The Standards for Educational and Psychological Testing (American Psychological Association et al., 1985) emphasizes the importance of job analysis as a basis for demonstrating the validity of a licensure or certification examination. Job analysis results can also be used to provide a rationale for explaining to others why certain content was included in a certification examination and in documenting why that content is job-related. Using the results of this study we can demonstrate the following:

1. The domain of clinical activity statements and knowledge areas was developed by subject-matter experts from a variety of practice settings. The experts had representation by race/ethnicity, gender, and geographic region. The domain they developed was placed in a job analysis survey with appropriate rating scales and administered to approximately 3,600 practicing audiologists across the country. More than 1,300 audiologists responded. Analyses indicated that 57 of the 58 clinical activity statements were judged to be part of the job of a newly certified audiologist and that all 118 knowledge statements were needed for competent performance. Data were presented indicating that practitioners, clinical-fellowship supervisors, and educators all believed that the content included in the inventory had more than adequately covered the domain of clinical activities and knowledge areas that a newly certified audiologist was expected to be able to perform and know. The most important clinical activity statements and knowledge areas were identified and there was strong agreement among practitioners, clinical-fellowship supervisors, and educators on these clinical activities and knowledge areas. In

addition, analysis of the responses from relevant subgroups of practitioners were also conducted. A subset of clinical activity statements (69%) and knowledge areas (68%) were judged to be important by each of the three respondent groups and all relevant subgroups of practitioners. These clinical activity statements and knowledge areas provide a sound basis for use in setting test specifications.

2. Because certification examinations cannot measure everything, the pool of important clinical activity statements and knowledge areas -- those passing the 3.50 cut-point -- should be considered as the primary pool from which test specifications are built. Building test specifications requires the exercise of sound professional judgment. If test development committees composed of practicing audiologists decide that several of the clinical activity statements and knowledge areas that were not universally endorsed as being important must be included in the test specifications, then a compelling, written justification must be provided. Otherwise, the results of the job analysis study provide a sound defensible rationale for building test specifications.

3. Test questions and formats need to be developed to measure each part of the test specifications. Questions written to those specifications need to be linked back to the specifications by the question writer as well as by an independent group of practitioners. Linkages from test questions to test specifications, and from test specifications to the job analysis, provide a strong network for use in documenting the validity of certification examinations.

REFERENCES

American Educational Research Association, American Psychological Association, & National Council on Measurement in Education (1985). Standards for educational and psychological testing. Washington, DC: American Psychological Association.

Arvey, R. D., & Faley, R. H. (1988). Fairness in selecting employees. Reading, MA: Addison-Wesley.

Gael, S. (1983). Job analysis: A guide to assessing work activities. San Francisco: Jossey-Bass.

Kuehn, P. A., Stallings, W. M., & Holland, C. L. (1990). Court-defined job analysis requirements for validation of teacher certification tests. Educational Measurement: Issues and Practice, 9, 21-24.

Mehrens, W. A. (1987). Validity issues in teacher licensure tests. Journal of Personnel Evaluation in Education, 1, 195-229.

Reynolds, A., & Rosenfeld, M. (1992). Inventory of knowledge of general subjects: A transportability study (RR-92-61). Princeton, NJ: Educational Testing Service.

Rosenfeld, M., Freeberg, N., & Bukatko, P. (1992). The professional functions of secondary school teachers (RR-92-47). Princeton, NJ: Educational Testing Service.

Rosenfeld, M., & Tannenbaum, R. J. (1991). Identification of a core of important enabling skills for the NTE Successor Stage I examination (RR-91-37). Princeton, NJ: Educational Testing Service.

Tannenbaum, R. J. (1994). Defining the content domain for the Praxis II subject assessment in Earth and space science: Knowledge important for beginning teachers (RR-94-55). Princeton, NJ: Educational Testing Service.

Tannenbaum, R. J., & Rosenfeld, M. (1994). Job analysis for teacher competency testing: Identification of basic skills important for all entry-level teachers. Educational and Psychological Measurement, 54, 199-211.

Appendix A

Subject-Matter Experts

Subject Matter Expert Panel

Martin Robinette
Mayo Clinic L-5
Audiology Section
200 First St. SW
Rochester, MN 55905

Dr. Allan O. Diefendorf
12222 Castle Court
Carmel, IN 46033

Ronald Jones
52 W. 78th Place
Chicago, IL 60620

Patricia McCarthy
Dept. Of Comm. Disorders
& Sciences
Rush Presbyterian-St. Luke's
Medical Center
1653 W. Congress Parkway
Chicago, IL 60612

Angela Loavenbruck
500 New Hempstead Rd.
New City, NY 10956

Paul Kileny
2344 Dundee
Ann Arbor, MI 48103

Craig Newman
The Cleveland Clinic
Otolaryngology & Comm.
Disorders/A-71
9500 Euclid Ave.
Cleveland, OH 44195

Janice Ray Trent
Dept. Of Speech-Lang.-Hearing
Temple University
Philadephia, PA 19122

Alison May Grimes
Poudre Valley Hearing Ctr. Inc.
1247 Riverside Ave., Suite 3
Ft. Collins, CO 80524

David Alan Fabry
Mayo Clinic
200 First Street SW
Rochester, MN 55905

Michael Gorga
Boystown Nat. Research Hosp.
555 N. 30th Street
Omaha, NE 68131

Anita Pikus
10324 Thornbush Lane
Bethesda, MD 20814

Rena H. Glaser
3M Center
Bldg. 220-3W-05
St. Paul, MN 55144-1000

Lida G. Wall
Div. Of Spch. & Hearing Sciences
The Ohio State University
110 Pressey Hall
1070 Carmack Road
Columbus, OH 43210

Appendix B

Pilot Test Participants

Pilot Test Participants

Eighteen job experts were selected at random to participate in the pilot survey. In addition, members of the following Allied and Related Professional Organizations (ARPOs) and Special Interest Divisions (SIDs) were invited to participate:

Allied and Related Professional Organizations

Academy of Dispensing Audiologists
Academy of Rehabilitative Audiology
Air Force Audiology Association
American Academy of Audiology
American Auditory Society
Educational Audiology Association
Military Audiology Association
National Hearing Conservation Association
Navy Audiology Society

Special Interest Divisions

Hearing and Hearing Disorders - Physiology & Psychoacoustics
Aural Rehabilitation & Its Instrumentation
Hearing Conservation & Occupational Audiology
Hearing and Hearing Disorders in Childhood

Appendix C

Pilot Test Questionnaire

PILOT TEST QUESTIONNAIRE

Name (please print) _____

Purpose: The purpose of the "pilot test questionnaire" is to obtain your feedback concerning the quality of the job analysis survey. We want to make certain that the survey is well designed and relatively easy to complete before we mail it to large numbers of practicing professionals similar to yourself.

Instructions: After you have completed the job analysis survey, please answer the following questions. Return the job analysis survey and this "pilot test questionnaire" using the enclosed postage-paid envelope. Thank you, in advance, for your cooperation. We may be contacting you by telephone to follow-up on some of your responses.

A. **Cover Letter**

1. Is the letter clearly written? ___ YES ___ NO

2. If you received this letter in the mail, would you be motivated to complete the job analysis survey? ___ YES ___ NO

3. How would you change the cover letter? (Feel free to make your comments below or directly on the cover letter)

_____

_____

_____

_____

_____

B. **Job Analysis Survey**

1. How long did it take you to complete the survey? ___ (minutes)

2. Are the introduction and directions clear? ___ YES ___ NO
   If not, how would you change them? (Feel free to make your comments below or directly on the survey.)

_____

_____

_____

_____

_____

3. Which task statements and/or knowledge areas, if any, are not clear or understandable? (Feel free to make your comments below or directly on the survey.)

_____

_____

_____

_____

_____

4. Are the rating scales understandable? ___ YES ___ NO
If not, how would you change them? (Feel free to make your comments below or directly on the survey.)

_____

_____

_____

_____

_____

5. Are the background information questions clear and appropriate?
If not, how would you change them? (Feel free to make your comments below or directly on the survey.)

_____

_____

_____

_____

_____

Appendix D

Job Analysis Survey [Practitioners]

A National Study of the Practice of Audiology
[Practitioners]

An Inventory
of
Clinical Activities and Knowledge Areas
for the
Certified Audiologist

A job analysis conducted on behalf of the
American Speech-Language-Hearing Association (ASHA)

Educational Testing Service
April 1995

INTRODUCTION

The clinical activity statements, knowledge areas, and rating scales that form this job analysis survey were developed by a committee of 14 audiologists representing a range of practice settings. The survey was then pilot tested on an additional 37 professionals in the field of audiology.

This job analysis survey has been mailed to more than 4,000 professionals, like yourself, in the field of audiology. Because the information from this job analysis survey will inform so many important decisions, it is critical that all those who receive a survey complete it. The quality of the information from this survey is directly related to the number of persons who complete and return their surveys. The survey should take no longer than 45 minutes to complete.

The job analysis survey consists of three parts:

PART I: **Clinical Activities** - The purpose of Part I is to determine what clinical activities newly certified audiologists should be able to do. In this section you will find activity statements that reflect the major job responsibilities of Evaluation, Treatment, and Related Professional Activities.

PART II: **Knowledge Areas** - The purpose of Part II is to determine the knowledge areas believed necessary in order to perform the clinical activities listed in Part I.

PART III: **Background Information** - Demographic information needed to describe the characteristics of those returning completed surveys and for analysis of survey responses.

For parts I and II (Clinical Activities and Knowledge Areas) you will be asked to respond to each statement or area on three rating scales: (1) **Importance**, (2) **Where Learned or Acquired**, and (3) **Where Should Be Learned or Acquired**. Each rating scale is fully explained in the appropriate part of the survey; for each scale you will be asked to circle the one scale point that best represents your judgment.

To familiarize yourself with the areas and statements, you may wish to scan Part I and Part II before making your rating judgements.

Please return the completed survey in the enclosed envelope no later than May 15, 1995.

Thank you, in advance, for taking the time to complete and return this critical job analysis survey.
Highlights of the survey will be published in Asha magazine.

PART I: CLINICAL ACTIVITIES
[Practitioners]

Listed below are the scales we would like you to use to rate the clinical activities that newly certified audiologists might perform. If you believe a particular activity is not performed, circle "0" on the importance scale, and then move on to the next activity statement. If you believe an activity is performed, complete all three rating scales before moving on to the next activity statement.

RATING SCALES

IMPORTANCE: How important is the correct performance of this clinical activity for a newly certified audiologist to be considered competent for independent practice? (Circle one number.)

(0) THIS ACTIVITY IS NOT PERFORMED; SKIP TO NEXT ACTIVITY STATEMENT

(1) NOT IMPORTANT (This activity may need to be performed, but it is not related to the competent performance of a newly certified audiologist.)

(2) MARGINALLY IMPORTANT (This activity needs to be performed, but it is only marginally related to the competent performance of a newly certified audiologist.)

(3) MODERATELY IMPORTANT (This activity is related to competent performance, but it is not one of the more important activities that needs to be performed by a newly certified audiologist.)

(4) IMPORTANT (This activity is related to competent performance, and is among the more important activities that needs to be performed by a newly certified audiologist.)

(5) VERY IMPORTANT (This activity is highly related to competent performance, and is one of the critical activities that needs to be performed by a newly certified audiologist.)

WHERE LEARNED: Where did you, as a newly certified audiologist, learn to perform this activity?(Circle one number.)

(1) SCHOOL -- CLASSROOM
(2) SCHOOL -- PRACTICUM
(3) CLINICAL FELLOWSHIP
(4) ON THE JOB, AFTER CERTIFICATION
(5) CONTINUING EDUCATION, AFTER CERTIFICATION

WHERE SHOULD BE LEARNED: Where would you, as a newly certified audiologist, have preferred to have learned to perform this activity? (Circle one number.)

(1) SCHOOL -- CLASSROOM
(2) SCHOOL -- PRACTICUM
(3) CLINICAL FELLOWSHIP
(4) ON THE JOB, AFTER CERTIFICATION
(5) CONTINUING EDUCATION, AFTER CERTIFICATION

CLINICAL ACTIVITIES

IMPORTANCE: How important is the correct performance of this clinical activity for a newly certified audiologist to be considered competent for independent practice? (Circle one number)

WHERE LEARNED: Where did you, as a newly certified audiologist, learn to perform this activity? (Circle one number)

WHERE SHOULD BE LEARNED: Where would you, as a newly certified audiologist, have preferred to have learned to perform this activity? (Circle one number)

* NOTE: If "0" is circled (an activity is not performed), skip to next activity statement

	Importance						Where Learned					Where Should be Learned				
	*This activity is not performed	Not Important	Marginally Important	Moderately Important	Important	Very Important	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing Education, after certificaton	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing education, after certification
	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
EVALUATION																
1. Identify individuals at risk for hearing deficits to facilitate referrals.	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2. Screen individuals for hearing deficits to facilitate referrals	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3. Screen speech-language and other factors affecting communication function to facilitate referrals	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
4. Gather, review, and evaluate information from referral sources, educational, social, psychological, and/or medical records, and prior testing results, to facilitate assessment planning, to establish the patient's/consumer's past and present status, and to identify potential etiologic factors	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
5. Obtain an in-depth individual and family-relevant case history to facilitate assessment and treatment planning	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
6. Perform otoscopic examination of the external auditory canal and tympanic membrane	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
7. Remove cerumen by a variety of techniques and equipment	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
8. Maintain equipment according to manufacturer's specifications and recommendations	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
9. Calibrate equipment to accepted standards	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
10. Administer standardized and/or nonstandardized clinically appropriate and culturally sensitive screening and assessment measures, to collect reliable and valid data on the patient's/consumer's auditory, vestibular, communicative and related functions	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

CLINICAL ACTIVITIES

IMPORTANCE: How important is the correct performance of this clinical activity for a newly certified audiologist to be considered competent for independent practice? (Circle one number)

WHERE LEARNED: Where did you, as a newly certified audiologist, learn to perform this activity? (Circle one number)

WHERE SHOULD BE LEARNED: Where would you, as a newly certified audiologist, have preferred to have learned to perform this activity? (Circle one number)

* NOTE: If "0" is circled (an activity is not performed), skip to next activity statement

	Importance						Where Learned					Where Should be Learned				
	*This activity is not performed	Not Important	Marginally Important	Moderately Important	Important	Very Important	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing Education, after certificaton	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing education, after certification
	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
11. Evaluate and document changes in the functional status of neural tissue or structures during operative procedures	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
12. Document the procedures and results of the evaluation process	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
13. Interpret results of the evaluation to establish type and severity of disorder	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
14. Generate recommendations resulting from the evaluation process	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
15. Communicate results and recommendations to patient/consumer, other relevant individuals, and agencies to coordinate a plan of action	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
16. Write formal reports describing results and recommendations in language appropriate for the recipient	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
17. Monitor patient/consumer status, as indicated, to determine future needs	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
18. Maintain patient/consumer records in a manner consistent with legal and professional standards.	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
TREATMENT																
19. Review evaluation data to develop treatment plan	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
20. Develop rapport with patient/consumer, other relevant individuals, and other service providers in patient management and treatment	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

CLINICAL ACTIVITIES

IMPORTANCE: How important is the correct performance of this clinical activity for a newly certified audiologist to be considered competent for independent practice? (Circle one number)

WHERE LEARNED: Where did you, as a newly certified audiologist, learn to perform this activity? (Circle one number)

WHERE SHOULD BE LEARNED: Where would you, as a newly certified audiologist, have preferred to have learned to perform this activity? (Circle one number)

* NOTE: If "0" is circled (an activity is not performed), skip to next activity statement

	Importance						Where Learned					Where Should be Learned				
	*This activity is not performed	Not Important	Marginally Important	Moderately Important	Important	Very Important	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing Education, after certificaton	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing education, after certification
	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
21. Communicate results and discuss prognosis and options with patient/consumer, other relevant individuals, and agencies to develop and coordinate a plan of action	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
22. Provide ongoing counseling to patient/consumer, other relevant individuals, and other service providers in patient management and treatment	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
23. Develop management strategies incorporating the patient's needs, desires and cultural background	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
24. Participate collaboratively in case coordination to determine preferred treatment schedules, settings, and service providers	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
25. Communicate treatment plans for approval by funding agencies when specified by state and federal laws and regulations	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
26. Maintain equipment according to manufacturer's specifications and recommendations	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
27. Calibrate equipment to accepted standards	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
28. Select and utilize treatment methods, instrumentation, and materials	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
29. Recommend or dispense prosthetic or assistive devices	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
30. Establish methods for monitoring and summarizing treatment progress	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
31. Monitor and summarize treatment outcomes at appropriate intervals and modify treatment as indicated	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

CLINICAL ACTIVITIES

IMPORTANCE: How important is the correct performance of this clinical activity for a newly certified audiologist to be considered competent for independent practice? (Circle one number)

WHERE LEARNED: Where did you, as a newly certified audiologist, learn to perform this activity? (Circle one number)

WHERE SHOULD BE LEARNED: Where would you, as a newly certified audiologist, have preferred to have learned to perform this activity? (Circle one number)

* NOTE: If "0" is circled (an activity is not performed), skip to next activity statement

	Importance						Where Learned					Where Should be Learned				
	*This activity is not performed	Not Important	Marginally Important	Moderately Important	Important	Very Important	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing Education, after certificaton	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing education, after certification
	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
32. Provide information about treatment outcomes to appropriate individuals and agencies	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
33. Establish treatment discharge criteria based on the patient's/consumer's prognosis, progress, and preference	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
34. Advocate for and make referrals for additional evaluative and treatment services based on results of ongoing monitoring	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
35. Follow-up on referrals and recommendations made on the basis of treatment monitoring	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
36. Document the procedures and results of the treatment process	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
37. Maintain patient/consumer records in a manner consistent with legal and professional standards.	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
RELATED PROFESSIONAL ACTIVITIES																
[Supervisory]																
38. Establish supervisory procedures that ensure quality patient/consumer care in evaluation and treatment.	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
39. Deliver direct patient care to serve as model to supervisee	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
40. Provide supervisees (Clinical Fellows, employees, supportive personnel) with appropriate practical experiences to develop professional expertise	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
41. Provide supervisees with appropriate feedback regarding goals and performance	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

CLINICAL ACTIVITIES

IMPORTANCE: How important is the correct performance of this clinical activity for a newly certified audiologist to be considered competent for independent practice? (Circle one number)

WHERE LEARNED: Where did you, as a newly certified audiologist, learn to perform this activity? (Circle one number)

WHERE SHOULD BE LEARNED: Where would you, as a newly certified audiologist, have preferred to have learned to perform this activity? (Circle one number)

* NOTE: If "0" is circled (an activity is not performed), skip to next activity statement

	Importance						Where Learned					Where Should be Learned				
	*This activity is not performed	Not Important	Marginally Important	Moderately Important	Important	Very Important	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing Education, after certificaton	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing education, after certification
	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
42. Provide instruction in ethical, legal, and regulatory aspects of the profession	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
43. Provide instruction in report writing and patient record keeping	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
[Legislative]																
44. Follow laws, regulations, and their respective mandates to provide appropriate services	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
45. Promote legislation and regulations that will ensure an acceptable quality and availability of services while monitoring and opposing legislation harmful to the communicatively handicapped	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
46. Promote legislation beneficial to the profession	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
[Administrative]																
47. Advocate for direct third-party payment to credentialed audiologists	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
48. Identify unmet programmatic needs, create new programs, or develop links with existing programs	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
49. Plan and implement in-service and public information programs for allied professionals, family, and other interested individuals concerning the prevention, identification, evaluation, and treatment of communicative disorders	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
50. Seek current information regarding the procurement of private, governmental, and third-party financial support	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

CLINICAL ACTIVITIES

IMPORTANCE: How important is the correct performance of this clinical activity for a newly certified audiologist to be considered competent for independent practice? (Circle one number)

WHERE LEARNED: Where did you, as a newly certified audiologist, learn to perform this activity? (Circle one number)

WHERE SHOULD BE LEARNED: Where would you, as a newly certified audiologist, have preferred to have learned to perform this activity? (Circle one number)

* NOTE: If "0" is circled (an activity is not performed), skip to next activity statement

	Importance						Where Learned					Where Should be Learned				
	*This activity is not performed	Not Important	Marginally Important	Moderately Important	Important	Very Important	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing Education, after certificaton	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing education, after certification
	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
51. Oversee those activities necessary for the efficient administration of the program (e.g., materials acquisition, budgeting, recruitment, and retention)	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
52. Maintain and document compliance with calibration standards	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
53. Introduce and implement new procedures with necessary techniques and technologies	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
54. Promote cultural diversity in recruitment and retention of staff	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
55. Identify multi-cultural and underserved populations and promote access to care	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
56. Develop programs for conservation of hearing and for prevention of hearing impairment/deafness, including identification of genetic, prenatal, perinatal, and postnatal factors, and all exogenous (e.g., noise) factors resulting in preventable hearing loss.	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
OTHER PROFESSIONAL ACTIVITIES																
57. Conduct and/or participate in research	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
58. Update clinical and professional knowledge and skills	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

PART II: KNOWLEDGE
[Practitioners]

Listed below are the scales we would like you to use to rate the knowledge areas that may be important to newly certified audiologists. If you believe a particular knowledge area is not important, circle "0" on the importance scale, and then move on to the next knowledge area statement. If you believe a knowledge area is important, complete all three rating scales before moving on to the next knowledge area statement.

RATING SCALES

IMPORTANCE: How important is this knowledge area for a newly certified audiologist to be considered competent for independent practice? (Circle one number.)

(0) THIS KNOWLEDGE AREA IS NOT NEEDED; SKIP TO NEXT KNOWLEDGE AREA

(1) NOT IMPORTANT (This knowledge area may be needed, but it is not related to the competent performance of a newly certified audiologist.)

(2) MARGINALLY IMPORTANT (This knowledge area is needed, but it is only marginally related to the competent performance of a newly certified audiologist.)

(3) MODERATELY IMPORTANT (This knowledge area is related to the competent performance of a newly certified audiologist, but it is not one of the more important knowledge areas.)

(4) IMPORTANT (This knowledge area is related to the competent performance of a newly certified audiologist, and is among the more important knowledge areas.)

(5) VERY IMPORTANT (This knowledge area is highly related to the competent performance of a newly certified audiologist, and is one of the critical knowledge areas.)

WHERE LEARNED: Where did you, as a newly certified audiologist, acquire this knowledge area? (Circle one number.)

(1) SCHOOL -- CLASSROOM
(2) SCHOOL -- PRACTICUM
(3) CLINICAL FELLOWSHIP
(4) ON THE JOB, AFTER CERTIFICATION
(5) CONTINUING EDUCATION, AFTER CERTIFICATION

WHERE SHOULD BE LEARNED: Where would you, as a newly certified audiologist, have preferred to have acquired this knowledge area? (Circle one number.)

(1) SCHOOL -- CLASSROOM
(2) SCHOOL -- PRACTICUM
(3) CLINICAL FELLOWSHIP
(4) ON THE JOB, AFTER CERTIFICATION
(5) CONTINUING EDUCATION, AFTER CERTIFICATION

KNOWLEDGE AREAS

IMPORTANCE: How important is this knowledge area for a newly certified audiologist to be considered competent for independent practice? (Circle one number)

WHERE LEARNED: Where did you, as a newly certified audiologist, acquire this knowledge area? (Circle one number)

WHERE SHOULD BE LEARNED: Where would you, as a newly certified audiologist, have preferred to have acquired this knowledge area? (Circle one number)

* NOTE: If "0" is circled (knowledge area is not needed), skip to next knowledge area

		Importance						Where Learned					Where Should be Learned				
		*This knowledge area is not needed	Not Important	Marginally Important	Moderately Important	Important	Very Important	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing Education, after certificaton	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing education, after certification
		0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Basic Knowledge for Evaluation and Treatment																	
KNOWLEDGE OF...																	
1.	professional codes of ethics (ASHA, AAA, licensing boards, etc)	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2.	patient characteristics (e.g., demographics, medical history and status, cognitive status, physical and sensory abilities) and how they relate to clinical services	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3.	phonologic, morphologic, syntactic, and pragmatic aspects of human communication in normal and disordered systems	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
4.	educational, vocational, social, and psychological effects of hearing impairment and their impact on the development of a treatment program	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
5.	anatomy and physiology of the auditory/vestibular, central nervous, and related systems	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
6.	pathophysiology of the auditory/vestibular, central nervous, and related systems	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
7.	embryology and development of the auditory/vestibular, central nervous, and related systems	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
8.	etiologic factors affecting the function of the auditory/vestibular and related systems	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
9.	normal development of speech and language	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
10.	normal development of auditory behavior/function	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
11.	normal processes of speech and language over the life span	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
12.	normal processes of auditory behavior over the life span	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

KNOWLEDGE AREAS

IMPORTANCE: How important is this knowledge area for a newly certified audiologist to be considered competent for independent practice? (Circle one number)

WHERE LEARNED: Where did you, as a newly certified audiologist, acquire this knowledge area? (Circle one number)

WHERE SHOULD BE LEARNED: Where would you, as a newly certified audiologist, have preferred to have acquired this knowledge area? (Circle one number)

* NOTE: If "0" is circled (knowledge area is not needed), skip to next knowledge area

		Importance						Where Learned					Where Should be Learned				
		*This knowledge area is not needed	Not Important	Marginally Important	Moderately Important	Important	Very Important	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing Education, after certificaton	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing education, after certification
		0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
13.	basic and applied neuroanatomy and neurophysiology	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
14.	principles, methods, and applications of psychoacoustics.	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
15.	cerumen management	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
16.	pharmacology	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
17.	basic electronics	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
STIMULUS FACTORS																	
[Acoustic]																	
18.	temporal, spectral, and amplitude characteristics of sounds used to elicit auditory responses (e.g., pure tones speech, transients, tone bursts, noise and complex stimuli)	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
19.	how these characteristics are affected by propagation and transmission (e.g., reverberation, sound field, cavity size, transducer and coupler effects)	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
20.	sound analysis and quantification, including calibration, decibel scaling, measurement of stimuli, and safe limits of stimulation	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
[Non-Acoustic]																	
21.	physical characteristics of non-acoustic stimuli (e.g., electrical, thermal, and mechanical) used to elicit non-auditory responses (e.g., motor-facial muscle and vestibular). Included among these are: amplitude and temporal characteristics (rate, duration), temperature, and angular and linear acceleration	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

KNOWLEDGE AREAS

IMPORTANCE: How important is this knowledge area for a newly certified audiologist to be considered competent for independent practice? (Circle one number)

WHERE LEARNED: Where did you, as a newly certified audiologist, acquire this knowledge area? (Circle one number)

WHERE SHOULD BE LEARNED: Where would you, as a newly certified audiologist, have preferred to have acquired this knowledge area? (Circle one number)

* NOTE: If "0" is circled (knowledge area is not needed), skip to next knowledge area

		Importance						Where Learned					Where Should be Learned				
		*This knowledge area is not needed	Not Important	Marginally Important	Moderately Important	Important	Very Important	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing Education, after certificaton	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing education, after certification
		0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
22.	how these characteristics are affected by properties of the delivery medium or system (e.g., stimulus, electrode impedance)	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
23.	non-auditory stimulus analysis, including calibration of safe limits of stimulation	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
METHODS																	
24.	Hearing Screening -- A pass-fail procedure to identify individuals who require further audiologic assessment	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	a. behavioral (VRA, etc)	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	b. objective (ABR, OAE, OAES, etc)	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	c. written (high risk register, etc)	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
25.	Speech-Language Screening -- A pass-fail procedure to identify individuals who require further speech-language (articulation, voice, resonance, fluency), and/or orofacial myofunctional assessment	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	a. formal	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	b. informal	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
26.	Consultation --Procedures to provide professional expertise that may include conferring with other professionals during case staffing and team conferences or in individual communication; providing information to business and industry and public and private agencies; and engaging in program development and evaluation or supervision activities, or providing expert testimony	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
27.	Prevention --Procedures to avoid or minimize the onset and development of hearing and/or communication disorders.	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

KNOWLEDGE AREAS

IMPORTANCE: How important is this knowledge area for a newly certified audiologist to be considered competent for independent practice? (Circle one number)

WHERE LEARNED: Where did you, as a newly certified audiologist, acquire this knowledge area? (Circle one number)

WHERE SHOULD BE LEARNED: Where would you, as a newly certified audiologist, have preferred to have acquired this knowledge area? (Circle one number)

* NOTE: If "0" is circled (knowledge area is not needed), skip to next knowledge area

		Importance						Where Learned					Where Should be Learned				
		*This knowledge area is not needed	Not Important	Marginally Important	Moderately Important	Important	Very Important	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing Education, after certificaton	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing education, after certification
		0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
28.	Counseling --Procedures to facilitate the patient's/consumer's recovery from or adjustment to a communication disorder. Specific purposes of counseling may be to provide patients/consumers and their families with information and support, make appropriate referrals to other professionals, and help patients/consumers to develop problem-solving strategies to enhance the (re)habilitation process	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	a. informational	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	b. affective	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
29.	Basic Audiologic Assessment --Procedures to assess and monitor the status of the peripheral auditory system, which comprises the outer, middle, and inner ear	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	a. behavioral (pure tone, speech, etc)	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	b. objective (immittance, etc)	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	c. self-assessment inventories	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
30.	Pediatric Audiologic Assessment --Procedures to determine the status of the auditory system in individuals whose developmental levels preclude use of conventional assessment	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	a. behavioral (developmentally appropriate procedures)	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	b. objective (immitance, OAES, etc)	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
31.	Comprehensive Audiologic Assessment --Procedures to assess the status of the peripheral auditory system, the auditory nerve, and the central auditory nervous system or to establish the site of the auditory disorder	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	a. sensory vs. neural	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

KNOWLEDGE AREAS

IMPORTANCE: How important is this knowledge area for a newly certified audiologist to be considered competent for independent practice? (Circle one number)

WHERE LEARNED: Where did you, as a newly certified audiologist, acquire this knowledge area? (Circle one number)

WHERE SHOULD BE LEARNED: Where would you, as a newly certified audiologist, have preferred to have acquired this knowledge area? (Circle one number)

* NOTE: If "0" is circled (knowledge area is not needed), skip to next knowledge area

		Importance						Where Learned					Where Should be Learned				
		*This knowledge area is not needed	Not Important	Marginally Important	Moderately Important	Important	Very Important	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing Education, after certificaton	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing education, after certification
		0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	b. central auditory nervous system disorders	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	c. pseudohypacusis	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	d. tinnitus	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
32.	Electrodiagnostic Test Procedures (non-auditory) --Procedures to assess the functional status of the central or peripheral nervous and associated sensory systems using electrophysiologic testing methods	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
33.	Auditory Evoked Potential Assessment --Procedures to assess auditory function using electrophysiologic testing methods	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	a. Ecoch G	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	b. ABR	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	c. middle	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	d. late	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	e. event-related (P300) or auditory-cognitive potential (P300)	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
34.	Neurophysiologic Intraoperative Monitoring --Procedures to evaluate and document changes in the functional status of neural tissue or structures during operative procedures that carry risk for neurologic compromise to the central or peripheral nervous system	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	a. auditory	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	b. non-auditory	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	c. effects of anesthesia and pharmacological agents on electrophysiologic events	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

KNOWLEDGE AREAS

IMPORTANCE: How important is this knowledge area for a newly certified audiologist to be considered competent for independent practice? (Circle one number)

WHERE LEARNED: Where did you, as a newly certified audiologist, acquire this knowledge area? (Circle one number)

WHERE SHOULD BE LEARNED: Where would you, as a newly certified audiologist, have preferred to have acquired this knowledge area? (Circle one number)

* NOTE: If "0" is circled (knowledge area is not needed), skip to next knowledge area

		Importance						Where Learned					Where Should be Learned				
		*This knowledge area is not needed	Not Important	Marginally Important	Moderately Important	Important	Very Important	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing Education, after certificaton	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing education, after certification
		0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
35.	Balance System Assessment --Procedures to assess and monitor the status of the peripheral or central vestibular system and the sensory or motor component of balance	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	a. ENG	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	b. rotational-chair	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	c. posturography	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
36.	Hearing Conservation --Programs to reduce effects of noise exposure and other agents destructive to the hearing mechanism	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	a. occupational	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	b. non-occupational	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	c. ototoxic agents	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
37.	Audiological Rehabilitation Assessment --Procedures to assess the impact of hearing loss on communication	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	a. pediatric	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	b. adult	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	c. geriatric	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
38.	Audiological Rehabilitation --Consists of treatment that focuses on comprehension and production of language in oral, signed, or written modalities; speech and voice production; auditory training; speechreading; multimodal (e.g., auditory and visual, visual and tactile) training communication strategies; education; and counseling	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	a. pediatric	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

KNOWLEDGE AREAS

IMPORTANCE: How important is this knowledge area for a newly certified audiologist to be considered competent for independent practice? (Circle one number)

WHERE LEARNED: Where did you, as a newly certified audiologist, acquire this knowledge area? (Circle one number)

WHERE SHOULD BE LEARNED: Where would you, as a newly certified audiologist, have preferred to have acquired this knowledge area? (Circle one number)

* NOTE: If "0" is circled (knowledge area is not needed), skip to next knowledge area

		Importance						Where Learned					Where Should be Learned				
		*This knowledge area is not needed	Not Important	Marginally Important	Moderately Important	Important	Very Important	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing Education, after certificaton	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing education, after certification
		0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	b. adult	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	c. geriatric	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	d. alternative communication modes and systems	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	e. balance function rehabilitation	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
39.	Product Dispensing --Procedures by which a prosthetic or assistive device (e.g., hearing aid, assistive listening or alerting system/device, sensory aid) is prepared and dispensed.	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	a. hearing aids	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	b. assistive devices	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	c. cochlear implant processors	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	d. tinnitus maskers	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	e. tactile/sensory devices	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	f. earmold impressions	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
40.	Product/Repair Modification --Procedures to restore or adjust a product used to facilitate an individual's communication abilities. Products include hearing aids, assistive listening systems/devices, alerting systems/devices, cochlear implant processors, tactile sensory devices, and related accessories	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
41.	Hearing Aid Assessment --Procedures to determine the appropriateness and design of individual amplification systems	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	a. developmentally appropriate behavioral testing	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

KNOWLEDGE AREAS

IMPORTANCE: How important is this knowledge area for a newly certified audiologist to be considered competent for independent practice? (Circle one number)

WHERE LEARNED: Where did you, as a newly certified audiologist, acquire this knowledge area? (Circle one number)

WHERE SHOULD BE LEARNED: Where would you, as a newly certified audiologist, have preferred to have acquired this knowledge area? (Circle one number)

* NOTE: If "0" is circled (knowledge area is not needed), skip to next knowledge area

		Importance						Where Learned					Where Should be Learned				
		*This knowledge area is not needed	Not Important	Marginally Important	Moderately Important	Important	Very Important	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing Education, after certificaton	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing education, after certification
		0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	b. real-ear measurement	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	c. electroacoustic evaluation	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	d. determination of earmold characteristics and device configuration	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	e. administration of communication inventories or questionnaires	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
42.	Assistive Listening System/Device Selection --Procedures to assess the effectiveness and appropriateness of assistive listening systems/devices (ALDs) for individual patients/consumers or facilities, often involving the dispensing of systems/devices and monitoring their use over time	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
43.	Sensory Aids Assessment (e.g., tactile aids) --Procedures to determine the appropriateness of a sensory prosthetic device, other than a hearing aid or an assistive listening system/device, for an individual with hearing loss	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
44.	Hearing Aid Fitting/Orientation --Procedures to assist individuals to understand and use their amplification systems	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	a. behavioral	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	b. real-ear measurements	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	c. earmold modification	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	d. self-assessment inventories	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	e. counseling/rehabilitation	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
45.	Sensory Aids Fitting/Orientation --Procedures to assist individuals to use their sensory devices (e.g., tactile aids)	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
46.	Electrical Stimulation for Cochlear Implant	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

KNOWLEDGE AREAS

IMPORTANCE: How important is this knowledge area for a newly certified audiologist to be considered competent for independent practice? (Circle one number)

WHERE LEARNED: Where did you, as a newly certified audiologist, acquire this knowledge area? (Circle one number)

WHERE SHOULD BE LEARNED: Where would you, as a newly certified audiologist, have preferred to have acquired this knowledge area? (Circle one number)

* NOTE: If "0" is circled (knowledge area is not needed), skip to next knowledge area

		Importance						Where Learned					Where Should be Learned				
		*This knowledge area is not needed	Not Important	Marginally Important	Moderately Important	Important	Very Important	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing Education, after certificaton	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing education, after certification
		0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
47.	Implant Selection and Rehabilitation --Procedures include application of electrical current during promontory/round-window stimulation, and cochlear implant adjustment	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
TEST ANALYSIS																	
48.	Statistical Principles.	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	a. parametric	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	b. non-parametric	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	c. clinical decision analysis	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
KNOWLEDGE FOR RELATED PROFESSIONAL ACTIVITIES																	
[Legislative]																	
49.	legislation/regulation relevant to the profession	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
50.	rights of patient/consumer	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
51.	sales of hearing aids	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
52.	workers' compensation	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
53.	noise exposure and hearing conservation	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
54.	public laws related to clinical practice	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
55.	state-licensure/regulation	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

KNOWLEDGE AREAS

IMPORTANCE: How important is this knowledge area for a newly certified audiologist to be considered competent for independent practice? (Circle one number)

WHERE LEARNED: Where did you, as a newly certified audiologist, acquire this knowledge area? (Circle one number)

WHERE SHOULD BE LEARNED: Where would you, as a newly certified audiologist, have preferred to have acquired this knowledge area? (Circle one number)

* NOTE: If "0" is circled (knowledge area is not needed), skip to next knowledge area

		Importance						Where Learned					Where Should be Learned				
		*This knowledge area is not needed	Not Important	Marginally Important	Moderately Important	Important	Very Important	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing Education, after certificaton	School - Classroom	School - Practicum	Clinical Fellowship	On the job, after certification	Continuing education, after certification
		0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
[Administrative]																	
56.	third-party reimbursement	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
57.	quality improvement techniques	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
58.	safety and health/universal precautions	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
59.	calibration standards, documentation, and procedures	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
60.	professional standards/accreditation	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
61.	human resources management	0	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Adequacy of Coverage

How well do the Clinical Activity statements listed in Part I cover what a newly certified audiologist should be able to do? (Please circle one)

1	2	3	4	5
Very Poorly	Poorly	Adequately	Well	Very Well

What important clinical activities, if any, are not covered in Part I?

_____

_____

_____

_____

How well do the Knowledge Area statements listed in Part II cover what a newly certified audiologist should know? (Please circle one)

1	2	3	4	5
Very Poorly	Poorly	Adequately	Well	Very Well

What important knowledge areas, if any, are not covered in Part II?

_____

_____

_____

_____

PART III: SURVEY PARTICIPANT BACKGROUND INFORMATION

The information you provide in this section is completely confidential and will be used for research purposes only. Please answer each question by circling the number or filling in the blank that most closely describes you or your professional activities. Please mark only one response for each question.

1. What is your gender? (Circle one number.)

   1. Male
   2. Female

2. Which of the following best describes your race/ethnicity? (Circle one number.)

   1. American Indian/Alaskan Native
   2. Asian or Pacific Islander
   3. Hispanic
   4. African American (non-Hispanic)
   5. White (non-Hispanic)

3. How many years have you been practicing as an ASHA-certified audiologist? (Circle one number.)

   1. 3 or less
   2. 4 to 6
   3. 7 to 9
   4. 10 to 12
   5. 13 to 15
   6. 16 or more

4. In what region of the country do you work? (Circle one number.)

   1. Northeast
   2. Central
   3. Southern
   4. Far West

5. Which of the following best describes your current employment status? (Circle one number.)

   1. Employed full-time (30 hrs/week or more)
   2. Employed part-time (less than 30 hrs/week)
   3. Not employed
   4. Retired

6. In what year did you receive your certificate of clinical competence? (Fill in the year.)

   19 _ _

7. What is your highest educational level? (Circle one number.)

   1. Bachelor's
   2. Master's
   3. Doctorate

8. In what academic area is your highest educational degree? (Circle one number.)

   1. Audiology
   2. Speech-Language Pathology
   3. Speech and Hearing Sciences
   4. Other Health Related
   5. Other Non-Health Related

9. In what year did you receive your highest educational degree? (Fill in the year.)

   19 _ _

10. In which employment activity do you spend MOST of your time? (Circle one number.)

    1. Clinical Service Provider
    2. Educator (college/university)
    3. Researcher
    4. Consultant
    5. Administrator/Manager
    6. Chair/Department Head/Director
    7. Supervisor of Clinical Activity

11. In which employment setting do you spend MOST of your time? (Circle one number.)

    1. Elementary school
    2. Secondary school
    3. Special school
    4. College/University
    5. Hospital
    6. Residential healthcare facility
    7. Private physician's office
    8. SLP's or AUD's office
    9. Own office
    10. Other (specify): _____

Thank you for taking the time to complete this questionnaire. Please return it using the enclosed envelope or send it to:

Educational Testing Service
Mail Stop 12-T
Rosedale Road
Princeton, NJ 08541

Appendix E

Frequency Counts of Zero Responses

Frequency Counts of Zero Responses

CLINICAL ACTIVITIES

	Educator N=83	Supervisor N=126	Practitioner N=1192
EVALUATION			
1. Identify high risk individuals.	1%	1%	2%
2. Screen for hearing deficits	0%	1%	1%
3. Screen speech-language and other factor	5%	12%	14%
4. Gather, review, evaluate information	0%	2%	2%
5. Obtain in-depth case history	0%	1%	1%
6. Perform otoscopic exam	0%	0%	0%
7. Remove cerumen by variety of techniques	11%	23%	41%
8. Maintain equipment	0%	3%	4%
9. Calibrate equipment	4%	15%	26%
10. Administer screening and asses. measures	0%	1%	4%
11. Eval. chgs. in neural tissue during surgery	22%	38%	61%
12. Document. procedures/results of eval. process	0%	2%	1%
13. Interpret results of evaluation	0%	1%	1%
14. Generate recommendations	0%	1%	1%
15. Communicate results and recommendations	0%	1%	1%
16. Write formal reports	0%	1%	1%
17. Monitor patient/consumer status	0%	2%	2%
18. Maintain patient/consumer records.	0%	1%	1%
TREATMENT			
19. Review eval. data/develop treatment plan	0%	0%	2%
20. Develop rapport with patient/consumer	0%	0%	0%
21. Communicate results/discuss prognosis	0%	1%	0%
22. Provide ongoing counseling	0%	1%	1%
23. Develop management strategies	1%	2%	2%
24. Participate in case coordination	4%	2%	8%
25. Communicate treatment plans for appr.	3%	7%	12%
26. Maintain equipment	1%	3%	4%
27. Calibrate equip. to accepted standards	4%	18%	29%
28. Select methods, instrumentation, etc.	0%	0%	1%
29. Recommend prosthetic/assistive devices	1%	1%	0%
30. Establish methods to monitor treatment	1%	2%	4%
31. Monitor and summ. treatment outcomes	3%	3%	5%
32. Provide. info. about treatment outcomes	1%	2%	2%
33. Establish treatment discharge criteria	5%	13%	19%
34. Make referrals for add. eval. and trtmnt.	1%	2%	3%

	Educator N=83	Supervisor N=126	Practitioner N=1192
35. Follow-up on referrals/recommendations	4%	1%	4%
36. Document the procedures and results	0%	1%	2%
37. Maintain patient/consumer records	0%	0%	0%
RELATED PROFESSIONAL ACTIVITIES			
[Supervisory]			
38. Establish supervisory procedures.	15%	11%	26%
39. Deliver direct patient care	14%	8%	26%
40. Provide supervisees w/practical experiences	9%	10%	26%
41. Provide supervisees with feedback	9%	10%	26%
42. Provide ethical, legal & regulatory instructn	14%	13%	28%
43. Provide instrctn in rpt. writing/recrd keepng	11%	10%	25%
[Legislative]			
44. Follow laws, regulations, respective mandates	1%	1%	1%
45. Promote legislation and regulations	5%	9%	12%
46. Promote legislation beneficial to the profssn	5%	8%	13%
[Administrative]			
47. Advocate for direct third-party payment	8%	13%	26%
48. Identify unmet programmatic needs	8%	9%	20%
49. Implement public information programs	5%	3%	11%
50. Seek current financial support Info.	6%	9%	18%
51. Oversee efficient administration activities	15%	15%	27%
52. Maintain compliance with calibration standard	3%	2%	6%
53. Introduce and implement new procedures	4%	3%	10%
54. Promote cultural diversity in staff	14%	22%	41%
55. Identify multi-cultural/underserved populatns	9%	17%	30%
56. Develop programs for conservation of hearing.	9%	7%	16%
OTHER PROFESSIONAL ACTIVITIES			
57. Conduct and/or participate in research	7%	23%	34%
58. Update clinical/professional knowledge/ skill	0%	1%	1%

Zero Importance Rating for - Primary Groups

KNOWLEDGE AREA

	Educator N=83	Supervisor N=126	Practitioner N=1192
BASIC KNOWLEDGE FOR EVALUATION AND TREATMENT			
1. professional codes of ethics	0%	0%	0%
2. patient characteristics	0%	0%	1%
3. aspects of human communication	2%	5%	4%
4. effects of hearing impairment	0%	0%	0%
5. anatomy/physiology of various syst	0%	0%	0%
6. pathophysiology of various systems	0%	0%	0%
7. embryology/devel. of various systems	0%	0%	1%
8. etiologic factors affecting various systems	0%	0%	0%
9. normal devel. of speech and language	0%	0%	0%
10. normal devel. of auditory behavior/function	0%	0%	0%
11. normal processes of speech and language	0%	2%	1%
12. normal processes of auditory behavior	0%	0%	0%
13. neuroanatomy and neurophysiology	1%	0%	0%
14. psychoacoustics	0%	0%	0%
15. cerumen management	6%	5%	16%
16. pharmacology	4%	11%	14%
17. basic electronics	1%	6%	8%
STIMULUS FACTORS			
[Acoustic]			
18. temporal/spectral/amplitude chrctrstc of snds	0%	0%	1%
19. Effects of propagation and transmission	1%	0%	0%
20. sound analysis and quantification	1%	0%	1%
[Non-Acoustic]			
21. physical characteristics of non-acoustic stim	4%	10%	11%
22. Effect of the delivery medium or system	5%	9%	9%
23. non-auditory stimulus analysis	7%	11%	11%

	Educator N=83	Supervisor N=126	Practitioner N=1192
METHODS			
24. Hearing Screening	0%	0%	0%
a. Behavioral (VRA, etc.)	0%	0%	0%
b. Objective (ABR, OAE, OAES, etc)	0%	0%	1%
c. Written (high risk register, etc)	0%	0%	1%
25. Speech-Language Screening	3%	13%	17%
a. Formal	7%	23%	30%
b. Informal	1%	13%	15%
26. Consultation	4%	3%	3%
27. Prevention	0%	0%	1%
28. Counseling	0%	0%	1%
a. Informational	0%	1%	1%
b. Affective	0%	1%	2%
29. Basic Audiologic Assessment	0%	0%	0%
a. Behavioral (pure tone, speech, etc)	0%	0%	0%
b. Objective (immittance, etc)	0%	0%	0%
c. Self-assessment inventories	0%	2%	3%
30. Pediatric Audiologic Assessment	0%	0%	0%
a. Behavioral	0%	0%	0%
b. Objective	0%	0%	0%
31. Comprehensive Audiologic Assessment	0%	0%	0%
a. Sensory vs. Neural	0%	1%	1%
b. Central auditory nervous system disorders	0%	1%	2%
c. Pseudohypacusis	0%	1%	0%
d. Tinnitus	1%	1%	1%
32. Electrodiagnostic Test Procedures(non-audtry)	6%	10%	12%
33. Auditory Evoked Potential Assessment	0%	0%	2%
a. Ecoch G	4%	7%	16%
b. ABR	0%	1%	2%
c. Middle	1%	10%	14%
d. Late	1%	11%	15%
e. Event-related/auditory-cognitive potential	2%	13%	20%

	Educator N=83	Supervisor N=126	Practitioner N=1192
34. Neurophysiologic Intraoperative Monitoring	11%	18%	30%
a. Auditory	10%	16%	28%
b. Non-auditory	15%	24%	34%
c. Effects of anesthesia/pharmacological agents	9%	13%	28%
35. Balance System Assessment	2%	5%	6%
a. ENG	1%	4%	6%
b. Rotational-chair	5%	13%	24%
c. Posturography	5%	12%	24%
36. Hearing Conservation	0%	0%	1%
a. Occupational	0%	2%	2%
b. Non-occupational	0%	2%	2%
c. Ototoxic agents	0%	2%	2%
37. Audiological Rehabilitation Assessment	0%	0%	1%
a. Pediatric	0%	1%	1%
b. Adult	0%	2%	1%
c. Geriatric	0%	2%	1%
38. Audiological Rehabilitation	0%	2%	4%
a. Pediatric	0%	2%	4%
b. Adult	0%	3%	4%
c. Geriatric	0%	4%	4%
d. Alternative communication modes/systems	2%	4%	6%
e. Balance function rehabilitation	13%	16%	18%
39. Product Dispensing	0%	0%	1%
a. Hearing aids	0%	0%	1%
b. Assistive devices	0%	0%	1%
c. Cochlear implant processors	2%	3%	11%
d. Tinnitus maskers	1%	4%	8%
e. Tactile/sensory devices	0%	2%	8%
f. Earmold impressions	0%	0%	0%
40. Product/Repair Modification	1%	1%	1%

	Educator N=83	Supervisor N=126	Practitioner N=1192
41. Hearing Aid Assessment	0%	0%	0%
a. Developmentally appropriate behavioral testin	0%	0%	1%
b. Real-ear measurement	0%	0%	2%
c. Electroacoustic evaluation	0%	0%	1%
d. Determination of earmold characteristics	0%	0%	1%
e. Administration of communication inventories	4%	1%	4%
42. Assistive Listening System/Device Selection	0%	0%	2%
43. Sensory Aids Assessment (e.g., tactile aids)	1%	3%	10%
44. Hearing Aid Fitting/Orientation	0%	0%	0%
a. Behavioral	0%	1%	0%
b. Real-ear measurments	0%	2%	1%
c. Earmold modification	0%	1%	0%
d. Self-assessment inventories	1%	2%	3%
e. Counseling/rehabilitation	0%	1%	0%
45. Sensory Aids Fitting/Orientation	5%	4%	13%
46. Electrical Stimulation for Cochlear Implant	5%	10%	22%
47. Implant Selection and Rehabilitation	5%	12%	24%
TEST ANALYSIS			
48. Statistical Principles.	4%	14%	22%
a. Parametric	4%	13%	25%
b. Non-parametric	4%	13%	25%
c. Clinical decision analysis	4%	10%	23%
KNOWLEDGE FOR RELATED PROFESSIONAL ACTIVITIES			
[Legislative]			
49. legislation/regulation relevant to the profession	0%	0%	1%
50. rights of patient/consumer	0%	0%	0%
51. sales of hearing aids	2%	1%	1%
52. workers' compensation	0%	4%	4%
53. noise exposure and hearing conservation	0%	1%	0%
54. public laws related to clinical practice	0%	1%	0%
55. state-licensure/regulation	0%	0%	0%

	Educator N=83	Supervisor N=126	Practitioner N=1192
[Administrative]			
56. third-party reimbursement	0%	2%	7%
57. quality improvement techniques	2%	2%	6%
58. safety and health/universal precautions	1%	0%	2%
59. calibration standards, documentation, procedures	0%	0%	2%
60. professional standards/accreditation	0%	0%	2%
61. human resources management	10%	5%	13%

Appendix F

Mean Importance Ratings: Clinical Activity Statements

Mean Importance Ratings

CLINICAL ACTIVITY STATEMENTS

		Educator N=83	Supervisor N=126	Practitioner N=1192
EVALUATION				
1.	Identify high risk individuals.	4.60	4.50	4.38
2.	Screen for hearing deficits	4.56	4.50	4.39
3.	Screen speech-language and other factor	3.36	3.14	3.18
4.	Gather, review, evaluate information	4.46	4.38	4.28
5.	Obtain in-depth case history	4.62	4.45	4.45
6.	Perform otoscopic exam	4.59	4.74	4.76
7.	Remove cerumen by variety of techniques	2.89	2.96	3.09
8.	Maintain equipment	4.16	4.03	4.02
9.	Calibrate equipment	3.74	3.50	3.41
10.	Administer screening and asses. measures	4.46	4.39	4.42
11.	Eval. chgs. in neural tissue during surgery	2.52	2.38	2.51
12.	Document. procedures/results of eval. process	4.78	4.62	4.71
13.	Interpret results of evaluation	4.90	4.87	4.91
14.	Generate recommendations	4.89	4.87	4.85
15.	Communicate results and recommendations	4.78	4.76	4.76
16.	Write formal reports	4.70	4.64	4.56
17.	Monitor patient/consumer status	4.35	4.21	4.16
18.	Maintain patient/consumer records.	4.64	4.60	4.63
TREATMENT				
19.	Review eval. data/develop treatment plan	4.60	4.48	4.56
20.	Develop rapport with patient/consumer	4.58	4.58	4.54
21.	Communicate results/discuss prognosis	4.58	4.65	4.62
22.	Provide ongoing counseling	4.49	4.48	4.34
23.	Develop management strategies	4.46	4.11	4.10
24.	Participate in case coordination	4.09	3.80	3.78
25.	Communicate treatment plans for appr.	4.19	3.77	3.78
26.	Maintain equipment	4.25	4.15	4.14
27.	Calibrate equip. to accepted standards	3.95	3.58	3.56
28.	Select methods, instrumentation, etc.	4.65	4.39	4.49
29.	Recommend prosthetic/assistive devices	4.82	4.69	4.64
30.	Establish methods to monitor treatment	4.36	3.93	3.93
31.	Monitor and summ. treatment outcomes	4.48	3.98	4.00
32.	Provide. info. about treatment outcomes	4.37	4.23	4.11
33.	Establish treatment discharge criteria	4.30	3.91	3.93
34.	Make referrals for add. eval. and trtmnt.	4.28	4.06	4.14
35.	Follow-up on referrals/recommendations	4.25	4.05	4.02
36.	Document the procedures and results	4.61	4.43	4.46
37.	Maintain patient/consumer records	4.62	4.61	4.61

	Educator N=83	Supervisor N=126	Practitioner N=1192
RELATED PROFESSIONAL ACTIVITIES			
[Supervisory]			
38. Establish supervisory procedures.	3.63	3.60	3.43
39. Deliver direct patient care	3.80	3.66	3.69
40. Provide supervisees w/practical experiences	3.81	3.85	3.70
41. Provide supervisees with feedback	3.92	3.86	3.76
42. Provide ethical, legal & regulatory instructn	3.83	3.75	3.57
43. Provide instrctn in rpt. writing/recrd keepng	3.86	3.81	3.77
[Legislative]			
44. Follow laws, regulations, respective mandates	4.46	4.46	4.53
45. Promote legislation and regulations	3.70	3.65	3.52
46. Promote legislation beneficial to the profssn	3.74	3.69	3.57
[Administrative]			
47. Advocate for direct third-party payment	3.64	3.79	3.62
48. Identify unmet programmatic needs	3.46	3.16	3.30
49. Implement public information programs	3.49	3.53	3.53
50. Seek current financial support Info.	3.77	3.49	3.41
51. Oversee efficient administration activities	3.31	3.12	3.10
52. Maintain compliance with calibration standard	4.26	4.07	4.10
53. Introduce and implement new procedures	4.01	3.79	3.79
54. Promote cultural diversity in staff	3.23	2.85	2.78
55. Identify multi-cultural/underserved populatns	3.49	3.22	3.19
56. Develop programs for conservation of hearing.	3.85	3.70	3.73
OTHER PROFESSIONAL ACTIVITIES			
57. Conduct and/or participate in research	3.21	2.66	2.70
58. Update clinical/professional knowledge/ skill	4.77	4.66	4.66

Appendix G

Mean Importance Ratings: Clinical Activity Statements -- Practitioner Subgroups

Mean Importance Ratings -Gender
CLINICAL ACTIVITY STATEMENTS

		Male N=180	Female N=1009
EVALUATION			
1.	Identify high risk individuals.	4.40	4.38
2.	Screen for hearing deficits	4.23	4.41
3.	Screen speech-language and other factor	3.03	3.21
4.	Gather, review, evaluate information	4.27	4.29
5.	Obtain in-depth case history	4.39	4.46
6.	Perform otoscopic exam	4.71	4.77
7.	Remove cerumen by variety of techniques	3.68	2.95
8.	Maintain equipment	4.03	4.02
9.	Calibrate equipment	3.56	3.39
10.	Administer screening and asses. measures	4.42	4.42
11.	Eval. chgs. in neural tissue during surgery	2.71	2.47
12.	Document. procedures/results of eval. process	4.59	4.73
13.	Interpret results of evaluation	4.88	4.92
14.	Generate recommendations	4.82	4.85
15.	Communicate results and recommendations	4.74	4.77
16.	Write formal reports	4.53	4.56
17.	Monitor patient/consumer status	4.12	4.18
18.	Maintain patient/consumer records.	4.57	4.64
TREATMENT			
19.	Review eval. data/develop treatment plan	4.56	4.56
20.	Develop rapport with patient/consumer	4.46	4.56
21.	Communicate results/discuss prognosis	4.58	4.63
22.	Provide ongoing counseling	4.25	4.36
23.	Develop management strategies	4.00	4.12
24.	Participate in case coordination	3.69	3.80
25.	Communicate treatment plans for appr.	3.76	3.78
26.	Maintain equipment	4.11	4.14
27.	Calibrate equip. to accepted standards	3.69	3.53
28.	Select methods, instrumentation, etc.	4.53	4.49
29.	Recommend prosthetic/assistive devices	4.70	4.63
30.	Establish methods to monitor treatment	3.92	3.93
31.	Monitor and summ. treatment outcomes	3.95	4.02
32.	Provide. info. about treatment outcomes	4.05	4.13
33.	Establish treatment discharge criteria	3.83	3.96
34.	Make referrals for add. eval. and trtmnt.	4.05	4.16
35.	Follow-up on referrals/recommendations	3.94	4.04
36.	Document the procedures and results	4.37	4.48
37.	Maintain patient/consumer records	4.55	4.63

	Male N=180	Female N=1009
RELATED PROFESSIONAL ACTIVITIES		
[Supervisory]		
38. Establish supervisory procedures.	3.60	3.40
39. Deliver direct patient care	3.83	3.67
40. Provide supervisees w/practical experiences	3.86	3.67
41. Provide supervisees with feedback	3.83	3.74
42. Provide ethical, legal & regulatory instructn	3.72	3.54
43. Provide instrctn in rpt. writing/recrd keepng	3.97	3.73
[Legislative]		
44. Follow laws, regulations, respective mandates	4.39	4.55
45. Promote legislation and regulations	3.66	3.50
46. Promote legislation beneficial to the profssn	3.84	3.53
[Administrative]		
47. Advocate for direct third-party payment	4.05	3.52
48. Identify unmet programmatic needs	3.48	3.26
49. Implement public information programs	3.59	3.52
50. Seek current financial support Info.	3.56	3.38
51. Oversee efficient administration activities	3.42	3.03
52. Maintain compliance with calibration standard	4.17	4.09
53. Introduce and implement new procedures	3.97	3.75
54. Promote cultural diversity in staff	2.57	2.83
55. Identify multi-cultural/underserved populatns	3.15	3.20
56. Develop programs for conservation of hearing.	3.91	3.70
OTHER PROFESSIONAL ACTIVITIES		
57. Conduct and/or participate in research	2.81	2.68
58. Update clinical/professional knowledge/ skill	4.67	4.65

Mean Importance Ratings - Race/Ethnicity
CLINICAL ACTIVITY STATEMENTS

	White N=1126	Non-White N=57
EVALUATION		
1. Identify high risk individuals.	4.38	4.51
2. Screen for hearing deficits	4.39	4.24
3. Screen speech-language and other factor	3.18	3.30
4. Gather, review, evaluate information	4.28	4.25
5. Obtain in-depth case history	4.45	4.46
6. Perform otoscopic exam	4.76	4.81
7. Remove cerumen by variety of techniques	3.09	3.04
8. Maintain equipment	4.03	3.88
9. Calibrate equipment	3.39	3.80
10. Administer screening and asses. measures	4.42	4.40
11. Eval. chgs. in neural tissue during surgery	2.50	3.00
12. Document. procedures/results of eval. process	4.71	4.59
13. Interpret results of evaluation	4.91	4.93
14. Generate recommendations	4.85	4.79
15. Communicate results and recommendations	4.76	4.72
16. Write formal reports	4.56	4.53
17. Monitor patient/consumer status	4.16	4.22
18. Maintain patient/consumer records.	4.63	4.57
TREATMENT		
19. Review eval. data/develop treatment plan	4.56	4.48
20. Develop rapport with patient/consumer	4.55	4.48
21. Communicate results/discuss prognosis	4.63	4.59
22. Provide ongoing counseling	4.34	4.35
23. Develop management strategies	4.09	4.22
24. Participate in case coordination	3.78	3.81
25. Communicate treatment plans for appr.	3.79	3.53
26. Maintain equipment	4.14	4.06
27. Calibrate equip. to accepted standards	3.54	3.86
28. Select methods, instrumentation, etc.	4.50	4.43
29. Recommend prosthetic/assistive devices	4.64	4.55
30. Establish methods to monitor treatment	3.93	4.02
31. Monitor and summ. treatment outcomes	4.00	4.02
32. Provide. info. about treatment outcomes	4.12	4.07
33. Establish treatment discharge criteria	3.93	4.05
34. Make referrals for add. eval. and trtmnt.	4.13	4.20
35. Follow-up on referrals/recommendations	4.02	4.15
36. Document the procedures and results	4.46	4.42
37. Maintain patient/consumer records	4.61	4.60
RELATED PROFESSIONAL ACTIVITIES		
[Supervisory]		
38. Establish supervisory procedures.	3.42	3.71
39. Deliver direct patient care	3.69	3.66
40. Provide supervisees w/practical experiences	3.69	3.97

	White N=1126	Non-White N=57
41. Provide supervisees with feedback	3.75	3.91
42. Provide ethical, legal & regulatory instructn	3.56	3.73
43. Provide instrctn in rpt. writing/recrd keepng	3.76	3.80
[Legislative]		
44. Follow laws, regulations, respective mandates	4.52	4.61
45. Promote legislation and regulations	3.52	3.65
46. Promote legislation beneficial to the profssn	3.58	3.53
[Administrative]		
47. Advocate for direct third-party payment	3.62	3.67
48. Identify unmet programmatic needs	3.28	3.56
49. Implement public information programs	3.52	3.80
50. Seek current financial support Info.	3.41	3.26
51. Oversee efficient administration activities	3.09	3.24
52. Maintain compliance with calibration standard	4.10	4.14
53. Introduce and implement new procedures	3.78	3.93
54. Promote cultural diversity in staff	2.75	3.26
55. Identify multi-cultural/underserved populatns	3.16	3.85
56. Develop programs for conservation of hearing.	3.73	3.77
OTHER PROFESSIONAL ACTIVITIES		
57. Conduct and/or participate in research	2.67	3.14
58. Update clinical/professional knowledge/ skill	4.66	4.62

Mean Importance Ratings - Practice Setting
CLINICAL ACTIVITY STATEMENTS

	School N=79	Hospital N=319	Pr. Phys. Off. N=324	SLP & AUD N=84	Own Office N=109
EVALUATION					
1. Identify high risk individuals.	4.49	4.40	4.35	4.34	4.31
2. Screen for hearing deficits	4.56	4.36	4.34	4.40	4.33
3. Screen speech-language and other factor	3.49	3.19	3.12	2.83	3.11
4. Gather, review, evaluate information	4.48	4.29	4.16	4.07	4.27
5. Obtain in-depth case history	4.37	4.48	4.35	4.46	4.41
6. Perform otoscopic exam	4.68	4.71	4.77	4.82	4.83
7. Remove cerumen by variety of techniques	2.60	2.93	2.98	3.31	3.65
8. Maintain equipment	4.10	4.02	3.87	3.95	4.10
9. Calibrate equipment	3.28	3.60	3.18	3.22	3.33
10. Administer screening and asses. measures	4.40	4.43	4.45	4.33	4.32
11. Eval. chgs. in neural tissue during surgery	2.55	2.53	2.37	2.53	2.58
12. Document. procedures/results of eval. process	4.69	4.77	4.66	4.71	4.67
13. Interpret results of evaluation	4.82	4.93	4.89	4.90	4.89
14. Generate recommendations	4.85	4.84	4.81	4.85	4.86
15. Communicate results and recommendations	4.72	4.77	4.72	4.72	4.78
16. Write formal reports	4.66	4.56	4.45	4.51	4.57
17. Monitor patient/consumer status	4.12	4.17	4.12	4.03	4.21
18. Maintain patient/consumer records.	4.50	4.60	4.64	4.69	4.67
TREATMENT					
19. Review eval. data/develop treatment plan	4.48	4.53	4.52	4.56	4.69
20. Develop rapport with patient/consumer	4.47	4.59	4.49	4.49	4.58
21. Communicate results/discuss prognosis	4.60	4.63	4.61	4.66	4.62
22. Provide ongoing counseling	4.31	4.39	4.31	4.28	4.34
23. Develop management strategies	4.10	4.12	4.03	4.09	4.01
24. Participate in case coordination	3.97	3.76	3.67	3.77	3.74
25. Communicate treatment plans for appr.	3.90	3.80	3.63	3.64	3.85
26. Maintain equipment	4.18	4.15	4.03	4.11	4.15
27. Calibrate equip. to accepted standards	3.42	3.73	3.34	3.39	3.46
28. Select methods, instrumentation, etc.	4.39	4.51	4.53	4.48	4.41
29. Recommend prosthetic/assistive devices	4.39	4.62	4.65	4.61	4.78

	School N=79	Hospital N=319	Pr. Phys. Off. N=324	SLP & AUD N=84	Own Office N=109
30. Establish methods to monitor treatment	3.93	3.88	3.92	3.95	3.96
31. Monitor and summ. treatment outcomes	4.03	3.97	3.97	4.00	4.05
32. Provide. info. about treatment outcomes	3.95	4.16	4.04	4.18	4.12
33. Establish treatment discharge criteria	3.77	3.98	3.86	3.84	3.88
34. Make referrals for add. eval. and trtmnt.	4.16	4.15	4.03	4.20	4.13
35. Follow-up on referrals/recommendations	4.10	4.08	3.87	4.11	3.94
36. Document the procedures and results	4.30	4.52	4.46	4.49	4.40
37. Maintain patient/consumer records	4.47	4.63	4.62	4.61	4.62
RELATED PROFESSIONAL ACTIVITIES					
[Supervisory]					
38. Establish supervisory procedures.	3.35	3.30	3.42	3.46	3.53
39. Deliver direct patient care	3.55	3.57	3.64	3.84	3.85
40. Provide supervisees w/practical experiences	3.44	3.52	3.69	3.73	3.93
41. Provide supervisees with feedback	3.62	3.61	3.78	3.78	3.80
42. Provide ethical, legal & regulatory instructn	3.39	3.38	3.58	3.67	3.83
43. Provide instrctn in rpt. writing/recrd keepng	3.60	3.60	3.80	3.77	3.97
[Legislative]					
44. Follow laws, regulations, respective mandates	4.47	4.43	4.54	4.65	4.54
45. Promote legislation and regulations	3.56	3.44	3.49	3.38	3.68
46. Promote legislation beneficial to the profssn	3.48	3.51	3.56	3.39	3.79
[Administrative]					
47. Advocate for direct third-party payment	3.26	3.47	3.67	3.69	3.99
48. Identify unmet programmatic needs	3.55	3.27	3.20	3.20	3.48
49. Implement public information programs	3.75	3.47	3.43	3.53	3.65
50. Seek current financial support Info.	3.47	3.32	3.42	3.24	3.76
51. Oversee efficient administration activities	3.09	2.86	3.11	2.96	3.35
52. Maintain compliance with calibration standard	3.96	3.94	4.20	4.01	4.20
53. Introduce and implement new procedures	3.85	3.61	3.88	3.70	3.96
54. Promote cultural diversity in staff	3.05	2.79	2.72	2.68	2.65
55. Identify multi-cultural/underserved populatns	3.51	3.13	3.12	2.96	3.06

	School N=79	Hospital N=319	Pr. Phys. Off. N=324	SLP & AUD N=84	Own Office N=109
56. Develop programs for conservation of hearing.	3.78	3.71	3.68	3.68	3.71
OTHER PROFESSIONAL ACTIVITIES					
57. Conduct and/or participate in research	2.53	2.80	2.44	2.45	2.85
58. Update clinical/professional knowledge/ skill	4.57	4.65	4.67	4.57	4.69

Mean Importance Ratings - Years Certified
CLINICAL ACTIVITY STATEMENTS

		< = 5 N=341	> 5 N=847
EVALUATION			
1.	Identify high risk individuals.	4.36	4.39
2.	Screen for hearing deficits	4.34	4.41
3.	Screen speech-language and other factor	3.02	3.25
4.	Gather, review, evaluate information	4.33	4.26
5.	Obtain in-depth case history	4.47	4.44
6.	Perform otoscopic exam	4.77	4.77
7.	Remove cerumen by variety of techniques	2.94	3.14
8.	Maintain equipment	3.96	4.05
9.	Calibrate equipment	3.31	3.45
10.	Administer screening and asses. measures	4.30	4.46
11.	Eval. chgs. in neural tissue during surgery	2.47	2.53
12.	Document. procedures/results of eval. process	4.70	4.71
13.	Interpret results of evaluation	4.92	4.90
14.	Generate recommendations	4.86	4.84
15.	Communicate results and recommendations	4.76	4.77
16.	Write formal reports	4.53	4.57
17.	Monitor patient/consumer status	4.17	4.16
18.	Maintain patient/consumer records.	4.62	4.63
TREATMENT			
19.	Review eval. data/develop treatment plan	4.57	4.55
20.	Develop rapport with patient/consumer	4.53	4.55
21.	Communicate results/discuss prognosis	4.66	4.61
22.	Provide ongoing counseling	4.33	4.35
23.	Develop management strategies	4.10	4.10
24.	Participate in case coordination	3.74	3.80
25.	Communicate treatment plans for appr.	3.69	3.81
26.	Maintain equipment	4.10	4.15
27.	Calibrate equip. to accepted standards	3.43	3.61
28.	Select methods, instrumentation, etc.	4.49	4.49
29.	Recommend prosthetic/assistive devices	4.62	4.65
30.	Establish methods to monitor treatment	3.95	3.93
31.	Monitor and summ. treatment outcomes	4.01	4.01
32.	Provide. info. about treatment outcomes	4.06	4.14
33.	Establish treatment discharge criteria	3.88	3.96
34.	Make referrals for add. eval. and trtmnt.	4.17	4.13
35.	Follow-up on referrals/recommendations	4.06	4.01
36.	Document the procedures and results	4.52	4.44
37.	Maintain patient/consumer records	4.59	4.63
RELATED PROFESSIONAL ACTIVITIES			
[Supervisory]			
38.	Establish supervisory procedures.	3.45	3.42
39.	Deliver direct patient care	3.71	3.69
40.	Provide supervisees w/practical experiences	3.69	3.70
41.	Provide supervisees with feedback	3.79	3.74

	< = 5 N=341	> 5 N=847
42. Provide ethical, legal & regulatory instructn	3.49	3.60
43. Provide instrctn in rpt. writing/recrd keepng	3.75	3.77
[Legislative]		
44. Follow laws, regulations, respective mandates	4.57	4.51
45. Promote legislation and regulations	3.51	3.53
46. Promote legislation beneficial to the profssn	3.57	3.58
[Administrative]		
47. Advocate for direct third-party payment	3.49	3.66
48. Identify unmet programmatic needs	3.24	3.32
49. Implement public information programs	3.54	3.53
50. Seek current financial support Info.	3.34	3.43
51. Oversee efficient administration activities	3.02	3.12
52. Maintain compliance with calibration standard	4.03	4.12
53. Introduce and implement new procedures	3.70	3.82
54. Promote cultural diversity in staff	2.74	2.79
55. Identify multi-cultural/underserved populatns	3.25	3.17
56. Develop programs for conservation of hearing.	3.69	3.75
OTHER PROFESSIONAL ACTIVITIES		
57. Conduct and/or participate in research	2.70	2.70
58. Update clinical/professional knowledge/ skill	4.66	4.66

Mean Importance Ratings - Highest Educational Level

CLINICAL ACTIVITY STATEMENTS

		Master N=1148	Doctorate N=44
EVALUATION			
1.	Identify high risk individuals.	4.38	4.58
2.	Screen for hearing deficits	4.38	4.45
3.	Screen speech-language and other factor	3.17	3.46
4.	Gather, review, evaluate information	4.27	4.57
5.	Obtain in-depth case history	4.45	4.52
6.	Perform otoscopic exam	4.77	4.66
7.	Remove cerumen by variety of techniques	3.09	3.03
8.	Maintain equipment	4.01	4.31
9.	Calibrate equipment	3.39	4.00
10.	Administer screening and asses. measures	4.41	4.61
11.	Eval. chgs. in neural tissue during surgery	2.50	2.69
12.	Document. procedures/results of eval. process	4.71	4.72
13.	Interpret results of evaluation	4.91	4.88
14.	Generate recommendations	4.84	4.88
15.	Communicate results and recommendations	4.76	4.81
16.	Write formal reports	4.56	4.62
17.	Monitor patient/consumer status	4.16	4.19
18.	Maintain patient/consumer records.	4.63	4.63
TREATMENT			
19.	Review eval. data/develop treatment plan	4.55	4.77
20.	Develop rapport with patient/consumer	4.54	4.60
21.	Communicate results/discuss prognosis	4.62	4.74
22.	Provide ongoing counseling	4.34	4.45
23.	Develop management strategies	4.09	4.30
24.	Participate in case coordination	3.77	3.98
25.	Communicate treatment plans for appr.	3.76	4.07
26.	Maintain equipment	4.13	4.30
27.	Calibrate equip. to accepted standards	3.53	4.08
28.	Select methods, instrumentation, etc.	4.49	4.49
29.	Recommend prosthetic/assistive devices	4.64	4.71
30.	Establish methods to monitor treatment	3.92	4.15
31.	Monitor and summ. treatment outcomes	3.99	4.36
32.	Provide. info. about treatment outcomes	4.11	4.27
33.	Establish treatment discharge criteria	3.92	4.33
34.	Make referrals for add. eval. and trtmnt.	4.13	4.27
35.	Follow-up on referrals/recommendations	4.01	4.24
36.	Document the procedures and results	4.46	4.53
37.	Maintain patient/consumer records	4.61	4.70
RELATED PROFESSIONAL ACTIVITIES			
[Supervisory]			
38.	Establish supervisory procedures.	3.42	3.68

	Master N=1148	Doctorate N=44
39. Deliver direct patient care	3.68	4.03
40. Provide supervisees w/practical experiences	3.69	4.03
41. Provide supervisees with feedback	3.74	4.08
42. Provide ethical, legal & regulatory instructn	3.55	4.03
43. Provide instrctn in rpt. writing/recrd keepng	3.75	4.14
[Legislative]		
44. Follow laws, regulations, respective mandates	4.53	4.44
45. Promote legislation and regulations	3.51	3.78
46. Promote legislation beneficial to the profssn	3.56	3.93
[Administrative]		
47. Advocate for direct third-party payment	3.60	3.85
48. Identify unmet programmatic needs	3.29	3.47
49. Implement public information programs	3.54	3.44
50. Seek current financial support Info.	3.40	3.60
51. Oversee efficient administration activities	3.08	3.35
52. Maintain compliance with calibration standard	4.10	4.11
53. Introduce and implement new procedures	3.78	3.88
54. Promote cultural diversity in staff	2.78	2.82
55. Identify multi-cultural/underserved populatns	3.18	3.37
56. Develop programs for conservation of hearing.	3.74	3.65
OTHER PROFESSIONAL ACTIVITIES		
57. Conduct and/or participate in research	2.68	3.05
58. Update clinical/professional knowledge/ skill	4.66	4.64

Mean Importance Ratings - Geographic Region

CLINICAL ACTIVITY STATEMENTS

	Northeast N=361	Central N=338	Southern N=272	Far West N=206
EVALUATION				
1. Identify high risk individuals.	4.34	4.37	4.47	4.35
2. Screen for hearing deficits	4.37	4.34	4.45	4.40
3. Screen speech-language and other factor	3.14	3.13	3.28	3.17
4. Gather, review, evaluate information	4.29	4.18	4.40	4.29
5. Obtain in-depth case history	4.50	4.36	4.51	4.43
6. Perform otoscopic exam	4.70	4.78	4.81	4.80
7. Remove cerumen by variety of techniques	2.97	3.08	3.21	3.15
8. Maintain equipment	4.08	4.00	3.94	4.05
9. Calibrate equipment	3.47	3.35	3.45	3.39
10. Administer screening and asses. measures	4.41	4.41	4.40	4.48
11. Eval. chgs. in neural tissue during surgery	2.56	2.37	2.55	2.65
12. Document. procedures/results of eval. process	4.71	4.72	4.68	4.71
13. Interpret results of evaluation	4.90	4.91	4.92	4.92
14. Generate recommendations	4.82	4.86	4.85	4.86
15. Communicate results and recommendations	4.74	4.78	4.75	4.79
16. Write formal reports	4.62	4.56	4.48	4.54
17. Monitor patient/consumer status	4.11	4.19	4.22	4.13
18. Maintain patient/consumer records.	4.63	4.64	4.57	4.66
TREATMENT				
19. Review eval. data/develop treatment plan	4.58	4.51	4.57	4.58
20. Develop rapport with patient/consumer	4.59	4.51	4.53	4.53
21. Communicate results/discuss prognosis	4.66	4.62	4.58	4.64
22. Provide ongoing counseling	4.34	4.32	4.37	4.34
23. Develop management strategies	4.11	4.08	4.08	4.12
24. Participate in case coordination	3.76	3.75	3.77	3.88
25. Communicate treatment plans for appr.	3.79	3.75	3.67	3.95
26. Maintain equipment	4.19	4.12	4.13	4.06
27. Calibrate equip. to accepted standards	3.60	3.53	3.59	3.50
28. Select methods, instrumentation, etc.	4.44	4.56	4.54	4.41

	Northeast N=361	Central N=338	Southern N=272	Far West N=206
29. Recommend prosthetic/assistive devices	4.63	4.64	4.65	4.64
30. Establish methods to monitor treatment	3.91	3.90	4.00	3.92
31. Monitor and summ. treatment outcomes	3.99	3.99	4.06	3.95
32. Provide. info. about treatment outcomes	4.16	4.07	4.09	4.12
33. Establish treatment discharge criteria	3.96	3.88	3.96	3.90
34. Make referrals for add. eval. and trtmnt.	4.17	4.15	4.10	4.13
35. Follow-up on referrals/recommendations	4.05	4.03	4.01	3.99
36. Document the procedures and results	4.51	4.51	4.41	4.37
37. Maintain patient/consumer records	4.66	4.64	4.56	4.57
RELATED PROFESSIONAL ACTIVITIES				
[Supervisory]				
38. Establish supervisory procedures.	3.36	3.43	3.41	3.61
39. Deliver direct patient care	3.67	3.68	3.69	3.80
40. Provide supervisees w/practical experiences	3.75	3.67	3.67	3.75
41. Provide supervisees with feedback	3.76	3.74	3.73	3.85
42. Provide ethical, legal & regulatory instructn	3.56	3.44	3.63	3.74
43. Provide instrctn in rpt. writing/recrd keepng	3.80	3.69	3.79	3.83
[Legislative]				
44. Follow laws, regulations, respective mandates	4.53	4.53	4.50	4.55
45. Promote legislation and regulations	3.56	3.42	3.51	3.64
46. Promote legislation beneficial to the profssn	3.58	3.48	3.58	3.70
[Administrative]				
47. Advocate for direct third-party payment	3.57	3.51	3.69	3.74
48. Identify unmet programmatic needs	3.31	3.20	3.33	3.39
49. Implement public information programs	3.62	3.55	3.43	3.50
50. Seek current financial support Info.	3.47	3.35	3.43	3.37
51. Oversee efficient administration activities	3.10	3.05	3.15	3.11
52. Maintain compliance with calibration standard	4.05	4.13	4.13	4.07
53. Introduce and implement new procedures	3.76	3.77	3.84	3.79
54. Promote cultural diversity in staff	2.85	2.77	2.72	2.76

	Northeast	Central	Southern	Far West
	N=361	N=338	N=272	N=206
55. Identify multi-cultural/underserved populatns	3.24	3.12	3.14	3.28
56. Develop programs for conservation of hearing.	3.74	3.76	3.75	3.65
OTHER PROFESSIONAL ACTIVITIES				
57. Conduct and/or participate in research	2.75	2.66	2.64	2.76
58. Update clinical/professional knowledge/ skill	4.62	4.67	4.69	4.62

Appendix H

Mean Importance Ratings: Knowledge Areas

Mean Importance Ratings
KNOWLEDGE AREAS

	Educator N=83	Supervisor N=126	Practitioner N=1192
BASIC KNOWLEDGE FOR EVALUATION AND TREATMENT			
1. professional codes of ethics	4.45	4.25	4.23
2. patient characteristics	4.37	4.17	4.22
3. aspects of human communication	3.89	3.36	3.40
4. effects of hearing impairment	4.37	4.16	4.25
5. anatomy/physiology of various syst	4.82	4.64	4.67
6. pathophysiology of various systems	4.80	4.63	4.61
7. embryology/devel. of various systems	4.30	4.22	4.17
8. etiologic factors affecting various systems	4.75	4.57	4.58
9. normal devel. of speech and language	4.27	3.98	4.11
10. normal devel. of auditory behavior/function	4.70	4.52	4.60
11. normal processes of speech and language	4.04	3.78	3.83
12. normal processes of auditory behavior	4.59	4.40	4.49
13. neuroanatomy and neurophysiology	4.48	4.13	4.11
14. psychoacoustics	4.27	3.98	3.94
15. cerumen management	3.31	3.43	3.42
16. pharmacology	2.99	3.21	3.20
17. basic electronics	3.26	3.33	3.21
STIMULUS FACTORS			
[Acoustic]			
18. temporal/spectral/amplitude chrctrstc of snds	4.40	4.00	4.00
19. Effects of propagation and transmission	4.41	4.06	4.04
20. sound analysis and quantification	4.57	4.11	4.03
[Non-Acoustic]			
21. physical characteristics of non-acoustic stim	3.21	3.29	3.21
22. Effect of the delivery medium or system	3.72	3.56	3.60
23. non-auditory stimulus analysis	3.53	3.49	3.52
METHODS			
24. Hearing Screening	4.77	4.58	4.63
a. Behavioral (VRA, etc.)	4.73	4.73	4.73
b. Objective (ABR, OAE, OAES, etc)	4.74	4.71	4.66
c. Written (high risk register, etc)	4.49	4.39	4.37
25. Speech-Language Screening	3.58	3.30	3.37
a. Formal	3.49	2.83	2.92
b. Informal	3.68	3.33	3.45
26. Consultation	4.05	3.96	4.00
27. Prevention	4.41	4.19	4.39
28. Counseling	4.58	4.60	4.62
a. Informational	4.60	4.52	4.54
b. Affective	4.41	4.40	4.46

		Educator N=83	Supervisor N=126	Practitioner N=1192
29.	Basic Audiologic Assessment	4.95	4.95	4.96
	a. Behavioral (pure tone, speech, etc)	4.94	4.94	4.96
	b. Objective (immittance, etc)	4.93	4.94	4.94
	c. Self-assessment inventories	4.26	3.95	3.93
30.	Pediatric Audiologic Assessment	4.91	4.86	4.89
	a. Behavioral	4.89	4.87	4.87
	b. Objective	4.89	4.85	4.86
31.	Comprehensive Audiologic Assessment	4.94	4.91	4.87
	a. Sensory vs. Neural	4.91	4.87	4.75
	b. Central auditory nervous system disorders	4.33	4.38	4.25
	c. Pseudohypacusis	4.61	4.59	4.52
	d. Tinnitus	4.12	4.36	4.28
32.	Electrodiagnostic Test Procedures(non-audtry)	4.15	4.21	4.13
33.	Auditory Evoked Potential Assessment	4.79	4.62	4.52
	a. Ecoch G	3.86	3.88	3.66
	b. ABR	4.83	4.71	4.58
	c. Middle	3.77	3.71	3.56
	d. Late	3.48	3.62	3.49
	e. Event-related/auditory-cognitive potential	3.42	3.50	3.34
34.	Neurophysiologic Intraoperative Monitoring	3.15	3.13	3.12
	a. Auditory	3.36	3.25	3.26
	b. Non-auditory	2.65	3.02	2.87
	c. Effects of anesthesia/pharmacological agents	3.33	3.38	3.29
35.	Balance System Assessment	4.04	4.10	4.06
	a. ENG	3.98	4.07	4.06
	b. Rotational-chair	3.21	3.19	3.26
	c. Posturography	3.23	3.19	3.24
36.	Hearing Conservation	4.25	4.22	4.29
	a. Occupational	4.20	4.20	4.26
	b. Non-occupational	4.11	4.15	4.21
	c. Ototoxic agents	4.24	4.35	4.32
37.	Audiological Rehabilitation Assessment	4.70	4.50	4.53
	a. Pediatric	4.75	4.49	4.58
	b. Adult	4.66	4.46	4.51
	c. Geriatric	4.67	4.47	4.52
38.	Audiological Rehabilitation	4.50	4.08	4.16
	a. Pediatric	4.55	4.13	4.24
	b. Adult	4.46	4.09	4.15
	c. Geriatric	4.47	4.12	4.15
	d. Alternative communication modes/systems	4.04	3.73	3.79
	e. Balance function rehabilitation	3.12	3.17	3.31

	Educator N=83	Supervisor N=126	Practitioner N=1192
39. Product Dispensing	4.83	4.77	4.78
a. Hearing aids	4.90	4.81	4.80
b. Assistive devices	4.71	4.56	4.50
c. Cochlear implant processors	3.99	3.74	3.60
d. Tinnitus maskers	3.27	3.52	3.30
e. Tactile/sensory devices	3.41	3.46	3.36
f. Earmold impressions	4.83	4.79	4.83
40. Product/Repair Modification	4.16	4.37	4.41
41. Hearing Aid Assessment	4.85	4.79	4.80
a. Developmentally appropriate behavioral testin	4.78	4.65	4.70
b. Real-ear measurement	4.72	4.52	4.46
c. Electroacoustic evaluation	4.80	4.60	4.53
d. Determination of earmold characteristics	4.78	4.65	4.61
e. Administration of communication inventories	4.20	3.59	3.50
42. Assistive Listening System/Device Selection	4.39	4.20	4.14
43. Sensory Aids Assessment (e.g., tactile aids)	3.61	3.53	3.50
44. Hearing Aid Fitting/Orientation	4.84	4.84	4.82
a. Behavioral	4.72	4.69	4.66
b. Real-ear measurments	4.77	4.55	4.50
c. Earmold modification	4.73	4.69	4.64
d. Self-assessment inventories	4.22	3.82	3.66
e. Counseling/rehabilitation	4.74	4.73	4.69
45. Sensory Aids Fitting/Orientation	3.71	3.50	3.47
46. Electrical Stimulation for Cochlear Implant	3.58	3.29	3.24
47. Implant Selection and Rehabilitation	3.53	3.09	3.19
TEST ANALYSIS			
48. Statistical Principles.	3.71	2.89	2.88
a. Parametric	3.66	2.84	2.80
b. Non-parametric	3.54	2.79	2.80
c. Clinical decision analysis	4.00	3.13	3.05
KNOWLEDGE FOR RELATED PROFESSIONAL ACTIVITIES			
[Legislative]			
49. legislation/regulation relevant to the profession	4.07	3.79	3.79
50. rights of patient/consumer	4.33	4.26	4.25
51. sales of hearing aids	4.24	4.27	4.25
52. workers' compensation	3.66	3.62	3.54
53. noise exposure and hearing conservation	4.22	4.17	4.20
54. public laws related to clinical practice	4.34	4.27	4.18
55. state-licensure/regulation	4.44	4.39	4.36

		Educator N=83	Supervisor N=126	Practitioner N=1192
[Administrative]				
56.	third-party reimbursement	3.95	3.66	3.60
57.	quality improvement techniques	3.84	3.70	3.61
58.	safety and health/universal precautions	4.28	4.31	4.29
59.	calibration standards, documentation, procedures	4.34	4.06	3.96
60.	professional standards/accreditation	4.21	4.18	4.09
61.	human resources management	3.31	3.27	3.20

Appendix I

Mean Importance Ratings: Knowledge Areas -- Practitioner Subgroups

Mean Importance Ratings - Gender
KNOWLEDGE AREAS

	Male N=180	Female N=1009
BASIC KNOWLEDGE FOR EVALUATION AND TREATMENT		
1. professional codes of ethics	4.15	4.25
2. patient characteristics	4.16	4.23
3. aspects of human communication	3.36	3.41
4. effects of hearing impairment	4.18	4.27
5. anatomy/physiology of various syst	4.69	4.67
6. pathophysiology of various systems	4.68	4.60
7. embryology/devel. of various systems	4.07	4.18
8. etiologic factors affecting various systems	4.60	4.58
9. normal devel. of speech and language	4.02	4.12
10. normal devel. of auditory behavior/function	4.62	4.60
11. normal processes of speech and language	3.70	3.86
12. normal processes of auditory behavior	4.50	4.49
13. neuroanatomy and neurophysiology	4.26	4.08
14. psychoacoustics	4.22	3.89
15. cerumen management	3.81	3.34
16. pharmacology	3.44	3.16
17. basic electronics	3.47	3.15
STIMULUS FACTORS		
[Acoustic]		
18. temporal/spectral/amplitude chrctrstc of snds	4.31	3.95
19. Effects of propagation and transmission	4.27	4.00
20. sound analysis and quantification	4.27	3.99
[Non-Acoustic]		
21. physical characteristics of non-acoustic stim	3.40	3.17
22. Effect of the delivery medium or system	3.75	3.58
23. non-auditory stimulus analysis	3.66	3.49
METHODS		
24. Hearing Screening	4.51	4.66
a. Behavioral (VRA, etc.)	4.63	4.75
b. Objective (ABR, OAE, OAES, etc)	4.69	4.65
c. Written (high risk register, etc)	4.23	4.40
25. Speech-Language Screening	3.14	3.41
a. Formal	2.86	2.94
b. Informal	3.36	3.46
26. Consultation	4.00	4.00
27. Prevention	4.39	4.39
28. Counseling	4.54	4.63
a. Informational	4.41	4.56

		Male N=180	Female N=1009
29.	Basic Audiologic Assessment	4.96	4.96
	a. Behavioral (pure tone, speech, etc)	4.94	4.96
	b. Objective (immittance, etc)	4.94	4.94
	c. Self-assessment inventories	3.92	3.93
30.	Pediatric Audiologic Assessment	4.85	4.89
	a. Behavioral	4.82	4.88
	b. Objective	4.85	4.86
31.	Comprehensive Audiologic Assessment	4.93	4.86
	a. Sensory vs. Neural	4.83	4.74
	b. Central auditory nervous system disorders	4.36	4.23
	c. Pseudohypacusis	4.52	4.52
	d. Tinnitus	4.27	4.28
32.	Electrodiagnostic Test Procedures(non-audtry)	4.19	4.12
33.	Auditory Evoked Potential Assessment	4.65	4.49
	a. Ecoch G	3.86	3.62
	b. ABR	4.67	4.57
	c. Middle	3.79	3.52
	d. Late	3.60	3.47
	e. Event-related/auditory-cognitive potential	3.46	3.32
34.	Neurophysiologic Intraoperative Monitoring	3.38	3.07
	a. Auditory	3.53	3.21
	b. Non-auditory	3.13	2.82
	c. Effects of anesthesia/pharmacological agents	3.56	3.24
35.	Balance System Assessment	4.08	4.06
	a. ENG	4.07	4.05
	b. Rotational-chair	3.27	3.26
	c. Posturography	3.27	3.23
36.	Hearing Conservation	4.40	4.27
	a. Occupational	4.38	4.23
	b. Non-occupational	4.27	4.20
	c. Ototoxic agents	4.42	4.30
37.	Audiological Rehabilitation Assessment	4.60	4.52
	a. Pediatric	4.60	4.57
	b. Adult	4.56	4.50
	c. Geriatric	4.57	4.51
38.	Audiological Rehabilitation	4.11	4.17
	a. Pediatric	4.20	4.25
	b. Adult	4.15	4.15
	c. Geriatric	4.19	4.15
	d. Alternative communication modes/systems	3.74	3.80
	e. Balance function rehabilitation	3.43	3.29

	Male N=180	Female N=1009
39. Product Dispensing	4.79	4.78
a. Hearing aids	4.80	4.80
b. Assistive devices	4.49	4.50
c. Cochlear implant processors	3.70	3.58
d. Tinnitus maskers	3.37	3.29
e. Tactile/sensory devices	3.38	3.36
f. Earmold impressions	4.83	4.83
40. Product/Repair Modification	4.49	4.39
41. Hearing Aid Assessment	4.81	4.80
a. Developmentally appropriate behavioral testin	4.64	4.71
b. Real-ear measurement	4.58	4.44
c. Electroacoustic evaluation	4.62	4.52
d. Determination of earmold characteristics	4.67	4.60
e. Administration of communication inventories	3.63	3.47
42. Assistive Listening System/Device Selection	4.12	4.14
43. Sensory Aids Assessment (e.g., tactile aids)	3.53	3.50
44. Hearing Aid Fitting/Orientaticn	4.84	4.82
a. Behavioral	4.65	4.66
b. Real-ear measurments	4.66	4.48
c. Earmold modification	4.72	4.62
d. Self-assessment inventories	3.74	3.65
e. Counseling/rehabilitation	4.67	4.69
45. Sensory Aids Fitting/Orientation	3.51	3.46
46. Electrical Stimulation for Cochlear Implant	3.36	3.22
47. Implant Selection and Rehabilitation	3.38	3.15
TEST ANALYSIS		
48. Statistical Principles.	3.05	2.84
a. Parametric	2.99	2.76
b. Non-parametric	3.00	2.76
c. Clinical decision analysis	3.36	2.98
KNOWLEDGE FOR RELATED PROFESSIONAL ACTIVITIES		
[Legislative]		
49. legislation/regulation relevant to the profession	3.94	3.76
50. rights of patient/consumer	4.27	4.25
51. sales of hearing aids	4.32	4.24
52. workers' compensation	3.61	3.53
53. noise exposure and hearing conservation	4.33	4.18
54. public laws related to clinical practice	4.29	4.16
55. state-licensure/regulation	4.37	4.36

	Male N=180	Female N=1009
[Administrative]		
56. third-party reimbursement	4.01	3.52
57. quality improvement techniques	3.84	3.56
58. safety and health/universal precautions	4.28	4.29
59. calibration standards, documentation, procedures	4.12	3.94
60. professional standards/accreditation	4.11	4.09
61. human resources management	3.42	3.16

Mean Importance Ratings - Race/Ethnicity
KNOWLEDGE AREAS

	White N=1126	Non-White N=57
BASIC KNOWLEDGE FOR EVALUATION AND TREATMENT		
1. professional codes of ethics	4.23	4.32
2. patient characteristics	4.21	4.35
3. aspects of human communication	3.39	3.67
4. effects of hearing impairment	4.25	4.30
5. anatomy/physiology of various syst	4.67	4.78
6. pathophysiology of various systems	4.60	4.71
7. embryology/devel. of various systems	4.15	4.43
8. etiologic factors affecting various systems	4.58	4.68
9. normal devel. of speech and language	4.10	4.25
10. normal devel. of auditory behavior/function	4.60	4.70
11. normal processes of speech and language	3.83	4.02
12. normal processes of auditory behavior	4.48	4.61
13. neuroanatomy and neurophysiology	4.10	4.22
14. psychoacoustics	3.93	4.18
15. cerumen management	3.42	3.36
16. pharmacology	3.20	3.28
17. basic electronics	3.20	3.33
STIMULUS FACTORS		
[Acoustic]		
18. temporal/spectral/amplitude chrctrstc of snds	3.99	4.12
19. Effects of propagation and transmission	4.03	4.18
20. sound analysis and quantification	4.03	4.13
[Non-Acoustic]		
21. physical characteristics of non-acoustic stim	3.20	3.49
22. Effect of the delivery medium or system	3.59	3.92
23. non-auditory stimulus analysis	3.51	3.67
METHODS		
24. Hearing Screening	4.64	4.53
a. Behavioral (VRA, etc.)	4.73	4.69
b. Objective (ABR, OAE, OAES, etc)	4.65	4.72
c. Written (high risk register, etc)	4.37	4.42
25. Speech-Language Screening	3.36	3.50
a. Formal	2.91	3.21
b. Informal	3.45	3.40
26. Consultation	3.99	4.19
27. Prevention	4.39	4.36
28. Counseling	4.62	4.57
a. Informational	4.54	4.52
b. Affective	4.46	4.40

		White N=1126	Non-White N=57
29.	Basic Audiologic Assessment	4.96	4.94
	a. Behavioral (pure tone, speech, etc)	4.96	4.91
	b. Objective (immittance, etc)	4.94	4.95
	c. Self-assessment inventories	3.93	4.00
30.	Pediatric Audiologic Assessment	4.89	4.87
	a. Behavioral	4.87	4.82
	b. Objective	4.85	4.89
31.	Comprehensive Audiologic Assessment	4.87	4.90
	a. Sensory vs. Neural	4.75	4.76
	b. Central auditory nervous system disorders	4.24	4.29
	c. Pseudohypacusis	4.52	4.52
	d. Tinnitus	4.29	4.15
32.	Electrodiagnostic Test Procedures(non-audtry)	4.13	4.31
33.	Auditory Evoked Potential Assessment	4.51	4.65
	a. Ecoch G	3.65	3.80
	b. ABR	4.58	4.67
	c. Middle	3.55	3.79
	d. Late	3.47	3.70
	e. Event-related/auditory-cognitive potential	3.33	3.48
34.	Neurophysiologic Intraoperative Monitoring	3.11	3.47
	a. Auditory	3.26	3.45
	b. Non-auditory	2.86	3.27
	c. Effects of anesthesia/pharmacological agents	3.28	3.61
35.	Balance System Assessment	4.06	4.12
	a. ENG	4.05	4.10
	b. Rotational-chair	3.26	3.33
	c. Posturography	3.23	3.32
36.	Hearing Conservation	4.28	4.31
	a. Occupational	4.26	4.19
	b. Non-occupational	4.22	4.09
	c. Ototoxic agents	4.31	4.38
37.	Audiological Rehabilitation Assessment	4.52	4.73
	a. Pediatric	4.57	4.60
	b. Adult	4.50	4.64
	c. Geriatric	4.51	4.67
38.	Audiological Rehabilitation	4.15	4.28
	a. Pediatric	4.24	4.33
	b. Adult	4.14	4.28
	c. Geriatric	4.15	4.26
	d. Alternative communication modes/systems	3.78	3.88
	e. Balance function rehabilitation	3.30	3.52

	White N=1126	Non-White N=57
39. Product Dispensing	4.78	4.71
a. Hearing aids	4.81	4.74
b. Assistive devices	4.50	4.48
c. Cochlear implant processors	3.59	3.67
d. Tinnitus maskers	3.29	3.48
e. Tactile/sensory devices	3.35	3.53
f. Earmold impressions	4.83	4.77
40. Product/Repair Modification	4.40	4.45
41. Hearing Aid Assessment	4.80	4.78
a. Developmentally appropriate behavioral testin	4.69	4.81
b. Real-ear measurement	4.45	4.52
c. Electroacoustic evaluation	4.53	4.56
d. Determination of earmold characteristics	4.61	4.57
e. Administration of communication inventories	3.50	3.55
42. Assistive Listening System/Device Selection	4.14	4.00
43. Sensory Aids Assessment (e.g., tactile aids)	3.49	3.79
44. Hearing Aid Fitting/Orientation	4.83	4.76
a. Behavioral	4.67	4.50
b. Real-ear measurments	4.50	4.57
c. Earmold modification	4.64	4.55
d. Self-assessment inventories	3.66	3.81
e. Counseling/rehabilitation	4.68	4.70
45. Sensory Aids Fitting/Orientation	3.46	3.67
46. Electrical Stimulation for Cochlear Implant	3.24	3.36
47. Implant Selection and Rehabilitation	3.18	3.31
TEST ANALYSIS		
48. Statistical Principles.	2.88	2.82
a. Parametric	2.81	2.64
b. Non-parametric	2.81	2.66
c. Clinical decision analysis	3.05	2.92
KNOWLEDGE FOR RELATED PROFESSIONAL ACTIVITIES		
[Legislative]		
49. legislation/regulation relevant to the profession	3.78	3.93
50. rights of patient/consumer	4.25	4.20
51. sales of hearing aids	4.25	4.19
52. workers' compensation	3.54	3.59
53. noise exposure and hearing conservation	4.20	4.25
54. public laws related to clinical practice	4.17	4.27
55. state-licensure/regulation	4.37	4.27

	White N=1126	Non-White N=57
[Administrative]		
56. third-party reimbursement	3.60	3.69
57. quality improvement techniques	3.60	3.69
58. safety and health/universal precautions	4.29	4.30
59. calibration standards, documentation, procedures	3.96	4.04
60. professional standards/accreditation	4.08	4.25
61. human resources management	3.19	3.41

Mean Importance Ratings- Practice Setting

KNOWLEDGE AREAS

	School N=79	Hospital N=319	Pr. Phys. Off. N=324	SLP & AUD N=84	Own Office N=109
BASIC KNOWLEDGE FOR EVALUATION AND TREATMENT					
1. professional codes of ethics	4.17	4.12	4.24	4.31	4.26
2. patient characteristics	4.22	4.24	4.17	4.19	4.22
3. aspects of human communication	3.53	3.42	3.37	3.12	3.37
4. effects of hearing impairment	4.38	4.18	4.20	4.22	4.31
5. anatomy/physiology of various syst	4.56	4.68	4.69	4.65	4.65
6. pathophysiology of various systems	4.51	4.63	4.62	4.51	4.59
7. embryology/devel. of various systems	4.11	4.18	4.20	3.99	4.11
8. etiologic factors affecting various systems	4.43	4.64	4.60	4.46	4.56
9. normal devel. of speech and language	4.18	4.10	4.11	3.90	4.06
10. normal devel. of auditory behavior/function	4.53	4.56	4.65	4.54	4.57
11. normal processes of speech and language	3.88	3.84	3.86	3.58	3.79
12. normal processes of auditory behavior	4.39	4.46	4.50	4.36	4.52
13. neuroanatomy and neurophysiology	3.84	4.17	4.11	3.84	4.29
14. psychoacoustics	3.76	3.93	3.92	3.64	4.19
15. cerumen management	3.24	3.33	3.35	3.51	3.81
16. pharmacology	3.08	3.22	3.16	2.95	3.37
17. basic electronics	3.10	3.21	3.18	3.01	3.51
STIMULUS FACTORS					
[Acoustic]					
18. temporal/spectral/amplitude chrctrstc of snds	3.88	4.00	4.01	3.80	4.18
19. Effects of propagation and transmission	3.99	4.02	4.00	3.87	4.24
20. sound analysis and quantification	3.81	4.08	4.00	3.93	4.22
[Non-Acoustic]					
21. physical characteristics of non-acoustic stim	3.14	3.29	3.15	3.03	3.37
22. Effect of the delivery medium or system	3.53	3.63	3.61	3.45	3.64
23. non-auditory stimulus analysis	3.47	3.50	3.52	3.42	3.52

	School N=79	Hospital N=319	Pr. Phys. Off. N=324	SLP & AUD N=84	Own Office N=109
METHODS					
24. Hearing Screening	4.70	4.62	4.64	4.67	4.53
a. Behavioral (VRA, etc.)	4.76	4.72	4.74	4.67	4.57
b. Objective (ABR, OAE, OAES, etc)	4.61	4.67	4.69	4.58	4.61
c. Written (high risk register, etc)	4.37	4.36	4.40	4.34	4.26
25. Speech-Language Screening	3.56	3.34	3.31	3.28	3.24
a. Formal	3.21	2.88	2.86	2.56	2.75
b. Informal	3.56	3.48	3.32	3.29	3.41
26. Consultation	4.16	3.93	3.90	3.95	4.11
27. Prevention	4.25	4.31	4.45	4.35	4.41
28. Counseling	4.46	4.61	4.69	4.65	4.49
a. Informational	4.47	4.51	4.57	4.59	4.45
b. Affective	4.30	4.43	4.51	4.59	4.35
29. Basic Audiologic Assessment	4.93	4.97	4.97	4.95	4.95
a. Behavioral (pure tone, speech, etc)	4.92	4.97	4.96	4.95	4.94
b. Objective (immittance, etc)	4.91	4.95	4.94	4.94	4.93
c. Self-assessment inventories	3.89	3.91	3.85	3.76	4.07
30. Pediatric Audiologic Assessment	4.86	4.91	4.89	4.86	4.80
a. Behavioral	4.87	4.87	4.88	4.86	4.79
b. Objective	4.80	4.87	4.86	4.78	4.80
31. Comprehensive Audiologic Assessment	4.75	4.88	4.88	4.84	4.88
a. Sensory vs. Neural	4.66	4.76	4.74	4.76	4.79
b. Central auditory nervous system disorders	4.12	4.22	4.23	4.13	4.37
c. Pseudohypacusis	4.23	4.52	4.60	4.44	4.58
d. Tinnitus	4.00	4.26	4.39	4.17	4.40
32. Electrodiagnostic Test Procedures(non-audtry)	3.84	4.12	4.15	4.34	4.14

	School N=79	Hospital N=319	Pr. Phys. Off. N=324	SLP & AUD N=84	Own Office N=109
33. Auditory Evoked Potential Assessment	4.20	4.59	4.57	4.40	4.46
a. Ecoch G	3.72	3.52	3.77	3.38	3.76
b. ABR	4.22	4.65	4.65	4.51	4.49
c. Middle	3.83	3.43	3.49	3.42	3.71
d. Late	3.75	3.33	3.40	3.38	3.65
e. Event-related/auditory-cognitive potential	3.56	3.13	3.26	3.27	3.62
34. Neurophysiologic Intraoperative Monitoring	2.98	3.16	2.94	3.08	3.31
a. Auditory	3.08	3.26	3.17	3.19	3.41
b. Non-auditory	2.87	2.82	2.73	2.95	3.06
c. Effects of anesthesia/pharmacological agents	3.04	3.36	3.24	3.08	3.47
35. Balance System Assessment	3.51	4.08	4.32	3.92	3.94
a. ENG	3.45	4.06	4.34	3.88	3.90
b. Rotational-chair	3.17	3.21	3.25	3.06	3.31
c. Posturography	3.23	3.19	3.22	2.98	3.29
36. Hearing Conservation	4.06	4.22	4.34	4.33	4.35
a. Occupational	4.03	4.18	4.32	4.27	4.34
b. Non-occupational	3.95	4.16	4.25	4.26	4.32
c. Ototoxic agents	4.05	4.34	4.33	4.29	4.32
37. Audiological Rehabilitation Assessment	4.56	4.49	4.53	4.47	4.57
a. Pediatric	4.53	4.53	4.57	4.62	4.55
b. Adult	4.41	4.47	4.53	4.45	4.52
c. Geriatric	4.40	4.49	4.54	4.46	4.48
38. Audiological Rehabilitation	4.31	4.10	4.09	4.13	4.15
a. Pediatric	4.39	4.10	4.16	4.35	4.23
b. Adult	4.11	4.06	4.08	4.15	4.16
c. Geriatric	4.11	4.07	4.10	4.19	4.16
d. Alternative communication modes/systems	3.94	3.72	3.65	3.95	3.89
e. Balance function rehabilitation	3.23	3.22	3.24	3.23	3.47

	School N=79	Hospital N=319	Pr. Phys. Off. N=324	SLP & AUD N=84	Own Office N=109
39. Product Dispensing	4.49	4.76	4.80	4.84	4.85
a. Hearing aids	4.56	4.78	4.82	4.86	4.84
b. Assistive devices	4.41	4.45	4.52	4.43	4.50
c. Cochlear implant processors	3.77	3.42	3.56	3.36	3.79
d. Tinnitus maskers	3.21	3.16	3.30	3.12	3.71
e. Tactile/sensory devices	3.40	3.21	3.33	3.24	3.53
f. Earmold impressions	4.59	4.80	4.83	4.87	4.90
40. Product/Repair Modification	4.00	4.32	4.48	4.59	4.59
41. Hearing Aid Assessment	4.65	4.76	4.83	4.84	4.86
a. Developmentally appropriate behavioral testin	4.66	4.67	4.72	4.66	4.67
b. Real-ear measurement	4.35	4.46	4.40	4.43	4.60
c. Electroacoustic evaluation	4.42	4.52	4.49	4.60	4.59
d. Determination of earmold characteristics	4.49	4.55	4.65	4.68	4.75
e. Administration of communication inventories	3.30	3.43	3.41	3.55	3.59
42. Assistive Listening System/Device Selection	4.09	4.03	4.17	4.07	4.23
43. Sensory Aids Assessment (e.g., tactile aids)	3.42	3.35	3.50	3.46	3.45
44. Hearing Aid Fitting/Orientation	4.66	4.78	4.87	4.86	4.88
a. Behavioral	4.62	4.58	4.69	4.65	4.75
b. Real-ear measurments	4.29	4.51	4.48	4.49	4.64
c. Earmold modification	4.38	4.60	4.68	4.69	4.78
d. Self-assessment inventories	3.51	3.60	3.57	3.63	3.89
e. Counseling/rehabilitation	4.47	4.66	4.72	4.79	4.70
45. Sensory Aids Fitting/Orientation	3.37	3.41	3.40	3.44	3.36
46. Electrical Stimulation for Cochlear Implant	3.37	3.12	3.18	3.11	3.24
47. Implant Selection and Rehabilitation	3.38	3.08	3.08	3.08	3.28
TEST ANALYSIS					
48. Statistical Principles.	2.77	2.88	2.84	2.48	3.09
a. Parametric	2.77	2.81	2.72	2.45	2.99
b. Non-parametric	2.79	2.82	2.71	2.45	2.99
c. Clinical decision analysis	2.92	3.02	2.98	2.65	3.28

	School N=79	Hospital N=319	Pr. Phys. Off. N=324	SLP & AUD N=84	Own Office N=109
KNOWLEDGE FOR RELATED PROFESSIONAL ACTIVITIES					
[Legislative]					
49. legislation/regulation relevant to the profession	3.58	3.77	3.78	3.62	3.96
50. rights of patient/consumer	4.03	4.23	4.28	4.27	4.25
51. sales of hearing aids	3.86	4.12	4.37	4.39	4.44
52. workers' compensation	3.16	3.42	3.62	3.44	3.69
53. noise exposure and hearing conservation	3.95	4.12	4.26	4.21	4.34
54. public laws related to clinical practice	3.85	4.04	4.24	4.16	4.40
55. state-licensure/regulation	4.16	4.29	4.43	4.43	4.43
[Administrative]					
56. third-party reimbursement	3.13	3.53	3.60	3.51	3.96
57. quality improvement techniques	3.25	3.55	3.62	3.51	3.85
58. safety and health/universal precautions	4.04	4.39	4.25	4.25	4.27
59. calibration standards, documentation, procedures	3.56	4.01	3.95	3.90	4.10
60. professional standards/accreditation	3.73	4.05	4.18	4.18	4.17
61. human resources management	3.08	3.18	3.19	3.12	3.34

Mean Importance Ratings - Years Certified
KNOWLEDGE AREAS

	< = 5 N=341	> 5 N=847
BASIC KNOWLEDGE FOR EVALUATION AND TREATMENT		
1. professional codes of ethics	4.29	4.21
2. patient characteristics	4.24	4.20
3. aspects of human communication	3.29	3.45
4. effects of hearing impairment	4.27	4.25
5. anatomy/physiology of various syst	4.65	4.69
6. pathophysiology of various systems	4.56	4.63
7. embryology/devel. of various systems	4.11	4.19
8. etiologic factors affecting various systems	4.54	4.61
9. normal devel. of speech and language	4.08	4.12
10. normal devel. of auditory behavior/function	4.56	4.62
11. normal processes of speech and language	3.75	3.87
12. normal processes of auditory behavior	4.45	4.50
13. neuroanatomy and neurophysiology	4.03	4.14
14. psychoacoustics	3.82	3.99
15. cerumen management	3.30	3.47
16. pharmacology	3.07	3.25
17. basic electronics	3.17	3.22
STIMULUS FACTORS		
[Acoustic]		
18. temporal/spectral/amplitude chrctrstc of snds	3.96	4.02
19. Effects of propagation and transmission	3.98	4.06
20. sound analysis and quantification	3.96	4.05
[Non-Acoustic]		
21. physical characteristics of non-acoustic stim	3.18	3.22
22. Effect of the delivery medium or system	3.61	3.60
23. non-auditory stimulus analysis	3.46	3.54
METHODS		
24. Hearing Screening	4.63	4.63
a. Behavioral (VRA, etc.)	4.75	4.72
b. Objective (ABR, OAE, OAES, etc)	4.72	4.63
c. Written (high risk register, etc)	4.43	4.35
25. Speech-Language Screening	3.30	3.39
a. Formal	2.79	2.97
b. Informal	3.40	3.47
26. Consultation	4.02	3.99
27. Prevention	4.42	4.38
28. Counseling	4.62	4.61
a. Informational	4.53	4.54
b. Affective	4.48	4.45

	< = 5 N=341	> 5 N=847
29. Basic Audiologic Assessment	4.96	4.96
a. Behavioral (pure tone, speech, etc)	4.96	4.96
b. Objective (immittance, etc)	4.94	4.94
c. Self-assessment inventories	3.78	3.99
30. Pediatric Audiologic Assessment	4.89	4.89
a. Behavioral	4.87	4.87
b. Objective	4.84	4.87
31. Comprehensive Audiologic Assessment	4.87	4.86
a. Sensory vs. Neural	4.71	4.77
b. Central auditory nervous system disorders	4.19	4.27
c. Pseudohypacusis	4.49	4.54
d. Tinnitus	4.26	4.29
32. Electrodiagnostic Test Procedures(non-audtry)	4.25	4.09
33. Auditory Evoked Potential Assessment	4.55	4.50
a. Ecoch G	3.56	3.69
b. ABR	4.66	4.55
c. Middle	3.38	3.64
d. Late	3.32	3.56
e. Event-related/auditory-cognitive potential	3.13	3.43
34. Neurophysiologic Intraoperative Monitoring	3.17	3.10
a. Auditory	3.31	3.25
b. Non-auditory	2.84	2.89
c. Effects of anesthesia/pharmacological agents	3.28	3.30
35. Balance System Assessment	4.07	4.05
a. ENG	4.05	4.06
b. Rotational-chair	3.16	3.30
c. Posturography	3.11	3.29
36. Hearing Conservation	4.32	4.27
a. Occupational	4.23	4.27
b. Non-occupational	4.21	4.22
c. Ototoxic agents	4.27	4.34
37. Audiological Rehabilitation Assessment	4.53	4.54
a. Pediatric	4.59	4.57
b. Adult	4.49	4.52
c. Geriatric	4.50	4.53
38. Audiological Rehabilitation	4.17	4.16
a. Pediatric	4.24	4.24
b. Adult	4.13	4.15
c. Geriatric	4.15	4.16
d. Alternative communication modes/systems	3.81	3.78
e. Balance function rehabilitation	3.36	3.29

	< = 5 N=341	> 5 N=847
39. Product Dispensing	4.83	4.76
a. Hearing aids	4.85	4.79
b. Assistive devices	4.54	4.48
c. Cochlear implant processors	3.59	3.60
d. Tinnitus maskers	3.24	3.33
e. Tactile/sensory devices	3.37	3.36
f. Earmold impressions	4.84	4.82
40. Product/Repair Modification	4.50	4.37
41. Hearing Aid Assessment	4.84	4.78
a. Developmentally appropriate behavioral testin	4.71	4.69
b. Real-ear measurement	4.49	4.44
c. Electroacoustic evaluation	4.59	4.51
d. Determination of earmold characteristics	4.65	4.59
e. Administration of communication inventories	3.39	3.54
42. Assistive Listening System/Device Selection	4.26	4.09
43. Sensory Aids Assessment (e.g., tactile aids)	3.55	3.48
44. Hearing Aid Fitting/Orientation	4.87	4.80
a. Behavioral	4.68	4.65
b. Real-ear measurments	4.55	4.48
c. Earmold modification	4.66	4.63
d. Self-assessment inventories	3.53	3.72
e. Counseling/rehabilitation	4.74	4.66
45. Sensory Aids Fitting/Orientation	3.51	3.45
46. Electrical Stimulation for Cochlear Implant	3.19	3.27
47. Implant Selection and Rehabilitation	3.14	3.21
TEST ANALYSIS		
48. Statistical Principles.	2.88	2.88
a. Parametric	2.75	2.82
b. Non-parametric	2.75	2.83
c. Clinical decision analysis	3.04	3.05
KNOWLEDGE FOR RELATED PROFESSIONAL ACTIVITIES		
[Legislative]		
49. legislation/regulation relevant to the profession	3.89	3.75
50. rights of patient/consumer	4.32	4.22
51. sales of hearing aids	4.28	4.24
52. workers' compensation	3.55	3.54
53. noise exposure and hearing conservation	4.26	4.17
54. public laws related to clinical practice	4.20	4.17
55. state-licensure/regulation	4.39	4.35

	< = 5 N=341	> 5 N=847
[Administrative]		
56. third-party reimbursement	3.57	3.61
57. quality improvement techniques	3.65	3.58
58. safety and health/universal precautions	4.27	4.30
59. calibration standards, documentation, procedures	3.88	4.00
60. professional standards/accreditation	4.19	4.05
61. human resources management	3.24	3.19

Mean Importance Ratings - Highest Educational Level
KNOWLEDGE AREAS

	Master N=1148	Doctorate N=44
BASIC KNOWLEDGE FOR EVALUATION AND TREATMENT		
1. professional codes of ethics	4.24	4.20
2. patient characteristics	4.21	4.34
3. aspects of human communication	3.39	3.55
4. effects of hearing impairment	4.25	4.38
5. anatomy/physiology of various syst	4.67	4.70
6. pathophysiology of various systems	4.60	4.75
7. embryology/devel. of various systems	4.17	4.07
8. etiologic factors affecting various systems	4.58	4.77
9. normal devel. of speech and language	4.11	4.11
10. normal devel. of auditory behavior/function	4.60	4.61
11. normal processes of speech and language	3.84	3.79
12. normal processes of auditory behavior	4.49	4.58
13. neuroanatomy and neurophysiology	4.09	4.41
14. psychoacoustics	3.93	4.36
15. cerumen management	3.40	3.69
16. pharmacology	3.20	3.33
17. basic electronics	3.19	3.51
STIMULUS FACTORS		
[Acoustic]		
18. temporal/spectral/amplitude chrctrstc of snds	3.99	4.27
19. Effects of propagation and transmission	4.02	4.36
20. sound analysis and quantification	4.01	4.57
[Non-Acoustic]		
21. physical characteristics of non-acoustic stim	3.19	3.56
22. Effect of the delivery medium or system	3.59	3.95
23. non-auditory stimulus analysis	3.50	3.86
METHODS		
24. Hearing Screening	4.63	4.62
a. Behavioral (VRA, etc.)	4.74	4.53
b. Objective (ABR, OAE, OAES, etc)	4.66	4.63
c. Written (high risk register, etc)	4.38	4.21
25. Speech-Language Screening	3.36	3.39
a. Formal	2.91	3.15
b. Informal	3.44	3.59
26. Consultation	4.00	3.95
27. Prevention	4.40	4.19
28. Counseling	4.62	4.62
a. Informational	4.54	4.53
b. Affective	4.46	4.40

		Master N=1148	Doctorate N=44
29.	Basic Audiologic Assessment	4.96	4.98
	a. Behavioral (pure tone, speech, etc)	4.96	4.98
	b. Objective (immittance, etc)	4.94	4.95
	c. Self-assessment inventories	3.92	4.12
30.	Pediatric Audiologic Assessment	4.89	4.90
	a. Behavioral	4.87	4.86
	b. Objective	4.85	4.95
31.	Comprehensive Audiologic Assessment	4.86	4.95
	a. Sensory vs. Neural	4.75	4.90
	b. Central auditory nervous system disorders	4.24	4.41
	c. Pseudohypacusis	4.51	4.70
	d. Tinnitus	4.28	4.20
32.	Electrodiagnostic Test Procedures(non-audtry)	4.14	3.90
33.	Auditory Evoked Potential Assessment	4.51	4.69
	a. Ecoch G	3.64	3.92
	b. ABR	4.58	4.66
	c. Middle	3.55	3.88
	d. Late	3.48	3.67
	e. Event-related/auditory-cognitive potential	3.32	3.64
34.	Neurophysiologic Intraoperative Monitoring	3.12	3.19
	a. Auditory	3.26	3.41
	b. Non-auditory	2.88	2.73
	c. Effects of anesthesia/pharmacological agents	3.29	3.30
35.	Balance System Assessment	4.06	4.00
	a. ENG	4.06	4.02
	b. Rotational-chair	3.25	3.62
	c. Posturography	3.22	3.55
36.	Hearing Conservation	4.28	4.38
	a. Occupational	4.25	4.30
	b. Non-occupational	4.22	4.16
	c. Ototoxic agents	4.32	4.42
37.	Audiological Rehabilitation Assessment	4.53	4.61
	a. Pediatric	4.58	4.61
	b. Adult	4.51	4.59
	c. Geriatric	4.52	4.59
38.	Audiological Rehabilitation	4.15	4.26
	a. Pediatric	4.24	4.20
	b. Adult	4.14	4.16
	c. Geriatric	4.15	4.20
	d. Alternative communication modes/systems	3.79	3.66
	e. Balance function rehabilitation	3.30	3.44

	Master N=1148	Doctorate N=44
39. Product Dispensing	4.78	4.83
a. Hearing aids	4.80	4.80
b. Assistive devices	4.50	4.42
c. Cochlear implant processors	3.58	4.00
d. Tinnitus maskers	3.29	3.58
e. Tactile/sensory devices	3.35	3.66
f. Earmold impressions	4.82	4.86
40. Product/Repair Modification	4.40	4.49
41. Hearing Aid Assessment	4.80	4.90
a. Developmentally appropriate behavioral testin	4.70	4.67
b. Real-ear measurement	4.45	4.73
c. Electroacoustic evaluation	4.53	4.75
d. Determination of earmold characteristics	4.60	4.77
e. Administration of communication inventories	3.48	3.93
42. Assistive Listening System/Device Selection	4.14	4.20
43. Sensory Aids Assessment (e.g., tactile aids)	3.49	3.67
44. Hearing Aid Fitting/Orientation	4.82	4.93
a. Behavioral	4.66	4.70
b. Real-ear measurments	4.49	4.77
c. Earmold modification	4.63	4.86
d. Self-assessment inventories	3.65	4.07
e. Counseling/rehabilitation	4.68	4.75
45. Sensory Aids Fitting/Orientation	3.46	3.67
46. Electrical Stimulation for Cochlear Implant	3.23	3.55
47. Implant Selection and Rehabilitation	3.17	3.56
TEST ANALYSIS		
48. Statistical Principles.	2.85	3.52
a. Parametric	2.76	3.50
b. Non-parametric	2.77	3.45
c. Clinical decision analysis	3.00	3.86
KNOWLEDGE FOR RELATED PROFESSIONAL ACTIVITIES		
[Legislative]		
49. legislation/regulation relevant to the profession	3.78	3.93
50. rights of patient/consumer	4.25	4.14
51. sales of hearing aids	4.25	4.12
52. workers' compensation	3.54	3.67
53. noise exposure and hearing conservation	4.20	4.07

	Master N=1148	Doctorate N=44
54. public laws related to clinical practice	4.18	4.09
55. state-licensure/regulation	4.37	4.21
[Administrative]		
56. third-party reimbursement	3.58	3.86
57. quality improvement techniques	3.60	3.71
58. safety and health/universal precautions	4.29	4.23
59. calibration standards, documentation, procedures	3.95	4.30
60. professional standards/accreditation	4.09	4.05
61. human resources management	3.19	3.37

Mean Importance Ratings - Geographic Region
KNOWLEDGE AREAS

	Northeast N=361	Central N=338	Southern N=272	Far West N=206
BASIC KNOWLEDGE FOR EVALUATION AND TREATMENT				
1. professional codes of ethics	4.25	4.14	4.26	4.30
2. patient characteristics	4.27	4.22	4.21	4.10
3. aspects of human communication	3.47	3.31	3.44	3.34
4. effects of hearing impairment	4.25	4.23	4.27	4.27
5. anatomy/physiology of various syst	4.64	4.60	4.75	4.74
6. pathophysiology of various systems	4.56	4.56	4.70	4.67
7. embryology/devel. of various systems	4.12	4.10	4.28	4.19
8. etiologic factors affecting various systems	4.53	4.56	4.66	4.62
9. normal devel. of speech and language	4.09	4.04	4.18	4.15
10. normal devel. of auditory behavior/function	4.58	4.58	4.64	4.61
11. normal processes of speech and language	3.85	3.74	3.89	3.86
12. normal processes of auditory behavior	4.49	4.46	4.52	4.49
13. neuroanatomy and neurophysiology	4.03	4.04	4.23	4.17
14. psychoacoustics	3.85	3.87	4.00	4.13
15. cerumen management	3.36	3.41	3.48	3.46
16. pharmacology	3.14	3.19	3.31	3.18
17. basic electronics	3.17	3.20	3.25	3.25
STIMULUS FACTORS				
[Acoustic]				
18. temporal/spectral/amplitude chrctrstc of snds	3.93	3.98	4.11	4.00
19. Effects of propagation and transmission	4.03	3.98	4.08	4.07
20. sound analysis and quantification	3.99	3.99	4.02	4.15
[Non-Acoustic]				
21. physical characteristics of non-acoustic stim	3.13	3.21	3.21	3.32
22. Effect of the delivery medium or system	3.48	3.62	3.72	3.65
23. non-auditory stimulus analysis	3.50	3.46	3.60	3.53

	Northeast N=361	Central N=338	Southern N=272	Far West N=206
METHODS				
24. Hearing Screening	4.67	4.58	4.65	4.63
a. Behavioral (VRA, etc.)	4.76	4.71	4.72	4.71
b. Objective (ABR, OAE, OAES, etc)	4.65	4.62	4.71	4.66
c. Written (high risk register, etc)	4.42	4.38	4.39	4.27
25. Speech-Language Screening	3.29	3.45	3.36	3.35
a. Formal	2.83	2.90	2.99	3.04
b. Informal	3.43	3.47	3.46	3.40
26. Consultation	3.96	4.04	3.97	4.02
27. Prevention	4.38	4.41	4.37	4.41
28. Counseling	4.62	4.63	4.58	4.61
a. Informational	4.56	4.56	4.48	4.52
b. Affective	4.48	4.48	4.46	4.40
29. Basic Audiologic Assessment	4.96	4.96	4.96	4.97
a. Behavioral (pure tone, speech, etc)	4.96	4.96	4.95	4.97
b. Objective (immittance, etc)	4.94	4.95	4.93	4.96
c. Self-assessment inventories	3.98	3.89	3.98	3.82
30. Pediatric Audiologic Assessment	4.88	4.88	4.88	4.90
a. Behavioral	4.86	4.88	4.86	4.85
b. Objective	4.85	4.81	4.89	4.91
31. Comprehensive Audiologic Assessment	4.89	4.84	4.88	4.86
a. Sensory vs. Neural	4.78	4.70	4.77	4.77
b. Central auditory nervous system disorders	4.30	4.12	4.34	4.22
c. Pseudohypacusis	4.46	4.52	4.58	4.52
d. Tinnitus	4.30	4.28	4.29	4.20
32. Electrodiagnostic Test Procedures(non-audtry)	4.07	4.08	4.22	4.20

	Northeast	Central	Southern	Far West
	N=361	N=338	N=272	N=206
33. Auditory Evoked Potential Assessment	4.46	4.47	4.62	4.53
a. Ecoch G	3.54	3.61	3.92	3.59
b. ABR	4.54	4.57	4.67	4.55
c. Middle	3.56	3.47	3.64	3.60
d. Late	3.48	3.39	3.55	3.55
e. Event-related/auditory-cognitive potential	3.30	3.23	3.47	3.41
34. Neurophysiologic Intraoperative Monitoring	3.02	3.16	3.15	3.18
a. Auditory	3.15	3.32	3.28	3.31
b. Non-auditory	2.77	2.88	2.88	2.99
c. Effects of anesthesia/pharmacological agents	3.16	3.30	3.38	3.37
35. Balance System Assessment	4.09	4.00	4.14	3.97
a. ENG	4.09	4.00	4.14	3.96
b. Rotational-chair	3.32	3.16	3.28	3.27
c. Posturography	3.27	3.12	3.30	3.27
36. Hearing Conservation	4.30	4.26	4.30	4.28
a. Occupational	4.29	4.23	4.25	4.23
b. Non-occupational	4.28	4.18	4.18	4.18
c. Ototoxic agents	4.38	4.23	4.38	4.26
37. Audiological Rehabilitation Assessment	4.56	4.50	4.51	4.57
a. Pediatric	4.59	4.55	4.57	4.62
b. Adult	4.50	4.49	4.50	4.58
c. Geriatric	4.53	4.50	4.49	4.58
38. Audiological Rehabilitation	4.19	4.11	4.17	4.17
a. Pediatric	4.24	4.19	4.22	4.34
b. Adult	4.17	4.08	4.14	4.20
c. Geriatric	4.16	4.09	4.16	4.21
d. Alternative communication modes/systems	3.80	3.71	3.80	3.85
e. Balance function rehabilitation	3.33	3.28	3.42	3.18

	Northeast N=361	Central N=338	Southern N=272	Far West N=206
39. Product Dispensing	4.75	4.79	4.83	4.74
a. Hearing aids	4.78	4.82	4.82	4.79
b. Assistive devices	4.48	4.49	4.54	4.47
c. Cochlear implant processors	3.51	3.55	3.78	3.57
d. Tinnitus maskers	3.30	3.25	3.39	3.26
e. Tactile/sensory devices	3.28	3.32	3.56	3.29
f. Earmold impressions	4.81	4.83	4.85	4.81
40. Product/Repair Modification	4.38	4.43	4.39	4.41
41. Hearing Aid Assessment	4.79	4.81	4.82	4.76
a. Developmentally appropriate behavioral testin	4.65	4.73	4.72	4.68
b. Real-ear measurement	4.34	4.50	4.48	4.55
c. Electroacoustic evaluation	4.48	4.59	4.47	4.60
d. Determination of earmold characteristics	4.58	4.65	4.60	4.61
e. Administration of communication inventories	3.49	3.55	3.51	3.38
42. Assistive Listening System/Device Selection	4.09	4.16	4.19	4.13
43. Sensory Aids Assessment (e.g., tactile aids)	3.47	3.47	3.68	3.34
44. Hearing Aid Fitting/Orientation	4.78	4.85	4.85	4.80
a. Behavioral	4.64	4.69	4.64	4.64
b. Real-ear measurments	4.37	4.52	4.59	4.57
c. Earmold modification	4.61	4.66	4.67	4.59
d. Self-assessment inventories	3.63	3.67	3.68	3.65
e. Counseling/rehabilitation	4.67	4.69	4.70	4.66
45. Sensory Aids Fitting/Orientation	3.45	3.43	3.57	3.41
46. Electrical Stimulation for Cochlear Implant	3.19	3.17	3.41	3.23
47. Implant Selection and Rehabilitation	3.06	3.14	3.38	3.18

	Northeast N=361	Central N=338	Southern N=272	Far West N=206
TEST ANALYSIS				
48. Statistical Principles.	2.82	2.88	2.85	3.01
a. Parametric	2.74	2.84	2.78	2.87
b. Non-parametric	2.73	2.83	2.79	2.88
c. Clinical decision analysis	2.95	3.02	3.09	3.19
KNOWLEDGE FOR RELATED PROFESSIONAL ACTIVITIES				
[Legislative]				
49. legislation/regulation relevant to the profession	3.75	3.84	3.79	3.74
50. rights of patient/consumer	4.23	4.27	4.25	4.25
51. sales of hearing aids	4.20	4.26	4.28	4.28
52. workers' compensation	3.50	3.53	3.62	3.52
53. noise exposure and hearing conservation	4.21	4.15	4.22	4.20
54. public laws related to clinical practice	4.13	4.15	4.24	4.20
55. state-licensure/regulation	4.34	4.33	4.41	4.39
[Administrative]				
56. third-party reimbursement	3.51	3.63	3.65	3.66
57. quality improvement techniques	3.55	3.55	3.69	3.68
58. safety and health/universal precautions	4.32	4.20	4.37	4.25
59. calibration standards, documentation, procedures	4.01	3.85	4.03	3.96
60. professional standards/accreditation	4.06	4.03	4.17	4.11
61. human resources management	3.23	3.14	3.23	3.25

Appendix J

Discrepancy Scores: Clinical Activity Statements

Definitions of Scale Anchors

Where Learned

1 School - Classroom

2 School - Practicum

3 Clinical fellowship

4 On the job, after certification

5 Continuing education, after certification

Where Should Be Learned

1 School - Classroom

2 School - Practicum

3 Clinical fellowship

4 On the job, after certification

5 Continuing education, after certification

Discrepancy Scores

-3 Although learned in school, should be learned after certification

-2 Although learned in school, should be learned during the clinical fellowship

-1 Although learned during the clinical fellowship, should be learned after certification

0 Is being learned where it should be learned

+1 Although learned after certification, should be learned during the clinical fellowship

+2 Although learned during the clinical fellowship, should be learned in school

+3 Although learned after certification, should be learned in school

Discrepancy Scores - Practitioners

CLINICAL ACTIVITY STATEMENTS

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
EVALUATION																	
1. Identify high risk individuals.	67%	20%	6%	6%	1%	71%	23%	4%	1%	0%	0%	0%	0%	90%	2%	4%	4%
2. Screen for hearing deficits	30%	64%	3%	3%	0%	32%	66%	2%	1%	0%	0%	0%	0%	94%	1%	2%	2%
3. Screen speech-language and other factor	52%	39%	4%	5%	1%	53%	44%	2%	1%	0%	1%	0%	0%	92%	1%	2%	5%
4. Gather, review, evaluate information	21%	30%	27%	22%	1%	27%	50%	19%	3%	0%	0%	0%	0%	65%	7%	15%	12%
5. Obtain in-depth case history	29%	53%	11%	7%	0%	33%	61%	6%	0%	0%	0%	0%	0%	85%	2%	8%	4%
6. Perform otoscopic exam	18%	60%	11%	10%	1%	22%	75%	2%	0%	0%	0%	0%	0%	79%	1%	10%	10%
7. Remove cerumen by variety of techniques	1%	5%	7%	37%	50%	9%	56%	17%	5%	13%	1%	0%	1%	22%	14%	4%	57%
8. Maintain equipment	36%	27%	15%	20%	1%	42%	40%	11%	6%	1%	1%	1%	0%	74%	4%	9%	12%
9. Calibrate equipment	47%	33%	8%	10%	1%	49%	41%	5%	3%	2%	2%	1%	0%	82%	1%	6%	7%
10. Administer screening and asses. measures	24%	48%	14%	12%	2%	29%	59%	8%	2%	1%	0%	1%	0%	78%	4%	9%	8%
11. Eval. chgs. in neural tissue during surgery	13%	10%	11%	32%	34%	14%	28%	24%	20%	14%	3%	2%	3%	50%	17%	4%	22%
12. Document. procedures/results of eval. process	26%	55%	13%	6%	1%	28%	64%	7%	1%	0%	0%	1%	0%	85%	2%	9%	3%
13. Interpret results of evaluation	49%	42%	6%	2%	1%	53%	44%	3%	0%	0%	0%	0%	0%	93%	1%	4%	2%
14. Generate recommendations	27%	48%	18%	7%	0%	33%	58%	9%	1%	0%	0%	1%	0%	80%	3%	12%	4%
15. Communicate results and recommendations	10%	49%	26%	14%	1%	14%	68%	16%	2%	0%	0%	1%	0%	70%	5%	16%	8%
16. Write formal reports	21%	60%	11%	8%	0%	26%	65%	7%	2%	0%	0%	1%	0%	85%	2%	7%	4%
17. Monitor patient/consumer status	7%	28%	33%	31%	1%	10%	49%	31%	9%	0%	0%	1%	0%	63%	12%	14%	10%
18. Maintain patient/consumer records.	12%	30%	28%	29%	1%	24%	45%	24%	6%	0%	0%	1%	0%	59%	10%	14%	15%
TREATMENT																	
19. Review eval. data/develop treatment plan	18%	44%	25%	12%	0%	24%	62%	14%	1%	0%	0%	1%	0%	72%	5%	16%	6%
20. Develop rapport with patient/consumer	3%	42%	31%	24%	0%	4%	59%	28%	9%	0%	0%	1%	0%	70%	9%	12%	8%
21. Communicate results/discuss prognosis	4%	40%	34%	22%	0%	5%	65%	25%	4%	0%	0%	1%	0%	63%	9%	18%	9%
22. Provide ongoing counseling	5%	26%	37%	33%	1%	6%	49%	37%	8%	0%	0%	1%	0%	58%	15%	15%	11%
23. Develop management strategies	6%	21%	32%	40%	2%	9%	46%	32%	12%	1%	0%	1%	0%	55%	15%	15%	14%
24. Participate in case coordination	4%	17%	33%	45%	1%	5%	36%	41%	18%	1%	1%	1%	1%	57%	18%	11%	11%
25. Communicate treatment plans for appr.	2%	7%	31%	58%	2%	7%	23%	40%	27%	2%	0%	1%	1%	56%	19%	9%	14%
26. Maintain equipment	29%	34%	16%	19%	1%	33%	45%	15%	7%	0%	1%	1%	0%	76%	5%	7%	9%
27. Calibrate equip. to accepted standards	41%	38%	9%	11%	1%	43%	45%	6%	4%	2%	2%	1%	0%	83%	2%	6%	6%
28. Select methods, instrumentation, etc.	22%	46%	19%	13%	1%	24%	58%	13%	4%	0%	0%	1%	0%	80%	4%	10%	6%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
29. Recommend prosthetic/assistive devices	10%	42%	24%	22%	3%	15%	69%	13%	2%	1%	1%	1%	0%	58%	7%	17%	16%
30. Establish methods to monitor treatment	12%	29%	28%	29%	2%	16%	49%	28%	7%	0%	0%	1%	0%	62%	11%	13%	12%
31. Monitor and summ. treatment outcomes	7%	28%	30%	34%	1%	10%	50%	30%	10%	0%	0%	1%	0%	60%	12%	13%	13%
32. Provide. info. about treatment outcomes	5%	24%	37%	33%	1%	7%	45%	37%	10%	0%	0%	1%	0%	60%	14%	14%	10%
33. Establish treatment discharge criteria	7%	23%	33%	36%	1%	11%	43%	33%	12%	0%	0%	1%	0%	61%	12%	13%	13%
34. Make referrals for add. eval. and trtmnt.	6%	20%	32%	41%	1%	9%	40%	37%	13%	0%	0%	1%	0%	57%	17%	13%	12%
35. Follow-up on referrals/recommendations	4%	18%	36%	42%	1%	7%	39%	39%	16%	0%	0%	0%	0%	58%	16%	14%	11%
36. Document the procedures and results	11%	45%	25%	19%	0%	14%	60%	20%	6%	0%	0%	0%	0%	75%	6%	11%	8%
37. Maintain patient/consumer records	12%	33%	27%	27%	1%	21%	51%	22%	6%	0%	0%	0%	0%	64%	9%	14%	13%
RELATED PROFESSIONAL ACTIVITIES																	
[Supervisory]																	
38. Establish supervisory procedures.	3%	7%	11%	70%	8%	7%	12%	22%	49%	10%	1%	1%	1%	74%	13%	2%	8%
39. Deliver direct patient care	2%	14%	13%	68%	4%	4%	18%	19%	54%	6%	1%	1%	2%	80%	9%	2%	6%
40. Provide supervisees w/practical experiences	1%	7%	12%	74%	5%	4%	12%	17%	58%	9%	0%	0%	1%	82%	8%	3%	6%
41. Provide supervisees with feedback	1%	9%	10%	73%	7%	5%	13%	17%	54%	11%	1%	0%	0%	82%	8%	1%	8%
42. Provide ethical, legal & regulatory instructn	21%	6%	9%	51%	13%	34%	12%	13%	30%	11%	1%	0%	1%	70%	8%	4%	15%
43. Provide instrctn in rpt. writing/recrd keepng	18%	24%	11%	44%	3%	23%	28%	12%	32%	5%	1%	0%	1%	81%	5%	4%	7%
[Legislative]																	
44. Follow laws, regulations, respective mandates	28%	13%	21%	33%	6%	43%	21%	20%	13%	4%	0%	1%	1%	66%	8%	9%	15%
45. Promote legislation and regulations	10%	3%	8%	60%	20%	25%	6%	17%	39%	13%	1%	0%	1%	67%	12%	2%	17%
46. Promote legislation beneficial to the profssn	7%	2%	6%	60%	24%	22%	5%	15%	40%	17%	0%	0%	0%	69%	11%	1%	18%
[Administrative]																	
47. Advocate for direct third-party payment	3%	2%	7%	66%	22%	17%	6%	20%	43%	14%	0%	0%	0%	67%	14%	1%	18%
48. Identify unmet programmatic needs	2%	1%	10%	74%	12%	9%	5%	20%	56%	11%	0%	0%	1%	76%	12%	1%	10%
49. Implement public information programs	3%	5%	18%	64%	8%	12%	14%	27%	41%	8%	0%	0%	2%	67%	13%	4%	13%
50. Seek current financial support Info.	3%	1%	12%	67%	17%	14%	6%	24%	40%	16%	0%	0%	0%	68%	15%	2%	14%
51. Oversee efficient administration activities	2%	2%	8%	80%	8%	12%	5%	19%	56%	9%	0%	0%	2%	71%	13%	1%	13%
52. Maintain compliance with calibration standard	23%	25%	20%	32%	1%	28%	34%	21%	16%	1%	0%	1%	0%	75%	8%	7%	8%
53. Introduce and implement new procedures	3%	6%	12%	47%	32%	6%	12%	18%	31%	33%	0%	0%	1%	79%	9%	3%	7%
54. Promote cultural diversity in staff	7%	1%	6%	67%	18%	15%	4%	11%	54%	16%	0%	0%	1%	81%	7%	1%	10%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
55. Identify multi-cultural/underserved populatns	8%	5%	11%	64%	12%	17%	11%	16%	44%	12%	1%	0%	1%	75%	9%	3%	12%
56. Develop programs for conservation of hearing.	22%	8%	13%	47%	10%	30%	18%	17%	26%	9%	1%	1%	1%	69%	9%	5%	15%
OTHER PROFESSIONAL ACTIVITIES																	
57. Conduct and/or participate in research	42%	15%	9%	24%	10%	45%	18%	10%	18%	9%	2%	2%	1%	82%	3%	3%	7%
58. Update clinical/professional knowledge/ skill	5%	3%	8%	14%	70%	7%	4%	9%	9%	72%	1%	0%	1%	94%	2%	1%	1%

Discrepancy Scores - Educators

CLINICAL ACTIVITY STATEMENTS

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
EVALUATION																	
1. Identify high risk individuals.	71%	22%	4%	3%	0%	69%	27%	1%	1%	1%	3%	0%	0%	91%	1%	4%	1%
2. Screen for hearing deficits	26%	73%	1%	0%	0%	27%	73%	0%	0%	0%	0%	0%	0%	99%	0%	1%	0%
3. Screen speech-language and other factor	51%	42%	1%	5%	0%	43%	57%	0%	0%	0%	0%	0%	0%	93%	0%	1%	5%
4. Gather, review, evaluate information	25%	45%	26%	4%	0%	28%	59%	14%	0%	0%	0%	0%	0%	84%	0%	13%	4%
5. Obtain in-depth case history	28%	65%	5%	3%	0%	30%	67%	4%	0%	0%	0%	1%	0%	94%	0%	3%	3%
6. Perform otoscopic exam	9%	82%	6%	3%	0%	14%	86%	0%	0%	0%	0%	0%	0%	91%	0%	6%	3%
7. Remove cerumen by variety of techniques	6%	28%	10%	18%	39%	5%	55%	11%	10%	19%	1%	0%	1%	61%	8%	6%	22%
8. Maintain equipment	42%	30%	10%	16%	1%	46%	36%	12%	5%	1%	1%	5%	0%	77%	1%	4%	11%
9. Calibrate equipment	58%	31%	0%	9%	1%	62%	35%	3%	1%	0%	1%	1%	0%	87%	1%	0%	9%
10. Administer screening and asses. measures	26%	56%	8%	7%	3%	27%	66%	5%	1%	0%	0%	1%	0%	85%	1%	5%	7%
11. Eval. chgs. in neural tissue during surgery	11%	11%	13%	36%	30%	8%	28%	17%	25%	23%	3%	0%	2%	72%	8%	2%	14%
12. Document. procedures/results of eval. process	20%	73%	5%	3%	0%	19%	81%	0%	0%	0%	0%	0%	0%	92%	0%	5%	3%
13. Interpret results of evaluation	40%	53%	5%	3%	0%	41%	59%	0%	0%	0%	0%	0%	0%	92%	0%	5%	3%
14. Generate recommendations	18%	71%	9%	3%	0%	17%	81%	3%	0%	0%	0%	0%	0%	91%	0%	6%	3%
15. Communicate results and recommendations	5%	74%	15%	5%	0%	5%	85%	10%	0%	0%	0%	0%	0%	90%	0%	5%	5%
16. Write formal reports	8%	84%	8%	1%	0%	8%	90%	3%	0%	0%	0%	0%	0%	94%	0%	5%	1%
17. Monitor patient/consumer status	5%	62%	19%	14%	0%	5%	68%	19%	8%	0%	1%	0%	0%	88%	3%	3%	5%
18. Maintain patient/consumer records.	8%	59%	24%	10%	0%	8%	69%	18%	6%	0%	1%	0%	1%	86%	0%	5%	6%
TREATMENT																	
19. Review eval. data/develop treatment plan	23%	56%	15%	5%	0%	21%	69%	9%	1%	0%	0%	0%	0%	87%	3%	9%	1%
20. Develop rapport with patient/consumer	1%	66%	20%	13%	0%	3%	73%	21%	4%	0%	0%	1%	0%	86%	4%	4%	5%
21. Communicate results/discuss prognosis	0%	60%	30%	10%	0%	1%	73%	22%	4%	0%	1%	4%	0%	73%	3%	14%	5%
22. Provide ongoing counseling	4%	53%	27%	17%	0%	6%	59%	29%	5%	0%	3%	1%	0%	76%	8%	6%	6%
23. Develop management strategies	16%	41%	32%	11%	0%	18%	53%	25%	4%	0%	3%	1%	0%	75%	4%	12%	5%
24. Participate in case coordination	5%	29%	36%	29%	0%	5%	45%	34%	14%	1%	1%	0%	0%	76%	7%	8%	8%
25. Communicate treatment plans for appr.	3%	22%	35%	38%	3%	7%	30%	42%	19%	1%	0%	0%	0%	75%	12%	4%	8%
26. Maintain equipment	31%	41%	13%	14%	1%	30%	49%	9%	12%	0%	1%	3%	0%	84%	0%	6%	5%
27. Calibrate equip. to accepted standards	53%	39%	1%	5%	1%	54%	38%	1%	5%	1%	4%	0%	0%	92%	0%	0%	4%
28. Select methods, instrumentation, etc.	27%	51%	16%	6%	0%	26%	61%	12%	1%	0%	0%	1%	0%	87%	1%	7%	4%
29. Recommend prosthetic/assistive devices	16%	64%	11%	7%	3%	17%	75%	6%	3%	0%	1%	1%	0%	83%	0%	6%	8%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
30. Establish methods to monitor treatment	12%	43%	21%	20%	4%	13%	59%	23%	3%	3%	1%	0%	0%	72%	8%	7%	12%
31. Monitor and summ. treatment outcomes	9%	43%	25%	21%	1%	12%	57%	23%	8%	0%	1%	0%	0%	75%	5%	8%	11%
32. Provide. info. about treatment outcomes	8%	50%	32%	11%	0%	7%	53%	33%	8%	0%	1%	1%	0%	92%	1%	3%	1%
33. Establish treatment discharge criteria	8%	39%	31%	22%	0%	12%	47%	32%	9%	0%	0%	0%	0%	80%	7%	7%	7%
34. Make referrals for add. eval. and trtmnt.	9%	35%	31%	22%	3%	12%	50%	26%	13%	0%	0%	0%	0%	78%	4%	10%	8%
35. Follow-up on referrals/recommendations	4%	39%	39%	17%	0%	3%	57%	30%	10%	0%	0%	1%	1%	78%	1%	12%	7%
36. Document the procedures and results	13%	63%	15%	9%	0%	10%	75%	11%	4%	0%	0%	1%	0%	87%	0%	6%	5%
37. Maintain patient/consumer records	12%	58%	14%	17%	0%	11%	67%	15%	6%	0%	0%	1%	0%	83%	4%	5%	6%
RELATED PROFESSIONAL ACTIVITIES																	
[Supervisory]																	
38. Establish supervisory procedures.	3%	13%	13%	55%	15%	12%	21%	18%	37%	12%	1%	0%	0%	76%	4%	0%	18%
39. Deliver direct patient care	0%	29%	10%	55%	6%	4%	39%	9%	39%	9%	0%	0%	0%	84%	1%	3%	12%
40. Provide supervisees w/practical experiences	1%	11%	20%	57%	11%	7%	16%	22%	39%	16%	1%	0%	0%	84%	3%	1%	11%
41. Provide supervisees with feedback	1%	19%	13%	55%	12%	8%	25%	15%	40%	12%	1%	0%	0%	81%	3%	1%	13%
42. Provide ethical, legal & regulatory instructn	48%	4%	10%	23%	15%	54%	6%	7%	14%	19%	1%	1%	0%	87%	0%	4%	6%
43. Provide instrctn in rpt. writing/recrd keepng	16%	42%	5%	29%	7%	21%	44%	6%	18%	11%	0%	0%	0%	93%	1%	1%	4%
[Legislative]																	
44. Follow laws, regulations, respective mandates	39%	22%	10%	27%	3%	46%	21%	12%	17%	4%	1%	3%	0%	84%	3%	3%	7%
45. Promote legislation and regulations	14%	0%	12%	61%	13%	21%	3%	16%	41%	19%	1%	1%	0%	81%	4%	1%	11%
46. Promote legislation beneficial to the profssn	10%	0%	9%	66%	14%	18%	3%	12%	50%	17%	0%	1%	0%	84%	3%	1%	11%
[Administrative]																	
47. Advocate for direct third-party payment	8%	3%	8%	73%	8%	17%	6%	13%	60%	6%	3%	1%	0%	76%	4%	1%	14%
48. Identify unmet programmatic needs	3%	5%	8%	73%	11%	10%	4%	10%	64%	13%	0%	1%	1%	89%	1%	0%	7%
49. Implement public information programs	11%	3%	13%	63%	11%	14%	9%	18%	45%	13%	3%	1%	0%	73%	8%	4%	11%
50. Seek current financial support Info.	4%	8%	17%	56%	15%	16%	9%	15%	45%	15%	0%	1%	0%	84%	0%	4%	11%
51. Oversee efficient administration activities	3%	6%	7%	74%	10%	12%	9%	10%	59%	10%	0%	0%	0%	81%	6%	3%	10%
52. Maintain compliance with calibration standard	31%	31%	14%	18%	5%	33%	36%	12%	17%	3%	1%	0%	0%	91%	0%	3%	5%
53. Introduce and implement new procedures	4%	15%	5%	36%	40%	12%	18%	4%	29%	37%	1%	0%	0%	86%	0%	1%	11%
54. Promote cultural diversity in staff	17%	6%	3%	55%	19%	25%	4%	4%	49%	17%	0%	0%	0%	93%	1%	0%	6%
55. Identify multi-cultural/underserved populatns	12%	10%	10%	49%	19%	22%	12%	16%	36%	14%	0%	0%	0%	78%	10%	3%	10%
56. Develop programs for conservation of hearing.	33%	10%	8%	39%	10%	36%	14%	13%	28%	10%	3%	1%	0%	82%	3%	0%	11%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
OTHER PROFESSIONAL ACTIVITIES																	
57. Conduct and/or participate in research	61%	4%	4%	20%	11%	67%	3%	3%	19%	8%	6%	0%	0%	83%	0%	1%	10%
58. Update clinical/professional knowledge/ skill	11%	1%	6%	6%	75%	10%	1%	7%	6%	75%	1%	0%	0%	98%	1%	0%	0%

Discrepancy Scores - Clinical -Fellowship Supervisors

CLINICAL ACTIVITY STATEMENTS

		Where Learned					Where Should be learned					Discrepancy Scores						
		1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
	EVALUATION																	
1.	Identify high risk individuals.	55%	25%	14%	5%	1%	67%	28%	4%	1%	0%	0%	1%	0%	82%	2%	12%	3%
2.	Screen for hearing deficits	14%	76%	7%	3%	0%	13%	83%	2%	1%	0%	0%	0%	0%	92%	2%	6%	1%
3.	Screen speech-language and other factor	50%	38%	5%	6%	2%	45%	49%	3%	2%	1%	2%	0%	0%	88%	2%	4%	5%
4.	Gather, review, evaluate information	19%	18%	39%	22%	2%	23%	51%	21%	4%	1%	0%	0%	0%	58%	4%	23%	15%
5.	Obtain in-depth case history	23%	47%	24%	6%	0%	26%	68%	4%	2%	0%	0%	2%	1%	71%	0%	21%	5%
6.	Perform otoscopic exam	7%	61%	21%	7%	2%	13%	80%	6%	0%	1%	0%	1%	0%	74%	2%	17%	7%
7.	Remove cerumen by variety of techniques	5%	10%	9%	20%	56%	12%	47%	12%	6%	23%	2%	0%	1%	43%	8%	5%	40%
8.	Maintain equipment	29%	29%	15%	26%	0%	38%	41%	13%	7%	2%	1%	0%	2%	69%	7%	8%	14%
9.	Calibrate equipment	49%	29%	6%	11%	5%	50%	42%	2%	3%	3%	1%	2%	0%	80%	0%	6%	11%
10.	Administer screening and asses. measures	35%	36%	17%	11%	2%	33%	56%	9%	1%	1%	1%	1%	0%	76%	3%	12%	8%
11.	Eval. chgs. in neural tissue during surgery	12%	3%	12%	37%	37%	13%	20%	18%	24%	26%	1%	1%	0%	69%	9%	4%	15%
12.	Document. procedures/results of eval. process	20%	46%	30%	3%	1%	28%	64%	8%	0%	0%	0%	0%	0%	74%	0%	22%	4%
13.	Interpret results of evaluation	34%	46%	18%	2%	0%	37%	58%	4%	0%	0%	0%	0%	0%	83%	1%	15%	1%
14.	Generate recommendations	16%	41%	32%	11%	0%	21%	69%	9%	1%	0%	0%	3%	0%	62%	1%	26%	9%
15.	Communicate results and recommendations	6%	38%	39%	17%	0%	13%	63%	21%	3%	0%	1%	2%	0%	56%	7%	27%	7%
16.	Write formal reports	19%	47%	25%	8%	0%	31%	64%	5%	0%	0%	0%	0%	0%	71%	1%	21%	7%
17.	Monitor patient/consumer status	9%	26%	44%	21%	1%	11%	53%	28%	7%	1%	0%	0%	2%	63%	6%	20%	9%
18.	Maintain patient/consumer records.	10%	29%	38%	23%	0%	21%	50%	25%	4%	0%	1%	0%	0%	59%	8%	21%	11%
	TREATMENT																	
19.	Review eval. data/develop treatment plan	12%	41%	39%	8%	1%	18%	66%	14%	2%	0%	1%	1%	0%	65%	1%	26%	7%
20.	Develop rapport with patient/consumer	3%	28%	45%	25%	0%	5%	47%	39%	9%	0%	1%	0%	0%	64%	12%	17%	6%
21.	Communicate results/discuss prognosis	2%	30%	44%	24%	1%	4%	62%	28%	7%	0%	0%	3%	0%	53%	8%	28%	9%
22.	Provide ongoing counseling	3%	22%	45%	29%	1%	6%	44%	40%	10%	0%	0%	1%	0%	62%	13%	19%	6%
23.	Develop management strategies	5%	22%	40%	28%	4%	10%	44%	36%	9%	2%	1%	2%	0%	56%	13%	19%	10%
24.	Participate in case coordination	4%	15%	42%	37%	2%	7%	31%	47%	14%	3%	1%	2%	1%	59%	17%	14%	7%
25.	Communicate treatment plans for appr.	3%	7%	39%	48%	4%	12%	10%	51%	26%	1%	0%	2%	0%	67%	18%	7%	6%
26.	Maintain equipment	15%	37%	20%	27%	1%	20%	55%	19%	7%	0%	0%	2%	0%	68%	6%	9%	15%
27.	Calibrate equip. to accepted standards	41%	35%	11%	11%	2%	46%	48%	5%	1%	0%	0%	2%	0%	77%	1%	9%	11%
28.	Select methods, instrumentation, etc.	19%	39%	30%	13%	0%	20%	61%	12%	6%	1%	1%	1%	0%	72%	2%	20%	5%
29.	Recommend prosthetic/assistive devices	4%	33%	43%	19%	2%	8%	71%	19%	2%	0%	0%	3%	0%	49%	4%	30%	14%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
30. Establish methods to monitor treatment	11%	25%	38%	24%	2%	19%	42%	33%	6%	0%	1%	3%	0%	59%	9%	16%	11%
31. Monitor and summ. treatment outcomes	10%	28%	36%	24%	1%	13%	46%	33%	9%	0%	2%	3%	0%	64%	6%	13%	11%
32. Provide. info. about treatment outcomes	3%	19%	51%	27%	0%	8%	44%	43%	5%	0%	0%	3%	2%	50%	13%	23%	10%
33. Establish treatment discharge criteria	2%	21%	44%	32%	1%	8%	36%	46%	11%	0%	0%	4%	0%	59%	13%	15%	9%
34. Make referrals for add. eval. and trtmnt.	7%	18%	36%	39%	1%	8%	36%	42%	13%	1%	0%	2%	1%	57%	19%	14%	8%
35. Follow-up on referrals/recommendations	4%	15%	50%	29%	1%	5%	36%	49%	9%	0%	1%	1%	0%	58%	17%	19%	4%
36. Document the procedures and results	7%	49%	29%	16%	0%	11%	68%	19%	3%	0%	0%	2%	0%	68%	7%	18%	6%
37. Maintain patient/consumer records	6%	28%	43%	23%	0%	17%	51%	26%	7%	0%	0%	1%	0%	57%	7%	25%	10%
RELATED PROFESSIONAL ACTIVITIES																	
[Supervisory]																	
38. Establish supervisory procedures.	1%	6%	15%	69%	9%	2%	10%	26%	50%	12%	0%	1%	1%	76%	16%	5%	2%
39. Deliver direct patient care	1%	15%	22%	58%	5%	2%	23%	20%	45%	10%	0%	1%	2%	81%	6%	7%	3%
40. Provide supervisees w/practical experiences	0%	10%	21%	63%	6%	0%	13%	24%	49%	14%	1%	2%	1%	85%	6%	4%	2%
41. Provide supervisees with feedback	0%	10%	23%	58%	9%	0%	15%	23%	48%	14%	1%	0%	0%	88%	5%	5%	2%
42. Provide ethical, legal & regulatory instructn	20%	7%	17%	40%	17%	34%	13%	17%	19%	17%	0%	1%	0%	72%	6%	7%	15%
43. Provide instrctn in rpt. writing/recrd keepng	16%	21%	25%	35%	4%	25%	30%	18%	22%	6%	0%	0%	0%	77%	5%	12%	6%
[Legislative]																	
44. Follow laws, regulations, respective mandates	21%	13%	29%	31%	6%	35%	29%	21%	13%	3%	0%	1%	1%	57%	10%	18%	13%
45. Promote legislation and regulations	7%	6%	5%	64%	17%	16%	8%	17%	46%	13%	1%	1%	0%	73%	13%	3%	9%
46. Promote legislation beneficial to the profssn	6%	4%	6%	60%	24%	15%	6%	12%	46%	21%	2%	0%	0%	77%	8%	3%	10%
[Administrative]																	
47. Advocate for direct third-party payment	0%	5%	7%	68%	21%	10%	11%	15%	48%	15%	1%	0%	0%	71%	10%	2%	16%
48. Identify unmet programmatic needs	1%	1%	9%	68%	21%	5%	3%	19%	54%	20%	0%	0%	0%	84%	10%	1%	5%
49. Implement public information programs	3%	7%	13%	63%	14%	9%	12%	22%	43%	14%	1%	1%	2%	69%	14%	4%	9%
50. Seek current financial support Info.	1%	4%	15%	61%	20%	10%	8%	20%	39%	23%	0%	0%	1%	76%	9%	3%	11%
51. Oversee efficient administration activities	0%	1%	7%	81%	11%	8%	6%	11%	58%	17%	0%	0%	0%	82%	5%	1%	12%
52. Maintain compliance with calibration standard	18%	18%	27%	35%	2%	29%	27%	22%	20%	2%	0%	0%	0%	72%	8%	13%	8%
53. Introduce and implement new procedures	3%	3%	16%	37%	41%	3%	10%	18%	26%	43%	0%	1%	1%	84%	6%	3%	4%
54. Promote cultural diversity in staff	9%	1%	0%	61%	29%	14%	3%	2%	57%	23%	1%	0%	0%	89%	2%	0%	8%
55. Identify multi-cultural/underserved populatns	11%	4%	5%	57%	23%	13%	12%	11%	45%	19%	2%	0%	1%	77%	8%	1%	11%
56. Develop programs for conservation of hearing.	27%	6%	9%	46%	12%	32%	12%	14%	32%	10%	2%	2%	1%	75%	7%	3%	11%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
OTHER PROFESSIONAL ACTIVITIES																	
57. Conduct and/or participate in research	38%	15%	5%	27%	14%	41%	22%	7%	18%	13%	0%	0%	1%	84%	3%	1%	10%
58. Update clinical/professional knowledge/ skill	3%	2%	5%	19%	72%	3%	4%	6%	11%	76%	1%	0%	1%	93%	2%	0%	4%

Appendix K

Discrepancy Scores: Clinical Activity Statements
(Number of Years Certification)

Definitions of Scale Anchors

Where Learned

1 School - Classroom

2 School - Practicum

3 Clinical fellowship

4 On the job, after certification

5 Continuing education, after certification

Where Should Be Learned

1 School - Classroom

2 School - Practicum

3 Clinical fellowship

4 On the job, after certification

5 Continuing education, after certification

Discrepancy Scores

-3 Although learned in school, should be learned after certification

-2 Although learned in school, should be learned during the clinical fellowship

-1 Although learned during the clinical fellowship, should be learned after certification

0 Is being learned where it should be learned

+1 Although learned after certification, should be learned during the clinical fellowship

+2 Although learned during the clinical fellowship, should be learned in school

+3 Although learned after certification, should be learned in school

Discrepancy Scores - Practitioners with five years or less certification

CLINICAL ACTIVITY STATEMENTS

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
EVALUATION																	
1. Identify high risk individuals.	72%	18%	6%	3%	0%	73%	23%	3%	1%	0%	0%	0%	0%	93%	1%	4%	2%
2. Screen for hearing deficits	33%	60%	3%	3%	1%	36%	62%	2%	0%	0%	0%	1%	0%	93%	1%	2%	3%
3. Screen speech-language and other factor	54%	38%	3%	4%	1%	56%	41%	2%	1%	1%	0%	0%	0%	94%	0%	1%	4%
4. Gather, review, evaluate information	21%	35%	30%	15%	0%	26%	54%	18%	2%	0%	0%	0%	0%	71%	5%	16%	7%
5. Obtain in-depth case history	31%	53%	11%	4%	0%	35%	60%	4%	0%	0%	0%	0%	0%	88%	1%	8%	3%
6. Perform otoscopic exam	21%	66%	9%	3%	0%	23%	74%	2%	1%	0%	0%	0%	0%	89%	0%	8%	2%
7. Remove cerumen by variety of techniques	3%	5%	13%	35%	44%	10%	55%	15%	5%	16%	1%	1%	2%	25%	13%	10%	49%
8. Maintain equipment	43%	28%	16%	13%	1%	46%	39%	10%	5%	0%	1%	1%	0%	80%	2%	9%	7%
9. Calibrate equipment	55%	30%	11%	3%	0%	53%	38%	6%	2%	1%	2%	1%	0%	87%	1%	7%	2%
10. Administer screening and asses. measures	27%	50%	15%	6%	1%	31%	62%	6%	1%	0%	0%	1%	0%	80%	2%	12%	5%
11. Eval. chgs. in neural tissue during surgery	17%	15%	16%	24%	28%	17%	35%	18%	18%	13%	6%	2%	2%	50%	10%	8%	21%
12. Document. procedures/results of eval. process	24%	60%	12%	4%	1%	28%	66%	5%	1%	0%	0%	0%	0%	88%	1%	8%	2%
13. Interpret results of evaluation	52%	41%	6%	1%	1%	55%	43%	2%	0%	0%	0%	0%	0%	94%	0%	5%	1%
14. Generate recommendations	25%	49%	21%	5%	0%	32%	60%	8%	0%	0%	0%	0%	0%	79%	3%	15%	3%
15. Communicate results and recommendations	7%	52%	30%	11%	0%	10%	74%	14%	2%	0%	0%	0%	0%	70%	3%	20%	6%
16. Write formal reports	20%	68%	9%	3%	0%	23%	72%	4%	1%	0%	0%	1%	0%	91%	0%	6%	2%
17. Monitor patient/consumer status	7%	32%	40%	21%	0%	7%	57%	28%	8%	0%	0%	0%	1%	68%	7%	17%	7%
18. Maintain patient/consumer records.	12%	38%	29%	20%	1%	20%	51%	26%	3%	0%	0%	2%	0%	66%	9%	14%	9%
TREATMENT																	
19. Review eval. data/develop treatment plan	20%	48%	23%	9%	0%	25%	63%	11%	1%	0%	0%	1%	0%	76%	3%	16%	5%
20. Develop rapport with patient/consumer	3%	47%	33%	17%	0%	4%	63%	26%	7%	0%	0%	1%	1%	73%	6%	14%	5%
21. Communicate results/discuss prognosis	3%	45%	37%	14%	1%	5%	69%	24%	2%	0%	0%	0%	0%	66%	8%	21%	5%
22. Provide ongoing counseling	4%	29%	41%	25%	1%	5%	54%	34%	7%	0%	0%	1%	0%	60%	12%	19%	7%
23. Develop management strategies	8%	22%	39%	28%	2%	10%	49%	33%	7%	0%	0%	1%	0%	56%	14%	21%	9%
24. Participate in case coordination	4%	17%	42%	35%	1%	5%	40%	39%	15%	1%	0%	2%	2%	59%	11%	15%	11%
25. Communicate treatment plans for appr.	2%	6%	41%	48%	2%	8%	28%	37%	26%	1%	0%	0%	1%	56%	13%	16%	12%
26. Maintain equipment	33%	33%	21%	12%	0%	38%	44%	14%	5%	0%	0%	1%	0%	80%	3%	11%	5%
27. Calibrate equip. to accepted standards	49%	33%	10%	6%	1%	51%	39%	5%	3%	2%	2%	0%	0%	84%	2%	8%	3%
28. Select methods, instrumentation, etc.	20%	51%	22%	6%	1%	24%	64%	10%	2%	0%	0%	1%	0%	81%	2%	14%	3%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
29. Recommend prosthetic/assistive devices	11%	47%	26%	15%	1%	17%	72%	11%	0%	0%	0%	1%	0%	64%	3%	20%	12%
30. Establish methods to monitor treatment	11%	32%	35%	21%	1%	15%	51%	27%	6%	0%	0%	0%	0%	68%	7%	16%	8%
31. Monitor and summ. treatment outcomes	5%	27%	40%	27%	0%	8%	52%	32%	7%	0%	0%	1%	0%	63%	7%	17%	12%
32. Provide. info. about treatment outcomes	5%	24%	43%	28%	0%	8%	43%	40%	9%	0%	0%	2%	0%	63%	12%	16%	7%
33. Establish treatment discharge criteria	8%	23%	38%	29%	1%	12%	42%	34%	11%	1%	0%	1%	0%	67%	9%	14%	10%
34. Make referrals for add. eval. and trtmnt.	5%	25%	37%	33%	0%	8%	45%	36%	11%	0%	0%	0%	1%	63%	12%	13%	11%
35. Follow-up on referrals/recommendations	3%	19%	45%	33%	0%	5%	44%	39%	12%	0%	0%	0%	0%	59%	12%	18%	9%
36. Document the procedures and results	9%	54%	25%	12%	0%	12%	67%	18%	3%	0%	0%	0%	0%	80%	4%	11%	4%
37. Maintain patient/consumer records	12%	42%	29%	17%	1%	18%	56%	23%	3%	0%	0%	0%	0%	72%	7%	13%	8%
RELATED PROFESSIONAL ACTIVITIES																	
[Supervisory]																	
38. Establish supervisory procedures.	6%	6%	13%	68%	7%	7%	11%	21%	52%	8%	2%	1%	3%	75%	11%	1%	8%
39. Deliver direct patient care	3%	14%	14%	67%	3%	3%	19%	18%	54%	6%	2%	0%	1%	82%	6%	2%	6%
40. Provide supervisees w/practical experiences	3%	6%	13%	74%	5%	4%	13%	18%	58%	7%	1%	0%	1%	80%	8%	3%	7%
41. Provide supervisees with feedback	2%	9%	9%	75%	5%	6%	12%	17%	56%	9%	1%	1%	0%	78%	10%	2%	8%
42. Provide ethical, legal & regulatory instructn	25%	8%	9%	48%	9%	31%	14%	13%	30%	12%	2%	0%	0%	76%	7%	4%	10%
43. Provide instrctn in rpt. writing/recrd keepng	17%	25%	9%	45%	3%	19%	28%	12%	34%	7%	2%	0%	2%	82%	6%	2%	6%
[Legislative]																	
44. Follow laws, regulations, respective mandates	35%	16%	22%	24%	2%	46%	23%	21%	8%	3%	0%	2%	0%	71%	7%	10%	9%
45. Promote legislation and regulations	14%	3%	14%	52%	17%	29%	7%	19%	34%	11%	1%	0%	1%	66%	10%	4%	16%
46. Promote legislation beneficial to the profssn	11%	2%	11%	54%	22%	29%	5%	15%	37%	14%	1%	0%	0%	68%	8%	4%	18%
[Administrative]																	
47. Advocate for direct third-party payment	3%	3%	11%	65%	18%	19%	7%	24%	42%	9%	0%	0%	1%	64%	15%	2%	17%
48. Identify unmet programmatic needs	2%	1%	15%	70%	11%	10%	6%	22%	52%	10%	0%	0%	2%	74%	10%	2%	11%
49. Implement public information programs	6%	9%	24%	56%	5%	13%	16%	28%	34%	8%	0%	1%	2%	70%	11%	6%	10%
50. Seek current financial support Info.	3%	1%	17%	66%	13%	15%	7%	28%	35%	14%	0%	0%	0%	63%	17%	5%	14%
51. Oversee efficient administration activities	3%	1%	13%	74%	9%	11%	5%	19%	57%	8%	0%	0%	3%	74%	11%	1%	11%
52. Maintain compliance with calibration standard	27%	25%	21%	26%	1%	30%	36%	19%	15%	1%	1%	1%	0%	77%	6%	9%	6%
53. Introduce and implement new procedures	5%	7%	19%	43%	26%	6%	16%	22%	28%	28%	1%	1%	3%	75%	9%	5%	7%
54. Promote cultural diversity in staff	10%	1%	7%	64%	18%	17%	5%	10%	55%	14%	1%	0%	1%	81%	6%	2%	9%
55. Identify multi-cultural/underserved populatns	13%	5%	18%	54%	10%	19%	14%	19%	38%	10%	0%	0%	1%	78%	7%	4%	10%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
56. Develop programs for conservation of hearing.	24%	9%	18%	43%	6%	32%	20%	18%	24%	6%	1%	1%	1%	68%	8%	7%	14%
OTHER PROFESSIONAL ACTIVITIES																	
57. Conduct and/or participate in research	53%	14%	9%	20%	5%	53%	18%	7%	19%	3%	4%	1%	0%	83%	1%	4%	5%
58. Update clinical/professional knowledge/ skill	7%	5%	13%	16%	60%	9%	5%	13%	8%	65%	1%	0%	0%	91%	3%	3%	2%

Discrepancy Scores - Practitioners with more than five years certification

CLINICAL ACTIVITY STATEMENTS

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
EVALUATION																	
1. Identify high risk individuals.	65%	21%	5%	8%	1%	70%	24%	5%	1%	0%	0%	1%	0%	89%	2%	4%	5%
2. Screen for hearing deficits	29%	65%	3%	3%	0%	30%	68%	2%	1%	0%	0%	0%	0%	95%	1%	2%	2%
3. Screen speech-language and other factor	51%	39%	4%	6%	0%	51%	45%	2%	1%	0%	1%	0%	0%	91%	1%	3%	5%
4. Gather, review, evaluate information	21%	28%	26%	25%	1%	28%	48%	20%	4%	0%	0%	1%	0%	63%	8%	14%	14%
5. Obtain in-depth case history	27%	53%	11%	8%	0%	32%	61%	6%	1%	0%	0%	0%	0%	84%	3%	8%	5%
6. Perform otoscopic exam	17%	58%	11%	13%	1%	22%	75%	3%	0%	0%	0%	0%	0%	75%	1%	10%	13%
7. Remove cerumen by variety of techniques	1%	5%	4%	38%	53%	9%	57%	17%	5%	12%	1%	0%	0%	21%	15%	2%	60%
8. Maintain equipment	34%	27%	14%	24%	2%	40%	41%	12%	7%	1%	1%	1%	0%	71%	5%	8%	14%
9. Calibrate equipment	44%	35%	7%	13%	2%	47%	43%	4%	3%	3%	2%	1%	0%	80%	1%	5%	9%
10. Administer screening and asses. measures	24%	46%	13%	14%	2%	29%	58%	9%	3%	1%	0%	1%	0%	77%	4%	8%	10%
11. Eval. chgs. in neural tissue during surgery	11%	8%	9%	36%	36%	13%	25%	27%	20%	15%	2%	2%	3%	49%	20%	3%	22%
12. Document. procedures/results of eval. process	26%	53%	13%	6%	1%	29%	63%	7%	1%	0%	0%	1%	0%	84%	2%	9%	4%
13. Interpret results of evaluation	48%	42%	6%	2%	1%	52%	44%	3%	0%	0%	0%	0%	0%	93%	1%	4%	2%
14. Generate recommendations	28%	47%	17%	8%	1%	33%	57%	9%	1%	0%	0%	1%	0%	80%	3%	11%	5%
15. Communicate results and recommendations	11%	48%	25%	16%	1%	15%	65%	17%	3%	0%	0%	1%	0%	70%	6%	15%	8%
16. Write formal reports	22%	57%	12%	10%	0%	27%	63%	8%	2%	0%	0%	1%	0%	83%	3%	7%	5%
17. Monitor patient/consumer status	8%	27%	30%	34%	1%	12%	46%	32%	10%	0%	0%	1%	0%	61%	14%	12%	12%
18. Maintain patient/consumer records.	13%	27%	27%	32%	2%	26%	43%	24%	7%	0%	0%	1%	0%	57%	10%	14%	17%
TREATMENT																	
19. Review eval. data/develop treatment plan	18%	43%	26%	13%	0%	23%	61%	15%	1%	0%	0%	1%	0%	71%	5%	16%	7%
20. Develop rapport with patient/consumer	3%	39%	30%	27%	0%	4%	58%	29%	10%	0%	0%	1%	0%	69%	10%	11%	9%
21. Communicate results/discuss prognosis	4%	38%	32%	25%	0%	5%	64%	26%	5%	0%	0%	1%	0%	62%	9%	16%	11%
22. Provide ongoing counseling	5%	24%	35%	36%	1%	6%	47%	38%	8%	0%	0%	1%	0%	57%	16%	13%	12%
23. Develop management strategies	5%	20%	29%	44%	2%	8%	45%	32%	14%	1%	0%	1%	0%	54%	15%	13%	17%
24. Participate in case coordination	4%	17%	29%	49%	1%	5%	34%	41%	19%	0%	1%	1%	1%	57%	21%	9%	11%
25. Communicate treatment plans for appr.	2%	7%	26%	62%	2%	7%	22%	42%	28%	2%	0%	1%	1%	56%	22%	6%	14%
26. Maintain equipment	27%	35%	14%	22%	1%	31%	45%	16%	8%	1%	1%	1%	1%	74%	6%	6%	10%
27. Calibrate equip. to accepted standards	38%	40%	8%	13%	1%	40%	48%	7%	4%	2%	2%	1%	0%	83%	3%	4%	8%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
28. Select methods, instrumentation, etc.	22%	44%	18%	16%	1%	25%	55%	15%	5%	0%	0%	1%	0%	80%	5%	8%	7%
29. Recommend prosthetic/assistive devices	9%	40%	23%	25%	3%	14%	67%	14%	4%	1%	1%	1%	1%	56%	8%	16%	18%
30. Establish methods to monitor treatment	12%	28%	25%	33%	2%	16%	48%	28%	7%	1%	0%	1%	0%	60%	13%	12%	14%
31. Monitor and summ. treatment outcomes	8%	28%	26%	36%	2%	10%	49%	29%	11%	0%	1%	1%	0%	59%	14%	11%	13%
32. Provide. info. about treatment outcomes	5%	24%	34%	36%	1%	7%	46%	36%	11%	0%	0%	1%	0%	59%	14%	13%	12%
33. Establish treatment discharge criteria	6%	23%	31%	38%	2%	10%	44%	33%	13%	0%	1%	1%	0%	58%	13%	12%	15%
34. Make referrals for add. eval. and trtmnt.	6%	18%	30%	44%	1%	10%	38%	38%	14%	0%	0%	1%	0%	54%	19%	13%	12%
35. Follow-up on referrals/recommendations	4%	17%	32%	45%	1%	8%	37%	39%	17%	0%	0%	0%	0%	58%	18%	12%	12%
36. Document the procedures and results	12%	41%	25%	22%	1%	15%	57%	21%	7%	0%	0%	0%	0%	72%	7%	11%	9%
37. Maintain patient/consumer records	11%	30%	26%	31%	1%	22%	48%	22%	8%	0%	0%	1%	0%	61%	9%	14%	15%
RELATED PROFESSIONAL ACTIVITIES																	
[Supervisory]																	
38. Establish supervisory procedures.	2%	7%	11%	71%	9%	8%	12%	22%	47%	11%	0%	0%	1%	74%	14%	2%	8%
39. Deliver direct patient care	1%	14%	13%	68%	4%	4%	17%	19%	53%	6%	0%	1%	2%	80%	9%	2%	5%
40. Provide supervisees w/practical experiences	1%	7%	12%	74%	5%	4%	12%	17%	57%	10%	0%	0%	1%	83%	8%	3%	5%
41. Provide supervisees with feedback	1%	9%	10%	72%	7%	5%	13%	17%	53%	12%	0%	0%	0%	83%	7%	1%	8%
42. Provide ethical, legal & regulatory instructn	19%	6%	10%	52%	14%	34%	12%	13%	30%	11%	1%	0%	1%	68%	9%	5%	17%
43. Provide instrctn in rpt. writing/recrd keepng	18%	23%	12%	44%	3%	25%	28%	12%	32%	4%	0%	0%	1%	81%	5%	5%	7%
[Legislative]																	
44. Follow laws, regulations, respective mandates	25%	12%	20%	37%	7%	41%	21%	20%	14%	4%	0%	1%	1%	65%	8%	8%	18%
45. Promote legislation and regulations	8%	2%	5%	64%	21%	23%	6%	16%	41%	13%	0%	0%	0%	68%	12%	1%	18%
46. Promote legislation beneficial to the profssn	5%	2%	4%	63%	26%	20%	5%	15%	42%	19%	0%	0%	0%	70%	11%	1%	18%
[Administrative]																	
47. Advocate for direct third-party payment	3%	1%	5%	67%	24%	17%	5%	18%	44%	16%	0%	0%	0%	67%	14%	0%	18%
48. Identify unmet programmatic needs	2%	1%	8%	76%	13%	8%	5%	19%	57%	12%	0%	0%	1%	77%	12%	1%	9%
49. Implement public information programs	3%	4%	16%	68%	10%	11%	12%	26%	44%	7%	0%	0%	2%	66%	14%	3%	15%
50. Seek current financial support Info.	3%	1%	10%	67%	19%	13%	6%	23%	42%	16%	0%	0%	0%	70%	15%	1%	13%
51. Oversee efficient administration activities	1%	2%	7%	82%	8%	12%	5%	19%	55%	9%	0%	0%	1%	70%	14%	1%	13%
52. Maintain compliance with calibration standard	21%	25%	20%	34%	1%	27%	33%	22%	17%	1%	0%	1%	0%	75%	8%	7%	9%
53. Introduce and implement new procedures	2%	5%	9%	49%	34%	5%	11%	16%	32%	35%	0%	0%	1%	80%	10%	2%	7%
54. Promote cultural diversity in staff	6%	1%	5%	69%	19%	15%	3%	11%	54%	18%	0%	0%	1%	81%	7%	1%	10%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
55. Identify multi-cultural/underserved populatns	6%	5%	8%	68%	13%	16%	10%	15%	47%	13%	1%	0%	1%	74%	9%	2%	13%
56. Develop programs for conservation of hearing.	21%	8%	11%	49%	12%	29%	17%	17%	27%	10%	0%	0%	1%	69%	10%	4%	15%
OTHER PROFESSIONAL ACTIVITIES																	
57. Conduct and/or participate in research	38%	15%	8%	27%	12%	43%	18%	10%	18%	11%	2%	2%	1%	81%	4%	2%	7%
58. Update clinical/professional knowledge/ skill	5%	3%	6%	13%	74%	6%	3%	7%	10%	75%	1%	0%	1%	95%	2%	1%	1%

Appendix L

Discrepancy Scores: Knowledge Areas

Definitions of Scale Anchors

Where Learned

1 School - Classroom

2 School - Practicum

3 Clinical fellowship

4 On the job, after certification

5 Continuing education, after certification

Where Should Be Learned

1 School - Classroom

2 School - Practicum

3 Clinical fellowship

4 On the job, after certification

5 Continuing education, after certification

Discrepancy Scores

-3 Although acquired in school, should be acquired after certification

-2 Although acquired in school, should be acquired during the clinical fellowship

-1 Although acquired during the clinical fellowship, should be acquired after certification

0 Is being acquired where it should be acquired

+1 Although acquired after certification, should be acquired during the clinical fellowship

+2 Although acquired during the clinical fellowship, should be acquired in school

+3 Although acquired after certification, should be acquired in school

Discrepancy Scores - Practitioners

KNOWLEDGE AREAS

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
BASIC KNOWLEDGE FOR EVALUATION AND TREATMENT																	
1. professional codes of ethics	62%	7%	18%	11%	3%	76%	11%	12%	1%	1%	0%	0%	0%	78%	3%	9%	9%
2. patient characteristics	46%	25%	15%	14%	1%	53%	33%	9%	4%	0%	0%	0%	0%	80%	3%	9%	7%
3. aspects of human communication	90%	6%	1%	2%	1%	90%	7%	1%	1%	1%	1%	0%	0%	96%	1%	1%	2%
4. effects of hearing impairment	71%	10%	8%	10%	1%	78%	15%	5%	2%	0%	0%	0%	0%	85%	2%	5%	7%
5. anatomy/physiology of various syst	97%	1%	1%	0%	0%	99%	1%	0%	0%	0%	0%	0%	0%	98%	0%	1%	1%
6. pathophysiology of various systems	93%	2%	2%	2%	1%	98%	2%	0%	0%	0%	0%	0%	0%	95%	0%	2%	3%
7. embryology/devel. of various systems	96%	1%	0%	1%	1%	99%	1%	0%	0%	0%	0%	0%	0%	98%	0%	0%	2%
8. etiologic factors affecting various systems	93%	2%	2%	2%	1%	97%	2%	0%	0%	0%	0%	0%	0%	96%	0%	1%	3%
9. normal devel. of speech and language	97%	1%	0%	1%	0%	98%	1%	0%	0%	0%	0%	0%	0%	99%	0%	0%	1%
10. normal devel. of auditory behavior/function	96%	2%	1%	1%	0%	98%	2%	0%	0%	0%	0%	0%	0%	98%	0%	0%	1%
11. normal processes of speech and language	94%	1%	1%	3%	1%	97%	2%	0%	0%	1%	1%	0%	0%	95%	0%	1%	3%
12. normal processes of auditory behavior	93%	2%	1%	3%	1%	97%	2%	0%	1%	0%	0%	0%	0%	95%	0%	1%	3%
13. neuroanatomy and neurophysiology	89%	1%	1%	4%	4%	97%	2%	0%	0%	1%	0%	0%	0%	91%	0%	1%	7%
14. psychoacoustics	94%	2%	0%	1%	2%	96%	3%	0%	0%	1%	0%	0%	0%	96%	0%	0%	3%
15. cerumen management	10%	8%	10%	31%	41%	20%	51%	12%	5%	12%	2%	0%	1%	34%	9%	6%	49%
16. pharmacology	41%	2%	9%	33%	16%	74%	9%	6%	6%	5%	1%	0%	1%	53%	4%	6%	35%
17. basic electronics	63%	7%	5%	18%	7%	77%	14%	2%	3%	3%	1%	0%	0%	75%	1%	3%	18%
STIMULUS FACTORS																	
[Acoustic]																	
18. temporal/spectral/amplitude chrctrstc of snds	91%	3%	2%	2%	2%	95%	4%	1%	0%	0%	0%	0%	0%	94%	0%	2%	4%
19. Effects of propagation and transmission	89%	3%	2%	4%	2%	94%	5%	0%	0%	0%	0%	0%	0%	92%	0%	1%	6%
20. sound analysis and quantification	88%	7%	1%	2%	2%	91%	8%	0%	0%	0%	0%	0%	0%	95%	0%	1%	3%
[Non-Acoustic]																	
21. physical characteristics of non-acoustic stim	70%	5%	4%	9%	12%	82%	8%	2%	2%	5%	1%	0%	0%	81%	1%	3%	14%
22. Effect of the delivery medium or system	66%	9%	5%	10%	9%	80%	13%	2%	2%	3%	1%	0%	0%	79%	2%	4%	14%
23. non-auditory stimulus analysis	66%	8%	5%	12%	9%	79%	12%	3%	2%	3%	1%	0%	0%	79%	2%	4%	14%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
METHODS																	
24. Hearing Screening	40%	55%	3%	2%	0%	41%	58%	1%	0%	0%	0%	0%	0%	95%	0%	2%	2%
a. Behavioral (VRA, etc.)	25%	60%	9%	5%	1%	26%	72%	2%	1%	0%	0%	0%	0%	85%	0%	8%	6%
b. Objective (ABR, OAE, OAES, etc)	24%	35%	12%	15%	15%	31%	62%	5%	1%	1%	1%	1%	0%	59%	3%	11%	26%
c. Written (high risk register, etc)	57%	19%	9%	11%	4%	64%	32%	3%	1%	0%	0%	0%	0%	78%	1%	7%	13%
25. Speech-Language Screening	52%	38%	3%	6%	1%	54%	44%	1%	1%	1%	0%	0%	0%	91%	1%	2%	6%
a. Formal	52%	39%	3%	5%	2%	51%	44%	2%	1%	2%	1%	0%	0%	92%	1%	2%	5%
b. Informal	44%	38%	8%	9%	1%	46%	48%	3%	2%	1%	0%	0%	0%	85%	1%	6%	7%
26. Consultation	9%	18%	24%	45%	4%	18%	36%	30%	14%	2%	0%	1%	1%	54%	15%	9%	19%
27. Prevention	59%	15%	11%	13%	2%	66%	23%	8%	3%	0%	0%	1%	0%	80%	3%	7%	9%
28. Counseling	19%	35%	23%	22%	1%	24%	58%	14%	2%	0%	0%	1%	0%	63%	6%	15%	15%
a. Informational	21%	37%	21%	20%	0%	26%	58%	13%	3%	0%	0%	1%	0%	68%	5%	13%	13%
b. Affective	16%	31%	24%	27%	2%	22%	56%	16%	5%	1%	0%	1%	0%	61%	6%	14%	17%
29. Basic Audiologic Assessment	44%	55%	1%	0%	0%	44%	56%	1%	0%	0%	0%	0%	0%	99%	0%	1%	0%
a. Behavioral (pure tone, speech, etc)	39%	59%	1%	1%	0%	39%	61%	0%	0%	0%	0%	0%	0%	98%	0%	1%	0%
b. Objective (immittance, etc)	37%	57%	3%	1%	2%	38%	61%	1%	0%	0%	0%	0%	0%	95%	0%	2%	3%
c. Self-assessment inventories	45%	31%	7%	13%	5%	48%	44%	5%	2%	0%	0%	0%	0%	80%	3%	4%	13%
30. Pediatric Audiologic Assessment	32%	49%	13%	6%	1%	34%	63%	3%	0%	0%	0%	0%	0%	83%	0%	11%	6%
a. Behavioral	27%	54%	12%	7%	1%	29%	69%	2%	0%	0%	0%	0%	0%	82%	1%	10%	7%
b. Objective	25%	49%	10%	9%	8%	29%	68%	3%	0%	0%	0%	0%	0%	75%	1%	8%	15%
31. Comprehensive Audiologic Assessment	41%	47%	8%	3%	1%	42%	56%	2%	0%	0%	0%	0%	0%	90%	0%	6%	4%
a. Sensory vs. Neural	45%	40%	8%	4%	2%	46%	51%	2%	0%	0%	0%	0%	0%	87%	1%	7%	5%
b. Central auditory nervous system disorders	42%	26%	10%	13%	9%	50%	43%	5%	1%	1%	0%	0%	0%	71%	3%	8%	18%
c. Pseudohypacusis	43%	36%	13%	8%	1%	46%	48%	5%	1%	0%	0%	0%	0%	82%	2%	9%	6%
d. Tinnitus	42%	24%	13%	17%	5%	52%	40%	6%	1%	1%	0%	0%	0%	70%	3%	10%	17%
32. Electrodiagnostic Test Procedures(non-audtry)	29%	24%	16%	15%	16%	35%	49%	9%	4%	4%	1%	0%	0%	62%	4%	12%	21%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
33. Auditory Evoked Potential Assessment	30%	26%	14%	14%	16%	37%	55%	5%	1%	1%	0%	0%	0%	59%	3%	13%	25%
a. Ecoch G	23%	13%	11%	20%	32%	35%	49%	9%	4%	3%	1%	1%	1%	43%	6%	8%	41%
b. ABR	26%	31%	13%	13%	16%	33%	59%	5%	1%	1%	0%	1%	0%	59%	3%	11%	25%
c. Middle	27%	18%	8%	15%	32%	36%	48%	7%	5%	3%	1%	1%	0%	51%	5%	6%	36%
d. Late	27%	17%	8%	15%	34%	36%	47%	7%	5%	4%	1%	1%	0%	50%	5%	6%	36%
e. Event-related/auditory-cognitive potential	26%	14%	8%	14%	38%	37%	45%	8%	4%	5%	1%	1%	0%	48%	6%	5%	38%
34. Neurophysiologic Intraoperative Monitoring	19%	9%	8%	20%	45%	29%	30%	17%	12%	11%	2%	2%	1%	48%	12%	3%	33%
a. Auditory	19%	7%	8%	22%	44%	28%	29%	19%	12%	12%	1%	2%	1%	49%	13%	3%	32%
b. Non-auditory	18%	7%	6%	20%	49%	27%	27%	17%	13%	16%	2%	1%	1%	50%	13%	2%	31%
c. Effects of anesthesia/pharmacological agents	22%	6%	7%	20%	44%	38%	23%	15%	10%	13%	1%	1%	1%	48%	11%	3%	35%
35. Balance System Assessment	29%	24%	18%	17%	13%	34%	53%	9%	2%	2%	1%	1%	0%	57%	4%	14%	23%
a. ENG	22%	25%	20%	18%	16%	28%	58%	9%	3%	2%	1%	1%	0%	52%	4%	16%	26%
b. Rotational-chair	18%	10%	9%	19%	44%	28%	44%	13%	8%	7%	1%	1%	0%	45%	7%	3%	43%
c. Posturography	18%	10%	8%	18%	46%	28%	43%	12%	9%	8%	1%	0%	0%	46%	7%	3%	42%
36. Hearing Conservation	65%	11%	7%	13%	4%	72%	21%	4%	2%	1%	0%	1%	0%	80%	2%	5%	12%
a. Occupational	62%	13%	8%	13%	4%	71%	22%	4%	2%	1%	0%	0%	0%	78%	2%	6%	12%
b. Non-occupational	61%	11%	8%	15%	5%	73%	20%	5%	2%	1%	0%	1%	0%	75%	2%	6%	15%
c. Ototoxic agents	62%	11%	8%	14%	5%	76%	18%	4%	2%	0%	0%	0%	0%	77%	2%	6%	15%
37. Audiological Rehabilitation Assessment	54%	28%	8%	9%	2%	59%	37%	3%	0%	0%	0%	0%	0%	83%	1%	6%	9%
a. Pediatric	48%	28%	10%	12%	3%	54%	42%	3%	1%	0%	0%	1%	0%	78%	2%	8%	12%
b. Adult	48%	31%	8%	10%	3%	53%	43%	3%	1%	0%	0%	0%	0%	82%	2%	7%	10%
c. Geriatric	47%	31%	9%	11%	3%	53%	43%	3%	1%	0%	0%	0%	0%	80%	2%	7%	11%
38. Audiological Rehabilitation	43%	31%	9%	13%	5%	47%	44%	7%	2%	1%	0%	1%	0%	76%	3%	6%	13%
a. Pediatric	40%	31%	10%	15%	5%	44%	47%	7%	1%	1%	0%	1%	0%	74%	3%	7%	14%
b. Adult	40%	35%	9%	12%	3%	43%	48%	7%	1%	0%	0%	1%	0%	79%	2%	6%	12%
c. Geriatric	38%	34%	9%	15%	4%	43%	48%	6%	2%	0%	0%	1%	0%	76%	3%	6%	14%
d. Alternative communication modes/systems	41%	18%	8%	20%	13%	49%	37%	8%	2%	3%	0%	1%	0%	65%	5%	5%	23%
e. Balance function rehabilitation	20%	10%	8%	24%	37%	37%	37%	10%	8%	8%	1%	0%	0%	47%	8%	5%	38%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
39. Product Dispensing	24%	37%	18%	18%	3%	28%	64%	7%	1%	0%	0%	0%	0%	66%	2%	14%	17%
a. Hearing aids	20%	41%	18%	18%	3%	25%	68%	6%	1%	0%	0%	1%	0%	64%	3%	15%	18%
b. Assistive devices	17%	25%	15%	33%	10%	27%	63%	8%	2%	1%	0%	0%	0%	47%	5%	12%	36%
c. Cochlear implant processors	22%	11%	9%	20%	39%	34%	39%	12%	9%	7%	1%	1%	0%	47%	8%	5%	37%
d. Tinnitus maskers	22%	13%	16%	34%	14%	33%	46%	11%	7%	3%	1%	1%	0%	47%	6%	11%	34%
e. Tactile/sensory devices	26%	17%	10%	28%	19%	34%	45%	10%	7%	4%	1%	1%	1%	53%	6%	7%	32%
f. Earmold impressions	15%	63%	9%	11%	2%	18%	78%	3%	1%	0%	0%	0%	0%	80%	1%	8%	11%
40. Product/Repair Modification	7%	30%	22%	34%	8%	12%	68%	13%	5%	2%	0%	0%	0%	48%	7%	16%	28%
41. Hearing Aid Assessment	22%	45%	17%	14%	2%	26%	68%	5%	1%	0%	0%	0%	0%	71%	2%	14%	13%
a. Developmentally appropriate behavioral testin	21%	48%	17%	12%	1%	23%	71%	5%	0%	0%	0%	0%	0%	73%	2%	14%	11%
b. Real-ear measurement	9%	28%	11%	31%	22%	20%	73%	6%	0%	0%	0%	0%	0%	38%	4%	10%	47%
c. Electroacoustic evaluation	21%	53%	7%	12%	6%	26%	70%	3%	0%	0%	0%	0%	0%	76%	2%	6%	15%
d. Determination of earmold characteristics	31%	37%	13%	15%	3%	37%	58%	5%	0%	0%	0%	0%	0%	70%	2%	11%	16%
e. Administration of communication inventories	39%	24%	9%	20%	8%	45%	42%	8%	4%	1%	0%	1%	0%	69%	5%	6%	19%
42. Assistive Listening System/Device Selection	17%	19%	14%	38%	13%	27%	57%	12%	4%	1%	0%	0%	0%	43%	8%	10%	39%
43. Sensory Aids Assessment (e.g., tactile aids)	22%	17%	10%	33%	17%	30%	48%	13%	7%	3%	1%	0%	0%	50%	9%	7%	33%
44. Hearing Aid Fitting/Orientation	17%	49%	18%	15%	1%	20%	72%	7%	0%	0%	0%	1%	0%	69%	4%	15%	12%
a. Behavioral	15%	54%	16%	14%	1%	18%	75%	6%	0%	0%	0%	0%	0%	72%	3%	12%	12%
b. Real-ear measurments	9%	32%	12%	30%	18%	17%	75%	7%	1%	0%	0%	1%	0%	43%	4%	9%	42%
c. Earmold modification	13%	42%	19%	22%	5%	16%	75%	7%	1%	0%	0%	1%	0%	58%	4%	15%	22%
d. Self-assessment inventories	33%	27%	11%	21%	8%	36%	51%	10%	3%	1%	0%	1%	0%	65%	5%	7%	21%
e. Counseling/rehabilitation	16%	45%	20%	17%	2%	21%	69%	9%	1%	0%	0%	1%	0%	65%	4%	16%	15%
45. Sensory Aids Fitting/Orientation	20%	20%	11%	30%	20%	23%	51%	14%	7%	4%	1%	1%	1%	52%	9%	6%	30%
46. Electrical Stimulation for Cochlear Implant	16%	8%	8%	20%	49%	24%	34%	17%	13%	13%	1%	1%	1%	48%	12%	4%	34%
47. Implant Selection and Rehabilitation	17%	5%	8%	20%	49%	26%	27%	17%	16%	14%	2%	1%	1%	51%	12%	3%	30%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
TEST ANALYSIS																	
48. Statistical Principles.	86%	5%	2%	3%	5%	89%	6%	2%	1%	2%	0%	1%	0%	93%	0%	1%	4%
a. Parametric	85%	4%	2%	4%	5%	89%	5%	2%	2%	2%	0%	0%	0%	92%	1%	1%	6%
b. Non-parametric	85%	4%	2%	4%	5%	89%	6%	2%	2%	2%	0%	0%	0%	92%	1%	1%	6%
c. Clinical decision analysis	79%	7%	4%	6%	5%	84%	9%	3%	2%	2%	0%	0%	0%	90%	1%	2%	7%
KNOWLEDGE FOR RELATED PROFESSIONAL ACTIVITIES																	
[Legislative]																	
49. legislation/regulation relevant to the profession	30%	3%	11%	41%	15%	53%	8%	15%	16%	8%	0%	0%	0%	60%	10%	6%	23%
50. rights of patient/consumer	33%	10%	18%	32%	7%	59%	17%	13%	8%	3%	0%	0%	1%	59%	6%	10%	24%
51. sales of hearing aids	18%	12%	26%	37%	6%	38%	29%	21%	10%	2%	0%	1%	1%	53%	9%	14%	23%
52. workers' compensation	18%	4%	19%	50%	9%	42%	15%	20%	18%	5%	0%	0%	1%	51%	11%	10%	27%
53. noise exposure and hearing conservation	51%	12%	13%	20%	4%	63%	21%	9%	6%	1%	0%	1%	1%	73%	3%	8%	14%
54. public laws related to clinical practice	35%	4%	16%	35%	9%	60%	12%	15%	10%	3%	0%	0%	0%	58%	8%	8%	25%
55. state-licensure/regulation	28%	5%	28%	32%	7%	52%	12%	22%	11%	3%	0%	1%	0%	62%	6%	12%	20%
[Administrative]																	
56. third-party reimbursement	6%	1%	19%	65%	9%	30%	12%	28%	27%	4%	0%	0%	1%	47%	17%	7%	28%
57. quality improvement techniques	7%	3%	17%	58%	15%	29%	13%	25%	26%	8%	0%	0%	0%	54%	14%	6%	25%
58. safety and health/universal precautions	14%	11%	15%	48%	12%	46%	27%	14%	10%	3%	0%	0%	0%	43%	8%	9%	39%
59. calibration standards, documentation, procedures	48%	20%	12%	17%	3%	59%	25%	9%	6%	1%	0%	1%	1%	79%	3%	7%	10%
60. professional standards/accreditation	50%	9%	19%	18%	4%	64%	13%	15%	7%	2%	0%	1%	0%	77%	4%	9%	9%
61. human resources management	13%	3%	11%	62%	12%	31%	9%	18%	32%	10%	0%	0%	0%	62%	12%	5%	20%

Discrepancy Scores - Educators

KNOWLEDGE AREAS

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
BASIC KNOWLEDGE FOR EVALUATION AND TREATMENT																	
1. professional codes of ethics	93%	2%	2%	2%	0%	91%	3%	5%	0%	1%	1%	3%	0%	94%	0%	0%	3%
2. patient characteristics	66%	20%	6%	8%	0%	70%	22%	4%	4%	1%	0%	0%	0%	95%	0%	3%	3%
3. aspects of human communication	93%	5%	1%	1%	0%	89%	9%	0%	1%	1%	3%	0%	0%	95%	0%	1%	1%
4. effects of hearing impairment	86%	8%	3%	4%	0%	88%	9%	1%	1%	0%	0%	0%	0%	96%	0%	1%	3%
5. anatomy/physiology of various syst	98%	1%	1%	0%	0%	99%	1%	0%	0%	0%	0%	0%	0%	99%	0%	1%	0%
6. pathophysiology of various systems	96%	1%	2%	0%	0%	99%	1%	0%	0%	0%	0%	0%	0%	98%	0%	2%	0%
7. embryology/devel. of various systems	99%	1%	0%	0%	0%	99%	1%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
8. etiologic factors affecting various systems	96%	0%	1%	2%	0%	99%	0%	1%	0%	0%	0%	0%	0%	98%	0%	0%	2%
9. normal devel. of speech and language	99%	0%	1%	0%	0%	98%	3%	0%	0%	0%	0%	0%	0%	99%	0%	1%	0%
10. normal devel. of auditory behavior/function	98%	0%	1%	1%	0%	100%	0%	0%	0%	0%	0%	0%	0%	98%	0%	1%	1%
11. normal processes of speech and language	98%	0%	2%	0%	0%	98%	2%	0%	0%	0%	0%	0%	0%	98%	0%	2%	0%
12. normal processes of auditory behavior	96%	0%	1%	2%	0%	98%	2%	0%	0%	0%	0%	0%	0%	96%	0%	1%	2%
13. neuroanatomy and neurophysiology	95%	0%	1%	1%	2%	99%	0%	1%	0%	0%	0%	0%	0%	96%	0%	0%	4%
14. psychoacoustics	98%	1%	0%	0%	1%	99%	1%	0%	0%	0%	0%	0%	0%	99%	0%	0%	1%
15. cerumen management	21%	30%	10%	16%	23%	16%	55%	3%	10%	17%	0%	0%	1%	78%	0%	7%	14%
16. pharmacology	52%	4%	6%	22%	16%	64%	6%	8%	9%	13%	0%	0%	0%	82%	3%	1%	14%
17. basic electronics	74%	1%	1%	16%	7%	81%	6%	1%	4%	8%	3%	0%	0%	83%	0%	0%	15%
STIMULUS FACTORS																	
[Acoustic]																	
18. temporal/spectral/amplitude chrctrstc of snds	98%	0%	1%	1%	0%	98%	1%	0%	0%	1%	1%	0%	0%	96%	0%	1%	1%
19. Effects of propagation and transmission	95%	0%	1%	4%	0%	98%	2%	0%	0%	0%	0%	0%	0%	95%	0%	1%	4%
20. sound analysis and quantification	95%	1%	1%	3%	0%	98%	1%	0%	0%	1%	1%	0%	0%	95%	0%	1%	3%
[Non-Acoustic]																	
																21.	21. 21.
21. physical characteristics of non-acoustic stim	70%	1%	3%	16%	10%	76%	1%	3%	6%	14%	3%	0%	0%	89%	0%	0%	9%
22. Effect of the delivery medium or system	76%	7%	1%	13%	3%	82%	5%	1%	5%	7%	1%	1%	0%	91%	0%	1%	5%
23. non-auditory stimulus analysis	73%	3%	1%	19%	4%	82%	3%	3%	7%	5%	1%	1%	0%	86%	0%	0%	11%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
METHODS																	
24. Hearing Screening	66%	30%	1%	1%	1%	64%	36%	0%	0%	0%	0%	0%	0%	96%	0%	1%	3%
a. Behavioral (VRA, etc.)	53%	42%	4%	1%	0%	49%	51%	0%	0%	0%	0%	0%	0%	95%	0%	4%	1%
b. Objective (ABR, OAE, OAES, etc)	60%	35%	3%	3%	0%	57%	43%	0%	0%	0%	0%	0%	0%	95%	0%	3%	3%
c. Written (high risk register, etc)	74%	16%	6%	3%	1%	72%	24%	3%	1%	0%	0%	0%	0%	93%	0%	4%	3%
25. Speech-Language Screening	66%	29%	4%	1%	0%	60%	40%	0%	0%	0%	0%	0%	0%	96%	0%	3%	1%
a. Formal	55%	39%	4%	1%	0%	53%	44%	2%	2%	0%	2%	0%	0%	94%	0%	3%	2%
b. Informal	43%	47%	9%	1%	0%	41%	55%	3%	1%	0%	1%	0%	0%	92%	0%	6%	1%
26. Consultation	18%	21%	28%	32%	1%	23%	40%	16%	19%	1%	0%	0%	1%	77%	0%	8%	14%
27. Prevention	78%	6%	5%	9%	1%	81%	13%	1%	4%	1%	1%	0%	0%	88%	0%	4%	6%
28. Counseling	32%	44%	15%	9%	0%	31%	55%	10%	3%	1%	1%	3%	1%	79%	1%	8%	6%
a. Informational	36%	44%	13%	8%	0%	37%	53%	6%	3%	1%	1%	1%	1%	82%	1%	8%	5%
b. Affective	28%	34%	19%	16%	3%	32%	49%	12%	3%	4%	1%	1%	1%	70%	3%	11%	12%
29. Basic Audiologic Assessment	56%	42%	3%	0%	0%	55%	45%	0%	0%	0%	0%	0%	0%	97%	0%	3%	0%
a. Behavioral (pure tone, speech, etc)	46%	51%	3%	0%	0%	48%	52%	0%	0%	0%	0%	0%	0%	97%	0%	3%	0%
b. Objective (immittance, etc)	50%	47%	3%	0%	0%	51%	49%	0%	0%	0%	0%	0%	0%	97%	0%	3%	0%
c. Self-assessment inventories	58%	30%	7%	5%	0%	58%	38%	4%	0%	0%	0%	1%	0%	89%	0%	4%	6%
30. Pediatric Audiologic Assessment	54%	38%	5%	3%	0%	54%	45%	1%	0%	0%	0%	0%	0%	94%	0%	3%	3%
a. Behavioral	48%	44%	7%	1%	0%	49%	50%	1%	0%	0%	0%	0%	0%	93%	0%	5%	1%
b. Objective	49%	43%	5%	3%	0%	47%	50%	3%	0%	0%	0%	0%	0%	95%	0%	3%	3%
31. Comprehensive Audiologic Assessment	52%	41%	5%	1%	0%	52%	47%	1%	0%	0%	0%	0%	0%	95%	0%	4%	1%
a. Sensory vs. Neural	47%	44%	6%	3%	0%	50%	47%	3%	0%	0%	0%	0%	0%	93%	0%	4%	3%
b. Central auditory nervous system disorders	56%	31%	8%	3%	3%	54%	36%	3%	0%	7%	4%	0%	1%	86%	0%	4%	4%
c. Pseudohypacusis	57%	34%	6%	3%	0%	56%	37%	5%	0%	1%	1%	0%	0%	95%	0%	1%	3%
d. Tinnitus	59%	21%	9%	8%	4%	58%	30%	4%	4%	4%	3%	0%	0%	87%	0%	5%	5%
32. Electrodiagnostic Test Procedures(non-audtry)	50%	26%	9%	7%	7%	51%	37%	4%	4%	3%	0%	1%	0%	84%	1%	7%	6%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
33. Auditory Evoked Potential Assessment	63%	25%	6%	7%	0%	58%	39%	3%	0%	0%	0%	0%	0%	89%	1%	4%	6%
a. Ecoch G	54%	17%	8%	16%	5%	49%	32%	5%	4%	10%	3%	0%	0%	82%	3%	5%	7%
b. ABR	49%	42%	5%	3%	1%	47%	47%	5%	0%	0%	0%	1%	0%	92%	1%	3%	3%
c. Middle	51%	24%	6%	12%	6%	50%	37%	4%	3%	6%	0%	0%	0%	87%	1%	4%	8%
d. Late	50%	22%	10%	9%	9%	47%	33%	6%	3%	10%	1%	0%	1%	86%	1%	4%	6%
e. Event-related/auditory-cognitive potential	49%	20%	9%	15%	7%	51%	25%	8%	5%	12%	3%	1%	1%	82%	3%	4%	5%
34. Neurophysiologic Intraoperative Monitoring	25%	7%	6%	37%	25%	30%	16%	7%	25%	21%	0%	3%	0%	78%	1%	3%	15%
a. Auditory	24%	9%	7%	35%	25%	29%	17%	9%	24%	21%	2%	2%	0%	76%	3%	3%	15%
b. Non-auditory	22%	8%	5%	35%	31%	25%	13%	5%	25%	33%	3%	0%	0%	83%	2%	2%	11%
c. Effects of anesthesia/pharmacological agents	36%	7%	9%	24%	24%	41%	13%	7%	17%	21%	1%	0%	0%	84%	1%	3%	10%
35. Balance System Assessment	56%	23%	13%	5%	3%	51%	36%	8%	3%	3%	4%	1%	0%	79%	1%	8%	6%
a. ENG	47%	33%	12%	7%	1%	45%	43%	4%	4%	4%	4%	3%	1%	75%	1%	11%	4%
b. Rotational-chair	32%	14%	12%	25%	17%	32%	24%	9%	17%	17%	4%	0%	0%	79%	3%	5%	9%
c. Posturography	38%	11%	12%	22%	18%	34%	22%	10%	16%	18%	5%	1%	0%	75%	3%	7%	8%
36. Hearing Conservation	82%	8%	3%	8%	0%	82%	12%	3%	1%	3%	1%	0%	0%	93%	0%	0%	5%
a. Occupational	77%	10%	4%	8%	1%	73%	17%	4%	3%	4%	1%	0%	0%	95%	0%	0%	4%
b. Non-occupational	77%	10%	3%	8%	3%	74%	15%	3%	4%	4%	3%	0%	0%	92%	0%	0%	5%
c. Ototoxic agents	78%	10%	4%	5%	3%	79%	13%	3%	3%	3%	1%	0%	0%	94%	0%	1%	4%
37. Audiological Rehabilitation Assessment	78%	14%	3%	4%	0%	72%	26%	1%	0%	0%	0%	1%	0%	91%	0%	3%	4%
a. Pediatric	68%	21%	4%	6%	1%	63%	34%	3%	0%	0%	0%	1%	0%	88%	0%	3%	8%
b. Adult	64%	22%	7%	7%	0%	62%	36%	3%	0%	0%	0%	1%	0%	87%	0%	5%	7%
c. Geriatric	64%	22%	8%	6%	0%	62%	35%	3%	0%	0%	0%	1%	0%	86%	0%	7%	7%
38. Audiological Rehabilitation	71%	18%	3%	8%	0%	66%	33%	0%	1%	0%	0%	0%	0%	91%	0%	3%	7%
a. Pediatric	65%	25%	3%	8%	0%	58%	41%	0%	1%	0%	0%	0%	0%	91%	0%	3%	7%
b. Adult	68%	23%	4%	5%	0%	57%	42%	0%	1%	0%	0%	0%	0%	92%	0%	4%	4%
c. Geriatric	67%	23%	4%	7%	0%	58%	41%	0%	1%	0%	0%	0%	0%	90%	0%	4%	5%
d. Alternative communication modes/systems	62%	16%	4%	14%	4%	52%	30%	4%	8%	5%	1%	0%	0%	92%	1%	1%	4%
e. Balance function rehabilitation	39%	12%	7%	29%	13%	31%	31%	7%	18%	13%	4%	0%	0%	78%	3%	1%	13%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
39. Product Dispensing	49%	38%	8%	5%	0%	45%	51%	3%	1%	0%	0%	0%	0%	89%	1%	7%	3%
a. Hearing aids	40%	48%	6%	5%	0%	38%	59%	3%	0%	0%	0%	1%	0%	88%	0%	5%	5%
b. Assistive devices	50%	31%	9%	5%	5%	41%	52%	3%	3%	1%	1%	1%	0%	81%	0%	8%	8%
c. Cochlear implant processors	42%	12%	12%	20%	14%	41%	23%	11%	15%	11%	3%	0%	0%	84%	1%	1%	11%
d. Tinnitus maskers	33%	15%	10%	29%	13%	36%	33%	8%	13%	11%	0%	0%	0%	76%	3%	5%	16%
e. Tactile/sensory devices	41%	14%	14%	21%	10%	39%	36%	8%	7%	11%	1%	0%	0%	76%	1%	8%	13%
f. Earmold impressions	32%	62%	4%	3%	0%	29%	69%	1%	1%	0%	0%	0%	0%	96%	0%	3%	1%
40. Product/Repair Modification	10%	47%	10%	23%	9%	16%	68%	3%	9%	4%	1%	0%	0%	70%	0%	8%	21%
41. Hearing Aid Assessment	51%	39%	7%	4%	0%	47%	50%	0%	1%	1%	0%	0%	0%	93%	0%	6%	1%
a. Developmentally appropriate behavioral testin	41%	46%	6%	5%	1%	41%	55%	1%	1%	1%	1%	1%	0%	85%	0%	7%	5%
b. Real-ear measurement	48%	47%	3%	3%	0%	42%	57%	1%	0%	0%	0%	1%	0%	93%	0%	3%	3%
c. Electroacoustic evaluation	50%	49%	1%	0%	0%	45%	54%	1%	0%	0%	0%	1%	0%	97%	0%	1%	0%
d. Determination of earmold characteristics	54%	37%	5%	3%	1%	49%	50%	0%	0%	1%	0%	0%	0%	92%	0%	5%	3%
e. Administration of communication inventories	52%	37%	5%	3%	3%	49%	47%	3%	1%	0%	0%	0%	0%	93%	0%	3%	4%
42. Assistive Listening System/Device Selection	47%	23%	9%	18%	3%	44%	44%	7%	4%	1%	0%	0%	0%	79%	3%	5%	13%
43. Sensory Aids Assessment (e.g., tactile aids)	42%	14%	12%	21%	12%	32%	40%	9%	8%	11%	3%	0%	0%	76%	1%	4%	16%
44. Hearing Aid Fitting/Orientation	45%	52%	1%	1%	0%	41%	59%	0%	0%	0%	0%	0%	0%	97%	0%	1%	1%
a. Behavioral	35%	61%	3%	1%	0%	34%	66%	0%	0%	0%	0%	0%	0%	96%	0%	3%	1%
b. Real-ear measurments	37%	58%	1%	4%	0%	33%	67%	0%	0%	0%	0%	0%	0%	95%	0%	1%	4%
c. Earmold modification	35%	51%	9%	5%	0%	32%	66%	3%	0%	0%	0%	0%	0%	89%	0%	6%	5%
d. Self-assessment inventories	46%	35%	10%	8%	1%	42%	50%	5%	1%	1%	0%	1%	0%	86%	0%	6%	6%
e. Counseling/rehabilitation	33%	49%	8%	10%	0%	32%	65%	3%	1%	0%	0%	0%	0%	85%	1%	6%	8%
45. Sensory Aids Fitting/Orientation	32%	21%	15%	24%	8%	26%	49%	8%	8%	9%	1%	1%	0%	72%	3%	9%	14%
46. Electrical Stimulation for Cochlear Implant	18%	8%	12%	38%	24%	22%	22%	12%	20%	24%	0%	1%	0%	79%	0%	1%	18%
47. Implant Selection and Rehabilitation	27%	11%	11%	30%	21%	27%	25%	10%	23%	15%	1%	1%	1%	77%	1%	3%	14%
TEST ANALYSIS																	
48. Statistical Principles.	97%	0%	0%	1%	1%	100%	0%	0%	0%	0%	0%	0%	0%	97%	0%	0%	3%
a. Parametric	97%	0%	0%	1%	1%	100%	0%	0%	0%	0%	0%	0%	0%	97%	0%	0%	3%
b. Non-parametric	94%	0%	0%	3%	4%	99%	0%	0%	0%	1%	0%	0%	0%	95%	0%	0%	5%
c. Clinical decision analysis	90%	4%	1%	3%	3%	88%	10%	1%	0%	0%	0%	0%	0%	94%	1%	1%	4%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
KNOWLEDGE FOR RELATED PROFESSIONAL ACTIVITIES																	
[Legislative]																	
49. legislation/regulation relevant to the profession	63%	1%	10%	19%	6%	68%	5%	11%	8%	8%	1%	0%	1%	86%	3%	1%	8%
50. rights of patient/consumer	66%	8%	9%	15%	3%	74%	13%	5%	7%	1%	1%	3%	1%	78%	0%	5%	12%
51. sales of hearing aids	51%	17%	15%	15%	1%	49%	23%	12%	15%	1%	5%	1%	0%	83%	0%	5%	5%
52. workers' compensation	39%	4%	19%	33%	6%	47%	9%	14%	27%	3%	1%	0%	1%	82%	0%	4%	12%
53. noise exposure and hearing conservation	75%	5%	8%	11%	1%	78%	8%	5%	6%	3%	3%	1%	0%	86%	0%	4%	6%
54. public laws related to clinical practice	69%	1%	10%	19%	1%	74%	7%	9%	8%	3%	1%	0%	1%	86%	3%	1%	8%
55. state-licensure/regulation	70%	3%	13%	14%	1%	76%	8%	9%	5%	1%	1%	0%	0%	87%	1%	4%	7%
[Administrative]																	
56. third-party reimbursement	26%	6%	25%	36%	6%	38%	13%	23%	22%	5%	3%	0%	1%	72%	4%	5%	15%
57. quality improvement techniques	24%	5%	14%	46%	10%	36%	16%	13%	22%	13%	3%	0%	0%	70%	3%	4%	21%
58. safety and health/universal precautions	55%	17%	8%	15%	5%	56%	28%	3%	9%	4%	3%	0%	0%	82%	0%	5%	10%
59. calibration standards, documentation, procedures	63%	18%	8%	9%	3%	65%	28%	4%	3%	1%	0%	0%	0%	89%	0%	4%	8%
60. professional standards/accreditation	79%	3%	3%	13%	4%	84%	5%	3%	8%	1%	0%	0%	0%	90%	3%	3%	5%
61. human resources management	21%	1%	14%	51%	11%	30%	3%	17%	37%	14%	1%	0%	0%	84%	3%	0%	11%

Discrepancy Scores - Clinical-FellowshipSupervisors

KNOWLEDGE AREAS

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
BASIC KNOWLEDGE FOR EVALUATION AND TREATMENT																	
1. professional codes of ethics	61%	5%	23%	11%	0%	76%	12%	11%	1%	0%	0%	2%	0%	72%	2%	15%	8%
2. patient characteristics	40%	15%	32%	11%	2%	46%	31%	15%	7%	1%	0%	1%	1%	72%	3%	20%	3%
3. aspects of human communication	82%	8%	7%	2%	2%	87%	8%	3%	0%	2%	1%	0%	0%	92%	0%	4%	3%
4. effects of hearing impairment	67%	5%	16%	9%	3%	72%	13%	11%	3%	0%	1%	2%	1%	78%	3%	8%	7%
5. anatomy/physiology of various syst	94%	1%	2%	1%	2%	98%	2%	0%	0%	0%	0%	0%	0%	95%	0%	2%	2%
6. pathophysiology of various systems	91%	1%	3%	2%	3%	97%	2%	0%	1%	1%	0%	0%	0%	94%	0%	3%	3%
7. embryology/devel. of various systems	91%	2%	2%	1%	4%	98%	2%	0%	0%	0%	0%	0%	0%	94%	0%	2%	5%
8. etiologic factors affecting various systems	83%	5%	6%	2%	3%	95%	4%	1%	0%	0%	0%	0%	0%	88%	1%	6%	5%
9. normal devel. of speech and language	94%	4%	2%	0%	0%	95%	4%	0%	0%	1%	1%	0%	0%	98%	0%	2%	0%
10. normal devel. of auditory behavior/function	92%	5%	2%	2%	0%	95%	4%	1%	0%	0%	0%	1%	0%	96%	0%	2%	2%
11. normal processes of speech and language	88%	2%	2%	6%	2%	93%	3%	0%	2%	2%	2%	0%	0%	91%	0%	2%	6%
12. normal processes of auditory behavior	88%	2%	3%	6%	2%	94%	4%	0%	2%	1%	1%	0%	0%	90%	0%	3%	6%
13. neuroanatomy and neurophysiology	82%	2%	4%	4%	7%	93%	5%	0%	2%	1%	2%	0%	0%	84%	0%	4%	10%
14. psychoacoustics	92%	1%	2%	2%	4%	95%	3%	0%	1%	1%	1%	0%	0%	93%	0%	2%	5%
15. cerumen management	13%	13%	13%	26%	36%	20%	45%	11%	4%	20%	3%	0%	3%	47%	6%	6%	35%
16. pharmacology	43%	3%	7%	22%	24%	70%	14%	5%	3%	8%	4%	0%	0%	52%	3%	6%	36%
17. basic electronics	63%	4%	3%	17%	12%	82%	10%	2%	3%	3%	0%	0%	0%	75%	1%	2%	23%
STIMULUS FACTORS																	
[Acoustic]																	
18. temporal/spectral/amplitude chrctrstc of snds	87%	5%	3%	2%	2%	90%	7%	1%	0%	2%	0%	1%	0%	93%	0%	3%	3%
19. Effects of propagation and transmission	86%	4%	3%	4%	2%	90%	9%	1%	0%	1%	0%	0%	0%	92%	0%	2%	6%
20. sound analysis and quantification	83%	6%	5%	5%	1%	84%	14%	2%	0%	0%	0%	0%	0%	91%	2%	4%	3%
[Non-Acoustic]																	
21. physical characteristics of non-acoustic stim	61%	4%	8%	13%	14%	73%	8%	6%	5%	7%	1%	2%	1%	77%	1%	4%	15%
22. Effect of the delivery medium or system	61%	5%	14%	6%	13%	66%	21%	5%	2%	6%	0%	2%	0%	77%	0%	11%	11%
23. non-auditory stimulus analysis	62%	7%	10%	9%	11%	69%	17%	6%	1%	6%	0%	1%	0%	81%	1%	6%	11%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
METHODS																	
24. Hearing Screening	33%	57%	8%	3%	0%	35%	65%	0%	0%	0%	0%	0%	0%	90%	0%	8%	3%
a. Behavioral (VRA, etc.)	23%	53%	17%	7%	0%	24%	71%	4%	1%	0%	1%	1%	0%	77%	1%	15%	6%
b. Objective (ABR, OAE, OAES, etc)	26%	33%	22%	13%	6%	27%	61%	8%	1%	2%	2%	1%	0%	61%	2%	17%	16%
c. Written (high risk register, etc)	54%	16%	16%	13%	2%	58%	33%	8%	0%	1%	0%	1%	0%	75%	2%	10%	12%
25. Speech-Language Screening	52%	35%	6%	5%	2%	49%	49%	0%	0%	1%	1%	0%	0%	86%	0%	6%	7%
a. Formal	52%	35%	6%	3%	4%	51%	45%	3%	0%	1%	1%	1%	0%	86%	0%	4%	7%
b. Informal	44%	31%	11%	10%	3%	44%	45%	7%	2%	2%	2%	0%	0%	83%	0%	4%	11%
26. Consultation	11%	17%	25%	45%	3%	13%	35%	34%	14%	4%	2%	1%	0%	59%	16%	7%	15%
27. Prevention	48%	16%	17%	17%	2%	54%	30%	13%	2%	2%	0%	2%	0%	72%	5%	11%	10%
28. Counseling	18%	29%	34%	19%	0%	24%	56%	18%	3%	0%	0%	2%	0%	57%	6%	24%	11%
a. Informational	18%	28%	33%	19%	1%	23%	58%	14%	5%	0%	0%	2%	1%	56%	5%	25%	11%
b. Affective	15%	21%	35%	25%	4%	18%	55%	17%	9%	1%	0%	2%	1%	53%	6%	25%	14%
29. Basic Audiologic Assessment	35%	53%	11%	0%	0%	36%	62%	2%	0%	0%	0%	0%	0%	91%	0%	9%	0%
a. Behavioral (pure tone, speech, etc)	31%	60%	9%	0%	0%	33%	66%	1%	0%	0%	0%	0%	0%	92%	0%	8%	0%
b. Objective (immittance, etc)	30%	56%	12%	2%	0%	33%	66%	1%	0%	0%	0%	0%	0%	87%	0%	11%	2%
c. Self-assessment inventories	43%	33%	14%	8%	2%	43%	50%	4%	2%	1%	0%	1%	0%	81%	0%	10%	8%
30. Pediatric Audiologic Assessment	26%	42%	24%	8%	0%	30%	66%	3%	1%	0%	0%	1%	0%	70%	0%	22%	7%
a. Behavioral	22%	46%	20%	11%	0%	29%	67%	4%	0%	0%	0%	2%	0%	69%	0%	18%	11%
b. Objective	25%	39%	21%	12%	2%	28%	67%	3%	2%	1%	1%	0%	1%	66%	1%	19%	13%
31. Comprehensive Audiologic Assessment	32%	41%	21%	7%	0%	35%	58%	5%	2%	0%	0%	2%	0%	75%	1%	18%	4%
a. Sensory vs. Neural	31%	42%	20%	7%	0%	34%	60%	3%	2%	0%	0%	1%	0%	76%	1%	19%	3%
b. Central auditory nervous system disorders	34%	26%	17%	14%	9%	38%	45%	12%	4%	2%	3%	3%	0%	63%	4%	12%	16%
c. Pseudohypacusis	30%	28%	30%	12%	0%	36%	55%	7%	2%	0%	0%	1%	0%	64%	2%	26%	8%
d. Tinnitus	37%	22%	20%	15%	5%	41%	47%	9%	2%	1%	1%	1%	1%	62%	5%	16%	15%
32. Electrodiagnostic Test Procedures(non-audtry)	25%	23%	19%	18%	15%	25%	50%	13%	5%	7%	1%	2%	0%	61%	6%	15%	15%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
33. Auditory Evoked Potential Assessment	29%	32%	22%	12%	5%	27%	63%	9%	1%	0%	1%	2%	0%	61%	5%	20%	12%
a. Ecoch G	28%	25%	15%	18%	15%	32%	51%	10%	4%	3%	2%	2%	1%	58%	4%	10%	24%
b. ABR	28%	33%	24%	8%	7%	31%	62%	6%	1%	1%	1%	2%	0%	60%	3%	23%	12%
c. Middle	31%	22%	11%	17%	19%	37%	46%	8%	4%	5%	1%	2%	0%	59%	6%	10%	22%
d. Late	32%	21%	9%	17%	20%	38%	42%	9%	5%	6%	1%	3%	0%	61%	6%	8%	21%
e. Event-related/auditory-cognitive potential	31%	21%	8%	17%	23%	37%	42%	10%	6%	6%	1%	2%	0%	63%	5%	6%	24%
34. Neurophysiologic Intraoperative Monitoring	16%	5%	16%	30%	33%	22%	26%	13%	16%	23%	0%	0%	3%	64%	5%	5%	22%
a. Auditory	14%	5%	15%	30%	35%	20%	28%	9%	18%	24%	0%	0%	3%	65%	3%	6%	23%
b. Non-auditory	13%	4%	13%	32%	37%	20%	21%	10%	18%	31%	0%	0%	3%	67%	4%	4%	20%
c. Effects of anesthesia/pharmacological agents	18%	4%	12%	33%	33%	34%	21%	11%	13%	21%	1%	2%	1%	57%	3%	5%	31%
35. Balance System Assessment	22%	23%	27%	20%	8%	32%	52%	12%	4%	0%	1%	1%	0%	53%	4%	20%	21%
a. ENG	19%	27%	27%	16%	10%	26%	55%	14%	3%	2%	1%	2%	0%	55%	4%	21%	17%
b. Rotational-chair	24%	13%	15%	24%	25%	26%	35%	16%	8%	15%	2%	1%	0%	64%	5%	6%	22%
c. Posturography	22%	15%	15%	24%	24%	26%	36%	17%	8%	14%	1%	1%	0%	63%	6%	6%	23%
36. Hearing Conservation	61%	12%	13%	11%	3%	66%	26%	4%	2%	2%	3%	0%	0%	75%	2%	10%	11%
a. Occupational	61%	12%	13%	11%	3%	64%	27%	5%	3%	1%	3%	0%	0%	76%	2%	10%	10%
b. Non-occupational	62%	10%	14%	11%	2%	64%	26%	4%	4%	2%	2%	0%	0%	77%	0%	10%	11%
c. Ototoxic agents	58%	11%	18%	12%	2%	71%	21%	5%	3%	1%	2%	0%	0%	73%	1%	13%	11%
37. Audiological Rehabilitation Assessment	50%	24%	12%	14%	0%	54%	42%	3%	0%	0%	0%	0%	0%	76%	2%	10%	12%
a. Pediatric	45%	26%	12%	16%	1%	51%	43%	6%	1%	0%	0%	0%	0%	76%	3%	8%	13%
b. Adult	46%	28%	13%	11%	2%	50%	43%	5%	1%	1%	0%	0%	1%	78%	2%	9%	10%
c. Geriatric	46%	27%	13%	12%	3%	50%	43%	5%	1%	1%	0%	0%	0%	78%	2%	9%	11%
38. Audiological Rehabilitation	39%	26%	15%	16%	3%	41%	48%	8%	3%	0%	0%	0%	0%	73%	3%	9%	15%
a. Pediatric	41%	26%	17%	14%	3%	45%	42%	8%	3%	2%	0%	1%	0%	75%	2%	11%	11%
b. Adult	42%	30%	15%	12%	2%	43%	43%	9%	3%	1%	1%	2%	0%	77%	3%	10%	8%
c. Geriatric	42%	29%	15%	13%	2%	43%	43%	10%	3%	1%	1%	1%	0%	78%	3%	9%	9%
d. Alternative communication modes/systems	39%	19%	12%	18%	11%	44%	33%	14%	4%	5%	0%	2%	0%	72%	5%	5%	16%
e. Balance function rehabilitation	24%	9%	13%	22%	33%	33%	25%	16%	9%	17%	0%	1%	1%	64%	8%	4%	22%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
39. Product Dispensing	18%	32%	32%	16%	2%	27%	60%	10%	1%	2%	0%	1%	1%	57%	4%	26%	12%
a. Hearing aids	18%	34%	32%	13%	3%	28%	63%	7%	0%	2%	0%	1%	0%	58%	1%	27%	13%
b. Assistive devices	21%	24%	31%	16%	7%	31%	55%	12%	1%	2%	0%	3%	0%	50%	3%	25%	18%
c. Cochlear implant processors	22%	9%	21%	24%	24%	29%	30%	19%	5%	16%	2%	1%	3%	51%	10%	10%	23%
d. Tinnitus maskers	23%	15%	21%	31%	9%	33%	40%	14%	7%	7%	1%	1%	1%	56%	4%	13%	24%
e. Tactile/sensory devices	22%	17%	19%	27%	15%	33%	37%	13%	6%	10%	0%	1%	1%	62%	4%	11%	22%
f. Earmold impressions	11%	56%	24%	7%	2%	18%	77%	3%	0%	2%	0%	2%	0%	68%	1%	23%	6%
40. Product/Repair Modification	4%	25%	31%	29%	12%	15%	54%	16%	11%	4%	3%	0%	1%	47%	7%	21%	21%
41. Hearing Aid Assessment	18%	43%	24%	11%	3%	29%	65%	4%	2%	1%	1%	1%	0%	63%	2%	23%	10%
a. Developmentally appropriate behavioral testin	14%	43%	26%	15%	2%	24%	68%	6%	1%	2%	0%	3%	1%	58%	2%	24%	13%
b. Real-ear measurement	17%	48%	13%	15%	7%	26%	69%	3%	1%	1%	1%	0%	0%	66%	2%	11%	20%
c. Electroacoustic evaluation	21%	50%	14%	10%	6%	31%	66%	2%	1%	1%	1%	0%	0%	71%	1%	13%	14%
d. Determination of earmold characteristics	31%	33%	22%	11%	3%	37%	58%	3%	2%	1%	1%	0%	0%	66%	1%	21%	12%
e. Administration of communication inventories	38%	29%	15%	13%	6%	44%	45%	7%	2%	2%	0%	2%	0%	73%	2%	11%	13%
42. Assistive Listening System/Device Selection	19%	21%	28%	26%	7%	30%	45%	19%	4%	2%	2%	1%	1%	51%	8%	17%	21%
43. Sensory Aids Assessment (e.g., tactile aids)	25%	12%	25%	27%	12%	36%	37%	13%	6%	8%	2%	0%	1%	56%	4%	15%	23%
44. Hearing Aid Fitting/Orientation	14%	49%	24%	12%	1%	19%	70%	10%	1%	0%	0%	3%	0%	66%	3%	19%	10%
a. Behavioral	16%	48%	26%	10%	1%	22%	69%	8%	1%	0%	0%	1%	0%	67%	3%	23%	7%
b. Real-ear measurments	13%	48%	22%	12%	6%	22%	69%	8%	1%	0%	0%	1%	0%	65%	3%	18%	13%
c. Earmold modification	8%	40%	31%	14%	6%	18%	68%	11%	2%	1%	1%	2%	1%	52%	5%	26%	14%
d. Self-assessment inventories	29%	31%	22%	16%	2%	38%	49%	10%	3%	0%	0%	3%	0%	66%	2%	17%	13%
e. Counseling/rehabilitation	16%	38%	28%	16%	3%	19%	64%	14%	3%	0%	0%	3%	0%	63%	3%	19%	13%
45. Sensory Aids Fitting/Orientation	18%	19%	22%	26%	14%	25%	46%	12%	8%	9%	2%	0%	0%	58%	4%	15%	20%
46. Electrical Stimulation for Cochlear Implant	12%	6%	15%	31%	35%	22%	24%	15%	16%	23%	1%	1%	3%	60%	7%	5%	24%
47. Implant Selection and Rehabilitation	12%	3%	16%	35%	34%	18%	24%	15%	22%	20%	1%	0%	2%	61%	7%	7%	22%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
TEST ANALYSIS																	
48. Statistical Principles.	86%	5%	1%	4%	5%	90%	3%	2%	3%	2%	0%	0%	0%	96%	1%	0%	3%
a. Parametric	85%	5%	1%	4%	5%	88%	4%	2%	3%	3%	0%	0%	0%	97%	1%	0%	2%
b. Non-parametric	85%	5%	1%	4%	5%	88%	4%	2%	3%	3%	0%	0%	0%	97%	1%	0%	2%
c. Clinical decision analysis	76%	10%	4%	3%	8%	77%	12%	4%	3%	4%	0%	1%	0%	94%	0%	1%	4%
KNOWLEDGE FOR RELATED PROFESSIONAL ACTIVITIES																	
[Legislative]																	
49. legislation/regulation relevant to the profession	31%	2%	20%	40%	6%	54%	4%	18%	18%	6%	2%	0%	0%	65%	7%	10%	16%
50. rights of patient/consumer	34%	7%	26%	29%	4%	66%	10%	15%	7%	2%	1%	0%	0%	58%	5%	17%	20%
51. sales of hearing aids	17%	9%	36%	32%	5%	42%	25%	20%	11%	2%	1%	1%	1%	53%	3%	19%	22%
52. workers' compensation	20%	1%	21%	52%	6%	46%	12%	17%	23%	3%	0%	0%	0%	57%	7%	10%	26%
53. noise exposure and hearing conservation	46%	9%	17%	24%	3%	66%	17%	11%	6%	1%	0%	2%	0%	65%	4%	12%	17%
54. public laws related to clinical practice	35%	5%	18%	35%	7%	68%	10%	12%	7%	2%	1%	0%	0%	57%	4%	10%	29%
55. state-licensure/regulation	36%	5%	31%	24%	3%	63%	10%	18%	8%	2%	0%	2%	0%	63%	2%	18%	15%
[Administrative]																	
56. third-party reimbursement	7%	2%	28%	60%	4%	31%	14%	24%	25%	5%	0%	0%	3%	51%	8%	9%	29%
57. quality improvement techniques	8%	7%	21%	55%	10%	28%	16%	25%	22%	8%	0%	0%	0%	58%	13%	8%	22%
58. safety and health/universal precautions	18%	12%	30%	33%	7%	48%	26%	16%	5%	4%	0%	1%	0%	49%	5%	20%	26%
59. calibration standards, documentation, procedures	44%	19%	19%	17%	2%	59%	26%	11%	3%	1%	0%	0%	0%	75%	3%	11%	11%
60. professional standards/accreditation	43%	11%	20%	24%	2%	63%	15%	16%	5%	2%	0%	0%	0%	72%	5%	9%	14%
61. human resources management	9%	5%	19%	51%	16%	28%	9%	19%	30%	15%	0%	0%	1%	68%	9%	7%	15%

Appendix M

Discrepancy Scores: Knowledge Areas
(Number of Years Certification)

Definitions of Scale Anchors

Where Learned

1 School - Classroom

2 School - Practicum

3 Clinical fellowship

4 On the job, after certification

5 Continuing education, after certification

Where Should Be Learned

1 School - Classroom

2 School - Practicum

3 Clinical fellowship

4 On the job, after certification

5 Continuing education, after certification

Discrepancy Scores

-3 Although acquired in school, should be acquired after certification

-2 Although acquired in school, should be acquired during the clinical fellowship

-1 Although acquired during the clinical fellowship, should be acquired after certification

0 Is being acquired where it should be acquired

+1 Although acquired after certification, should be acquired during the clinical fellowship

+2 Although acquired during the clinical fellowship, should be acquired in school

+3 Although acquired after certification, should be acquired in school

Discrepancy Scores - Pracitioners with five years or less certification

KNOWLEDGE AREAS

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
BASIC KNOWLEDGE FOR EVALUATION AND TREATMENT																	
1. professional codes of ethics	74%	7%	15%	4%	1%	84%	8%	8%	1%	0%	0%	0%	0%	87%	1%	8%	3%
2. patient characteristics	48%	30%	15%	7%	0%	55%	35%	7%	3%	0%	0%	1%	0%	84%	2%	10%	3%
3. aspects of human communication	93%	5%	1%	1%	0%	93%	6%	0%	0%	0%	0%	0%	0%	98%	0%	1%	1%
4. effects of hearing impairment	75%	10%	9%	6%	0%	79%	15%	4%	2%	0%	0%	0%	0%	89%	1%	7%	3%
5. anatomy/physiology of various syst	98%	0%	2%	0%	0%	99%	1%	0%	0%	0%	0%	0%	0%	99%	0%	1%	0%
6. pathophysiology of various systems	95%	1%	3%	1%	0%	98%	1%	1%	0%	0%	0%	0%	0%	96%	0%	2%	1%
7. embryology/devel. of various systems	98%	1%	1%	0%	1%	99%	1%	0%	0%	0%	0%	0%	0%	99%	0%	1%	1%
8. etiologic factors affecting various systems	95%	1%	2%	2%	0%	99%	1%	0%	0%	0%	0%	0%	0%	97%	0%	1%	2%
9. normal devel. of speech and language	99%	1%	0%	0%	0%	99%	1%	0%	0%	0%	0%	0%	0%	99%	0%	0%	0%
10. normal devel. of auditory behavior/function	98%	1%	1%	1%	0%	99%	1%	0%	0%	0%	0%	0%	0%	99%	0%	1%	1%
11. normal processes of speech and language	97%	1%	1%	1%	1%	98%	1%	0%	0%	1%	1%	0%	0%	97%	0%	1%	2%
12. normal processes of auditory behavior	96%	2%	0%	1%	1%	98%	1%	0%	1%	0%	0%	0%	0%	98%	0%	0%	1%
13. neuroanatomy and neurophysiology	94%	1%	0%	1%	3%	99%	1%	0%	0%	0%	0%	0%	0%	96%	0%	0%	4%
14. psychoacoustics	96%	1%	0%	1%	1%	98%	1%	0%	0%	0%	0%	0%	0%	97%	0%	0%	2%
15. cerumen management	11%	10%	17%	26%	36%	19%	53%	10%	4%	14%	1%	0%	0%	40%	6%	13%	39%
16. pharmacology	47%	1%	13%	23%	16%	78%	7%	4%	5%	5%	1%	0%	1%	58%	3%	10%	27%
17. basic electronics	74%	6%	4%	11%	6%	81%	11%	1%	3%	4%	2%	0%	0%	84%	1%	3%	11%
STIMULUS FACTORS																	
[Acoustic]																	
18. temporal/spectral/amplitude chrctrstc of snds	95%	3%	1%	1%	0%	96%	3%	0%	0%	0%	0%	0%	0%	98%	0%	1%	1%
19. Effects of propagation and transmission	93%	3%	2%	2%	0%	96%	3%	0%	0%	0%	0%	0%	0%	96%	0%	1%	3%
20. sound analysis and quantification	90%	9%	1%	0%	0%	91%	9%	0%	0%	0%	0%	0%	0%	99%	0%	1%	0%
[Non-Acoustic]																	
21. physical characteristics of non-acoustic stim	81%	4%	3%	5%	7%	89%	5%	2%	1%	3%	1%	0%	0%	88%	1%	2%	9%
22. Effect of the delivery medium or system	75%	12%	7%	3%	4%	84%	13%	2%	0%	1%	0%	0%	0%	89%	1%	5%	5%
23. non-auditory stimulus analysis	76%	9%	7%	4%	4%	86%	11%	2%	0%	1%	0%	0%	0%	87%	1%	5%	6%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
METHODS																	
24. Hearing Screening	41%	55%	2%	2%	0%	42%	57%	1%	0%	0%	0%	1%	0%	96%	0%	2%	2%
a. Behavioral (VRA, etc.)	23%	65%	9%	4%	0%	23%	74%	2%	0%	0%	0%	1%	0%	88%	0%	8%	3%
b. Objective (ABR, OAE, OAES, etc)	27%	42%	16%	8%	7%	30%	66%	4%	0%	0%	0%	1%	0%	71%	2%	14%	12%
c. Written (high risk register, etc)	64%	19%	10%	4%	2%	69%	30%	2%	0%	0%	0%	0%	0%	85%	0%	9%	6%
25. Speech-Language Screening	54%	40%	2%	4%	1%	56%	42%	1%	1%	0%	0%	0%	0%	95%	0%	1%	3%
a. Formal	51%	44%	1%	2%	1%	51%	45%	0%	1%	2%	0%	0%	0%	97%	0%	1%	0%
b. Informal	44%	44%	6%	6%	0%	46%	50%	3%	1%	0%	0%	0%	0%	89%	1%	5%	4%
26. Consultation	9%	22%	30%	37%	3%	16%	40%	31%	13%	1%	0%	2%	1%	59%	11%	11%	16%
27. Prevention	59%	20%	12%	8%	1%	65%	27%	5%	2%	0%	1%	0%	0%	85%	1%	8%	6%
28. Counseling	19%	40%	28%	13%	1%	23%	63%	12%	2%	0%	0%	0%	0%	68%	3%	19%	10%
a. Informational	19%	45%	23%	12%	0%	23%	65%	9%	2%	0%	1%	0%	0%	71%	3%	17%	7%
b. Affective	14%	37%	28%	20%	1%	19%	63%	14%	4%	1%	1%	1%	0%	63%	4%	17%	14%
29. Basic Audiologic Assessment	45%	54%	1%	0%	0%	45%	54%	1%	0%	0%	0%	1%	0%	99%	0%	1%	0%
a. Behavioral (pure tone, speech, etc)	38%	60%	1%	0%	0%	40%	60%	0%	0%	0%	0%	0%	0%	99%	0%	1%	0%
b. Objective (immittance, etc)	37%	59%	3%	1%	0%	40%	60%	0%	0%	0%	0%	0%	0%	97%	0%	2%	1%
c. Self-assessment inventories	56%	33%	5%	5%	1%	54%	41%	4%	1%	1%	0%	0%	0%	93%	1%	2%	3%
30. Pediatric Audiologic Assessment	32%	53%	12%	3%	0%	34%	64%	2%	0%	0%	0%	1%	0%	86%	0%	11%	3%
a. Behavioral	28%	56%	11%	4%	0%	31%	68%	2%	0%	0%	0%	0%	0%	85%	0%	10%	4%
b. Objective	27%	52%	9%	8%	4%	30%	69%	2%	0%	0%	0%	0%	0%	81%	1%	8%	11%
31. Comprehensive Audiologic Assessment	42%	49%	7%	1%	1%	41%	58%	1%	0%	0%	0%	0%	0%	92%	0%	6%	2%
a. Sensory vs. Neural	47%	39%	10%	2%	2%	48%	50%	2%	0%	0%	0%	0%	0%	88%	0%	8%	4%
b. Central auditory nervous system disorders	47%	30%	11%	6%	5%	53%	44%	2%	1%	1%	0%	0%	0%	79%	0%	9%	10%
c. Pseudohypacusis	47%	37%	13%	3%	0%	49%	47%	4%	0%	0%	0%	0%	0%	86%	0%	10%	3%
d. Tinnitus	46%	29%	16%	8%	2%	52%	43%	4%	0%	0%	0%	0%	0%	78%	1%	12%	8%
32. Electrodiagnostic Test Procedures(non-audtry)	38%	29%	19%	6%	8%	38%	50%	7%	1%	4%	0%	0%	0%	77%	2%	14%	7%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
33. Auditory Evoked Potential Assessment	41%	35%	17%	5%	2%	41%	54%	4%	0%	0%	0%	1%	0%	78%	1%	15%	6%
a. Ecoch G	33%	20%	17%	13%	17%	36%	52%	7%	3%	3%	2%	1%	0%	56%	3%	14%	25%
b. ABR	34%	46%	14%	3%	3%	36%	61%	3%	0%	0%	0%	1%	0%	79%	1%	14%	5%
c. Middle	42%	26%	10%	9%	14%	43%	48%	4%	3%	3%	1%	1%	1%	69%	2%	8%	18%
d. Late	41%	25%	10%	9%	15%	42%	47%	4%	3%	4%	2%	2%	1%	67%	2%	9%	18%
e. Event-related/auditory-cognitive potential	42%	20%	10%	9%	19%	43%	45%	5%	3%	5%	2%	1%	1%	65%	2%	8%	21%
34. Neurophysiologic Intraoperative Monitoring	35%	13%	11%	13%	29%	32%	30%	16%	11%	10%	5%	3%	2%	58%	7%	4%	22%
a. Auditory	34%	10%	12%	15%	29%	32%	29%	17%	12%	10%	3%	2%	1%	59%	7%	5%	22%
b. Non-auditory	32%	9%	9%	17%	32%	32%	25%	16%	13%	14%	3%	2%	2%	59%	9%	3%	21%
c. Effects of anesthesia/pharmacological agents	38%	9%	10%	14%	29%	40%	22%	15%	10%	14%	3%	1%	3%	61%	7%	2%	21%
35. Balance System Assessment	40%	30%	17%	6%	7%	40%	50%	8%	1%	2%	1%	2%	0%	71%	1%	14%	11%
a. ENG	30%	31%	22%	7%	10%	31%	59%	7%	1%	1%	1%	2%	0%	63%	1%	20%	13%
b. Rotational-chair	29%	16%	9%	13%	34%	30%	46%	11%	6%	8%	2%	1%	0%	56%	4%	4%	32%
c. Posturography	30%	15%	11%	10%	33%	30%	45%	10%	6%	9%	1%	1%	1%	57%	4%	7%	29%
36. Hearing Conservation	74%	9%	7%	8%	2%	75%	19%	3%	2%	0%	1%	0%	0%	85%	2%	5%	7%
a. Occupational	69%	12%	9%	7%	2%	73%	21%	3%	2%	1%	1%	0%	0%	85%	1%	6%	6%
b. Non-occupational	73%	10%	8%	8%	2%	76%	18%	4%	1%	1%	1%	1%	0%	85%	2%	6%	7%
c. Ototoxic agents	71%	12%	10%	7%	1%	78%	18%	2%	1%	0%	1%	0%	0%	85%	1%	8%	6%
37. Audiological Rehabilitation Assessment	59%	27%	8%	4%	1%	62%	36%	1%	0%	0%	0%	0%	0%	88%	0%	8%	4%
a. Pediatric	53%	29%	10%	6%	1%	57%	42%	1%	0%	0%	0%	0%	0%	83%	0%	9%	7%
b. Adult	53%	35%	7%	4%	1%	57%	42%	1%	0%	0%	0%	0%	0%	89%	0%	6%	4%
c. Geriatric	51%	35%	8%	4%	1%	56%	42%	1%	0%	0%	0%	0%	0%	87%	0%	7%	5%
38. Audiological Rehabilitation	49%	33%	7%	7%	4%	49%	45%	4%	1%	1%	1%	1%	0%	82%	2%	6%	8%
a. Pediatric	46%	31%	9%	10%	4%	47%	47%	4%	1%	1%	1%	2%	0%	77%	2%	8%	12%
b. Adult	46%	37%	9%	6%	3%	47%	47%	5%	1%	0%	0%	2%	0%	82%	1%	7%	8%
c. Geriatric	45%	36%	9%	8%	3%	48%	47%	4%	1%	0%	0%	2%	0%	81%	1%	8%	9%
d. Alternative communication modes/systems	53%	19%	9%	13%	7%	56%	35%	6%	1%	2%	0%	2%	0%	73%	2%	6%	16%
e. Balance function rehabilitation	27%	13%	13%	17%	31%	43%	37%	8%	5%	7%	1%	1%	0%	50%	4%	10%	33%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
39. Product Dispensing	28%	45%	18%	8%	1%	31%	64%	5%	0%	0%	0%	0%	0%	77%	1%	15%	7%
a. Hearing aids	24%	47%	19%	8%	2%	26%	69%	4%	0%	0%	0%	0%	0%	74%	1%	16%	9%
b. Assistive devices	26%	33%	18%	19%	4%	33%	60%	5%	2%	0%	0%	0%	0%	64%	1%	14%	20%
c. Cochlear implant processors	38%	15%	13%	13%	21%	42%	35%	10%	8%	5%	2%	1%	0%	66%	3%	7%	20%
d. Tinnitus maskers	35%	16%	21%	22%	7%	42%	42%	9%	5%	1%	1%	1%	0%	59%	4%	15%	20%
e. Tactile/sensory devices	43%	20%	11%	14%	12%	44%	42%	9%	3%	3%	1%	1%	0%	68%	4%	7%	17%
f. Earmold impressions	22%	67%	6%	4%	1%	24%	75%	1%	0%	0%	0%	0%	0%	90%	0%	5%	4%
40. Product/Repair Modification	9%	43%	27%	18%	3%	16%	72%	8%	4%	0%	0%	0%	0%	60%	2%	22%	15%
41. Hearing Aid Assessment	21%	51%	19%	7%	1%	27%	68%	5%	0%	0%	0%	0%	0%	76%	1%	15%	7%
a. Developmentally appropriate behavioral testin	23%	51%	17%	9%	1%	26%	71%	3%	0%	0%	0%	0%	0%	76%	1%	14%	8%
b. Real-ear measurement	15%	56%	15%	9%	5%	22%	74%	4%	0%	0%	0%	1%	0%	72%	2%	14%	12%
c. Electroacoustic evaluation	23%	64%	7%	5%	1%	29%	69%	2%	0%	0%	0%	0%	0%	88%	1%	6%	4%
d. Determination of earmold characteristics	33%	43%	15%	8%	1%	40%	57%	2%	0%	0%	0%	0%	0%	77%	1%	14%	8%
e. Administration of communication inventories	54%	28%	8%	7%	3%	55%	37%	5%	1%	1%	0%	2%	0%	84%	1%	6%	6%
42. Assistive Listening System/Device Selection	27%	25%	20%	23%	5%	31%	56%	10%	3%	0%	0%	1%	0%	60%	2%	13%	24%
43. Sensory Aids Assessment (e.g., tactile aids)	35%	22%	11%	20%	12%	38%	46%	9%	5%	2%	1%	1%	0%	64%	5%	8%	21%
44. Hearing Aid Fitting/Orientation	21%	57%	15%	6%	1%	24%	72%	4%	0%	0%	0%	0%	0%	80%	2%	14%	5%
a. Behavioral	19%	60%	14%	7%	0%	23%	72%	4%	1%	0%	0%	0%	0%	82%	2%	11%	4%
b. Real-ear measurments	15%	57%	16%	7%	5%	22%	73%	4%	0%	0%	0%	1%	0%	74%	1%	13%	10%
c. Earmold modification	14%	52%	22%	11%	1%	20%	74%	6%	0%	0%	0%	1%	0%	69%	2%	18%	9%
d. Self-assessment inventories	47%	34%	10%	8%	1%	44%	48%	6%	2%	0%	1%	1%	0%	83%	2%	7%	6%
e. Counseling/rehabilitation	20%	50%	21%	8%	1%	24%	69%	6%	0%	0%	0%	0%	0%	73%	2%	18%	6%
45. Sensory Aids Fitting/Orientation	32%	26%	12%	16%	13%	30%	51%	11%	4%	3%	1%	1%	0%	68%	4%	7%	19%
46. Electrical Stimulation for Cochlear Implant	28%	13%	11%	15%	33%	28%	35%	15%	12%	11%	3%	2%	1%	59%	7%	4%	25%
47. Implant Selection and Rehabilitation	32%	7%	11%	15%	35%	32%	28%	15%	12%	13%	3%	2%	1%	60%	7%	4%	23%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
TEST ANALYSIS																	
48. Statistical Principles.	89%	4%	1%	2%	4%	91%	4%	1%	1%	2%	1%	0%	0%	95%	0%	1%	3%
a. Parametric	90%	2%	1%	3%	4%	92%	3%	1%	2%	2%	1%	0%	0%	94%	0%	0%	4%
b. Non-parametric	89%	2%	0%	4%	4%	91%	3%	1%	2%	2%	1%	0%	0%	94%	0%	0%	5%
c. Clinical decision analysis	82%	6%	3%	4%	5%	87%	8%	1%	2%	2%	1%	0%	0%	91%	0%	2%	6%
KNOWLEDGE FOR RELATED PROFESSIONAL ACTIVITIES																	
[Legislative]																	
49. legislation/regulation relevant to the profession	44%	3%	15%	29%	10%	63%	7%	12%	11%	7%	1%	0%	0%	68%	6%	8%	17%
50. rights of patient/consumer	47%	9%	23%	18%	3%	68%	17%	11%	4%	1%	0%	0%	0%	67%	3%	15%	15%
51. sales of hearing aids	24%	16%	33%	24%	3%	40%	33%	18%	8%	1%	0%	0%	0%	62%	3%	19%	15%
52. workers' compensation	22%	6%	30%	35%	7%	47%	19%	20%	11%	4%	0%	1%	1%	52%	8%	17%	22%
53. noise exposure and hearing conservation	56%	15%	16%	12%	2%	68%	20%	8%	3%	0%	0%	1%	1%	78%	2%	10%	9%
54. public laws related to clinical practice	49%	4%	18%	22%	6%	69%	10%	13%	6%	2%	0%	0%	0%	68%	5%	9%	17%
55. state-licensure/regulation	37%	6%	35%	16%	5%	58%	12%	24%	5%	1%	0%	1%	0%	67%	3%	16%	13%
[Administrative]																	
56. third-party reimbursement	6%	2%	29%	55%	8%	32%	13%	29%	21%	4%	0%	0%	1%	47%	15%	14%	23%
57. quality improvement techniques	12%	5%	26%	44%	13%	30%	15%	23%	23%	9%	0%	0%	0%	64%	9%	12%	15%
58. safety and health/universal precautions	21%	17%	25%	30%	7%	47%	31%	13%	7%	2%	0%	0%	0%	55%	6%	18%	21%
59. calibration standards, documentation, procedures	54%	20%	12%	13%	1%	61%	24%	9%	5%	1%	1%	0%	0%	83%	4%	6%	6%
60. professional standards/accreditation	59%	10%	18%	11%	2%	68%	14%	12%	5%	2%	0%	1%	1%	84%	2%	9%	4%
61. human resources management	16%	4%	18%	51%	10%	33%	12%	18%	28%	10%	0%	0%	1%	66%	9%	9%	15%

Discrepancy Scores - Practitioners with more than five years certification

KNOWLEDGE AREAS

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
BASIC KNOWLEDGE FOR EVALUATION AND TREATMENT																	
1. professional codes of ethics	57%	7%	19%	14%	3%	72%	12%	13%	2%	1%	0%	0%	0%	75%	4%	10%	11%
2. patient characteristics	45%	23%	15%	16%	1%	53%	33%	10%	4%	0%	0%	0%	0%	78%	4%	9%	9%
3. aspects of human communication	88%	6%	2%	3%	1%	89%	7%	2%	1%	1%	1%	0%	0%	95%	1%	1%	2%
4. effects of hearing impairment	69%	11%	7%	12%	2%	78%	15%	6%	2%	0%	0%	0%	0%	84%	3%	5%	9%
5. anatomy/physiology of various syst	97%	2%	0%	1%	0%	98%	2%	0%	0%	0%	0%	0%	0%	99%	0%	0%	1%
6. pathophysiology of various systems	93%	2%	1%	2%	1%	98%	2%	0%	0%	0%	0%	0%	0%	95%	0%	1%	3%
7. embryology/devel. of various systems	95%	2%	0%	1%	1%	99%	1%	0%	0%	0%	0%	0%	0%	97%	0%	0%	3%
8. etiologic factors affecting various systems	93%	2%	1%	3%	1%	97%	2%	0%	0%	0%	0%	0%	0%	95%	0%	1%	3%
9. normal devel. of speech and language	97%	2%	0%	1%	0%	98%	2%	0%	0%	0%	0%	0%	0%	98%	0%	0%	1%
10. normal devel. of auditory behavior/function	95%	3%	0%	1%	0%	97%	3%	0%	0%	0%	0%	0%	0%	98%	0%	0%	1%
11. normal processes of speech and language	93%	1%	1%	4%	1%	97%	2%	0%	0%	1%	0%	0%	0%	94%	0%	1%	4%
12. normal processes of auditory behavior	92%	2%	1%	4%	1%	96%	2%	0%	1%	0%	0%	0%	0%	94%	0%	1%	4%
13. neuroanatomy and neurophysiology	87%	1%	1%	5%	5%	96%	3%	0%	0%	1%	0%	0%	0%	89%	0%	1%	9%
14. psychoacoustics	94%	3%	0%	1%	2%	95%	3%	0%	0%	1%	0%	0%	0%	96%	0%	0%	3%
15. cerumen management	10%	7%	7%	33%	44%	21%	50%	13%	6%	10%	2%	0%	1%	31%	10%	3%	53%
16. pharmacology	39%	2%	7%	36%	16%	73%	9%	7%	6%	5%	1%	0%	0%	52%	4%	4%	38%
17. basic electronics	59%	7%	5%	20%	8%	76%	15%	3%	3%	3%	1%	0%	0%	72%	2%	4%	21%
STIMULUS FACTORS																	
[Acoustic]																	
18. temporal/spectral/amplitude chrctrstc of snds	90%	3%	2%	3%	2%	95%	4%	1%	0%	0%	0%	0%	0%	93%	0%	2%	5%
19. Effects of propagation and transmission	87%	4%	2%	5%	3%	94%	5%	0%	0%	0%	0%	0%	0%	91%	0%	1%	7%
20. sound analysis and quantification	87%	7%	1%	3%	2%	91%	8%	0%	0%	0%	0%	0%	0%	94%	0%	1%	5%
[Non-Acoustic]																	
21. physical characteristics of non-acoustic stim	66%	5%	5%	11%	14%	80%	9%	3%	3%	5%	1%	0%	0%	78%	2%	4%	16%
22. Effect of the delivery medium or system	62%	8%	4%	13%	12%	78%	13%	2%	3%	3%	1%	0%	0%	76%	2%	4%	18%
23. non-auditory stimulus analysis	63%	7%	5%	15%	11%	77%	12%	3%	4%	4%	1%	0%	0%	76%	2%	4%	17%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
METHODS																	
24. Hearing Screening	40%	55%	3%	2%	0%	41%	58%	1%	0%	0%	0%	0%	0%	95%	0%	3%	2%
a. Behavioral (VRA, etc.)	25%	57%	10%	6%	1%	27%	71%	2%	1%	0%	1%	0%	0%	83%	0%	8%	7%
b. Objective (ABR, OAE, OAES, etc)	22%	32%	11%	18%	18%	31%	61%	5%	1%	1%	1%	1%	0%	55%	3%	9%	31%
c. Written (high risk register, etc)	54%	19%	8%	14%	5%	62%	33%	4%	1%	0%	0%	0%	0%	75%	2%	6%	16%
25. Speech-Language Screening	52%	37%	3%	6%	2%	53%	44%	2%	0%	1%	0%	0%	0%	89%	1%	2%	7%
a. Formal	52%	36%	3%	6%	2%	51%	44%	2%	1%	2%	1%	0%	0%	90%	1%	2%	6%
b. Informal	44%	36%	9%	10%	2%	46%	47%	3%	2%	1%	0%	0%	0%	84%	1%	6%	9%
26. Consultation	9%	16%	22%	49%	4%	19%	35%	30%	15%	2%	0%	1%	1%	52%	16%	9%	21%
27. Prevention	59%	12%	10%	15%	3%	67%	21%	9%	3%	0%	0%	1%	0%	78%	4%	6%	11%
28. Counseling	20%	32%	22%	25%	1%	25%	56%	16%	3%	0%	0%	1%	0%	61%	7%	14%	17%
a. Informational	22%	34%	21%	23%	1%	27%	55%	14%	3%	0%	0%	1%	0%	67%	5%	12%	15%
b. Affective	16%	29%	23%	30%	2%	23%	54%	17%	6%	1%	0%	1%	0%	60%	7%	13%	19%
29. Basic Audiologic Assessment	43%	55%	1%	0%	0%	43%	56%	1%	0%	0%	0%	0%	0%	99%	0%	1%	0%
a. Behavioral (pure tone, speech, etc)	39%	59%	1%	1%	0%	38%	61%	0%	0%	0%	0%	0%	0%	98%	0%	1%	1%
b. Objective (immittance, etc)	37%	56%	3%	1%	2%	37%	62%	1%	0%	0%	0%	0%	0%	94%	0%	3%	3%
c. Self-assessment inventories	40%	30%	7%	16%	6%	46%	45%	6%	3%	0%	0%	0%	0%	74%	3%	5%	16%
30. Pediatric Audiologic Assessment	32%	47%	13%	7%	1%	34%	63%	3%	0%	0%	0%	0%	0%	81%	1%	11%	7%
a. Behavioral	26%	53%	13%	8%	1%	28%	69%	3%	0%	0%	0%	0%	0%	81%	1%	11%	8%
b. Objective	24%	47%	10%	10%	9%	28%	67%	4%	1%	0%	0%	1%	0%	73%	2%	8%	17%
31. Comprehensive Audiologic Assessment	40%	47%	8%	4%	2%	42%	56%	2%	0%	0%	0%	0%	0%	89%	1%	6%	4%
a. Sensory vs. Neural	45%	41%	8%	5%	2%	46%	51%	2%	0%	0%	0%	0%	0%	87%	1%	6%	6%
b. Central auditory nervous system disorders	40%	25%	10%	15%	11%	48%	43%	6%	1%	1%	0%	1%	0%	68%	3%	7%	20%
c. Pseudohypacusis	42%	35%	12%	10%	1%	45%	48%	6%	1%	0%	0%	1%	0%	81%	2%	9%	8%
d. Tinnitus	40%	22%	11%	20%	6%	52%	39%	7%	1%	1%	0%	0%	0%	66%	4%	8%	21%
32. Electrodiagnostic Test Procedures(non-audtry)	25%	22%	15%	19%	20%	34%	48%	9%	5%	4%	1%	0%	0%	56%	5%	11%	26%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
33. Auditory Evoked Potential Assessment	25%	22%	13%	18%	21%	36%	56%	6%	2%	1%	0%	0%	0%	51%	3%	11%	34%
a. Ecoch G	20%	10%	8%	23%	38%	34%	47%	10%	5%	4%	1%	1%	1%	37%	7%	5%	48%
b. ABR	23%	26%	13%	17%	22%	32%	58%	6%	2%	1%	1%	1%	0%	51%	4%	10%	33%
c. Middle	21%	15%	7%	18%	39%	34%	48%	9%	6%	3%	1%	1%	0%	43%	6%	5%	44%
d. Late	21%	13%	7%	17%	42%	34%	47%	9%	6%	4%	1%	0%	0%	43%	7%	5%	44%
e. Event-related/auditory-cognitive potential	20%	12%	7%	16%	46%	34%	45%	10%	5%	6%	1%	1%	0%	42%	7%	4%	45%
34. Neurophysiologic Intraoperative Monitoring	12%	7%	6%	24%	51%	28%	30%	18%	13%	11%	0%	1%	0%	43%	14%	2%	38%
a. Auditory	13%	6%	7%	24%	50%	26%	29%	20%	12%	12%	0%	1%	0%	44%	16%	2%	36%
b. Non-auditory	12%	6%	5%	21%	56%	25%	27%	18%	14%	16%	1%	1%	0%	46%	15%	2%	35%
c. Effects of anesthesia/pharmacological agents	16%	4%	6%	23%	51%	37%	24%	16%	10%	13%	1%	1%	0%	43%	12%	3%	40%
35. Balance System Assessment	24%	21%	18%	21%	16%	32%	54%	10%	2%	2%	0%	1%	0%	52%	5%	14%	29%
a. ENG	19%	21%	20%	22%	18%	27%	58%	11%	3%	2%	1%	1%	0%	48%	5%	14%	31%
b. Rotational-chair	13%	8%	8%	22%	48%	27%	43%	13%	9%	7%	1%	1%	0%	41%	8%	3%	47%
c. Posturography	13%	8%	7%	21%	51%	28%	42%	12%	10%	8%	1%	0%	0%	42%	8%	2%	48%
36. Hearing Conservation	61%	12%	7%	15%	5%	71%	22%	5%	2%	1%	0%	1%	0%	77%	2%	5%	14%
a. Occupational	59%	13%	8%	15%	5%	70%	22%	4%	3%	0%	0%	1%	0%	76%	2%	6%	15%
b. Non-occupational	56%	12%	8%	17%	7%	72%	20%	5%	3%	1%	0%	1%	0%	72%	3%	7%	18%
c. Ototoxic agents	59%	11%	7%	17%	6%	76%	18%	4%	2%	0%	0%	0%	0%	73%	2%	5%	18%
37. Audiological Rehabilitation Assessment	51%	28%	7%	11%	3%	57%	38%	4%	1%	0%	0%	1%	0%	81%	2%	6%	11%
a. Pediatric	46%	28%	9%	14%	3%	53%	41%	4%	1%	0%	0%	1%	0%	76%	2%	7%	14%
b. Adult	46%	30%	9%	12%	3%	52%	43%	4%	1%	0%	0%	1%	0%	79%	2%	7%	12%
c. Geriatric	45%	29%	9%	14%	3%	52%	43%	4%	1%	0%	0%	0%	0%	77%	2%	7%	14%
38. Audiological Rehabilitation	40%	30%	10%	15%	5%	46%	44%	8%	2%	1%	0%	1%	0%	74%	3%	7%	15%
a. Pediatric	37%	31%	10%	17%	5%	43%	47%	8%	2%	1%	0%	0%	0%	73%	4%	7%	15%
b. Adult	38%	34%	10%	15%	4%	42%	48%	7%	2%	0%	0%	1%	0%	77%	3%	6%	13%
c. Geriatric	36%	33%	10%	17%	4%	41%	49%	7%	2%	1%	0%	1%	0%	74%	3%	6%	16%
d. Alternative communication modes/systems	36%	18%	7%	23%	16%	46%	38%	9%	3%	4%	0%	0%	0%	62%	7%	5%	26%
e. Balance function rehabilitation	18%	8%	7%	27%	40%	34%	36%	11%	9%	9%	1%	0%	0%	46%	9%	4%	40%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
39. Product Dispensing	22%	34%	18%	23%	4%	27%	64%	7%	2%	0%	0%	1%	0%	61%	3%	14%	21%
a. Hearing aids	18%	39%	17%	23%	4%	24%	68%	6%	1%	0%	0%	1%	0%	60%	3%	14%	22%
b. Assistive devices	13%	22%	13%	39%	13%	25%	64%	9%	2%	1%	0%	1%	0%	40%	6%	11%	43%
c. Cochlear implant processors	15%	9%	7%	23%	46%	31%	40%	13%	9%	8%	1%	1%	0%	39%	10%	4%	44%
d. Tinnitus maskers	17%	12%	15%	39%	17%	29%	48%	12%	7%	4%	1%	0%	1%	43%	6%	9%	40%
e. Tactile/sensory devices	19%	15%	10%	33%	23%	31%	46%	10%	8%	4%	0%	1%	1%	47%	7%	6%	37%
f. Earmold impressions	13%	61%	11%	14%	2%	15%	79%	4%	1%	1%	0%	1%	0%	76%	2%	9%	13%
40. Product/Repair Modification	6%	25%	20%	40%	9%	11%	66%	16%	6%	2%	0%	0%	0%	44%	10%	14%	33%
41. Hearing Aid Assessment	23%	43%	15%	17%	3%	26%	68%	5%	1%	0%	0%	0%	0%	68%	3%	13%	16%
a. Developmentally appropriate behavioral testin	20%	47%	17%	14%	1%	22%	71%	6%	1%	0%	0%	1%	0%	71%	2%	13%	12%
b. Real-ear measurement	6%	17%	9%	40%	28%	19%	73%	7%	1%	0%	0%	0%	0%	24%	5%	8%	62%
c. Electroacoustic evaluation	20%	49%	7%	16%	8%	24%	71%	4%	0%	0%	0%	0%	0%	71%	3%	6%	20%
d. Determination of earmold characteristics	30%	35%	12%	18%	4%	36%	58%	6%	0%	0%	0%	0%	0%	67%	3%	10%	19%
e. Administration of communication inventories	33%	23%	9%	25%	10%	41%	44%	9%	5%	1%	0%	1%	0%	63%	6%	5%	24%
42. Assistive Listening System/Device Selection	13%	16%	11%	44%	16%	26%	56%	13%	4%	1%	0%	0%	0%	37%	10%	8%	45%
43. Sensory Aids Assessment (e.g., tactile aids)	17%	16%	9%	38%	19%	27%	48%	14%	8%	3%	1%	0%	0%	45%	11%	6%	38%
44. Hearing Aid Fitting/Orientation	15%	46%	19%	18%	1%	19%	72%	8%	1%	0%	0%	1%	0%	64%	4%	16%	15%
a. Behavioral	14%	51%	16%	17%	2%	16%	76%	7%	0%	0%	0%	1%	0%	68%	4%	13%	15%
b. Real-ear measurments	6%	22%	10%	39%	23%	15%	75%	8%	1%	1%	0%	1%	0%	31%	6%	8%	56%
c. Earmold modification	12%	38%	17%	26%	6%	15%	76%	8%	1%	0%	0%	1%	0%	54%	4%	14%	27%
d. Self-assessment inventories	28%	24%	11%	27%	10%	33%	52%	11%	3%	1%	0%	1%	0%	58%	7%	7%	27%
e. Counseling/rehabilitation	14%	43%	20%	21%	2%	20%	68%	11%	1%	0%	0%	1%	0%	62%	5%	15%	18%
45. Sensory Aids Fitting/Orientation	15%	17%	10%	35%	23%	20%	51%	16%	8%	5%	0%	1%	1%	46%	11%	6%	35%
46. Electrical Stimulation for Cochlear Implant	11%	5%	7%	22%	55%	22%	33%	17%	14%	13%	1%	1%	1%	43%	14%	4%	37%
47. Implant Selection and Rehabilitation	11%	4%	7%	23%	55%	24%	27%	18%	17%	14%	1%	1%	1%	47%	14%	3%	34%

	Where Learned					Where Should be learned					Discrepancy Scores						
	1	2	3	4	5	1	2	3	4	5	-3	-2	-1	0	1	2	3
TEST ANALYSIS																	
48. Statistical Principles.	84%	5%	2%	3%	5%	88%	6%	2%	1%	2%	0%	1%	0%	93%	0%	1%	5%
a. Parametric	83%	4%	2%	5%	6%	88%	6%	2%	1%	2%	0%	0%	0%	91%	1%	1%	6%
b. Non-parametric	83%	4%	2%	5%	6%	88%	6%	2%	1%	2%	0%	0%	0%	91%	1%	1%	6%
c. Clinical decision analysis	78%	7%	4%	6%	5%	84%	9%	3%	2%	2%	0%	0%	0%	90%	1%	2%	7%
KNOWLEDGE FOR RELATED PROFESSIONAL ACTIVITIES																	
[Legislative]																	
49. legislation/regulation relevant to the profession	24%	3%	10%	46%	17%	49%	8%	16%	18%	9%	0%	0%	0%	57%	12%	6%	25%
50. rights of patient/consumer	28%	10%	16%	38%	9%	55%	17%	14%	10%	4%	0%	0%	1%	56%	7%	8%	27%
51. sales of hearing aids	16%	11%	24%	42%	7%	37%	27%	22%	11%	2%	0%	1%	1%	50%	11%	11%	26%
52. workers' compensation	16%	3%	15%	55%	10%	40%	13%	21%	21%	5%	0%	0%	1%	50%	13%	7%	29%
53. noise exposure and hearing conservation	49%	11%	12%	23%	5%	62%	20%	9%	7%	2%	0%	1%	1%	72%	4%	7%	16%
54. public laws related to clinical practice	30%	5%	15%	41%	10%	56%	13%	16%	11%	4%	0%	0%	1%	55%	9%	8%	28%
55. state-licensure/regulation	25%	5%	25%	38%	7%	50%	11%	22%	14%	3%	0%	0%	0%	59%	7%	10%	22%
[Administrative]																	
56. third-party reimbursement	6%	1%	15%	69%	10%	29%	11%	27%	29%	4%	0%	0%	1%	46%	18%	5%	29%
57. quality improvement techniques	6%	3%	13%	63%	15%	29%	11%	25%	27%	8%	0%	0%	1%	50%	17%	4%	28%
58. safety and health/universal precautions	11%	8%	11%	56%	14%	46%	25%	14%	12%	3%	1%	0%	0%	38%	9%	5%	47%
59. calibration standards, documentation, procedures	46%	20%	12%	19%	3%	59%	25%	8%	7%	1%	0%	1%	1%	77%	3%	7%	12%
60. professional standards/accreditation	46%	9%	19%	21%	5%	62%	12%	16%	8%	2%	0%	1%	0%	74%	4%	9%	11%
61. human resources management	11%	2%	8%	66%	13%	31%	7%	17%	34%	11%	0%	0%	0%	61%	13%	4%	22%

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement (OERI)
Educational Resources Information Center (ERIC)

NOTICE

REPRODUCTION BASIS

☑ This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.

☐ This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").