Audiology Practice and Curriculum Analysis

American Speech-Language-Hearing Association

Executive Summary

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Introduction

In 1987, the American Speech-Language-Hearing Association's (ASHA's) Committee on Professional Standards in Speech-Language Pathology and Audiology (COPS) commissioned a practice analysis[1] study to delineate the tasks, knowledge, and skills underlying the practice of audiology and speech-language pathology, respectively. The purpose of that study[2] 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.

In 1994, responding to the changing nature of professional practice, the COPS commissioned an independent practice analysis study of the profession of audiology (Tannenbaum & Rosenfeld, 1994, 1996). The purpose of that study[3] 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. In addition, that study also provided related analyses and discussed the implications of the study's outcomes for standards modification, curriculum redesign, and test development.

In 2006, another practice analysis study was conducted by ASHA under the auspices of the Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA) and the Council for Clinical Certification in Audiology and Speech-Language Pathology (CFCC; Rosenfeld, 2007). The purpose of that study was to define the clinical activities that a newly graduated, entry-level doctoral audiologist should be able to perform independently, given that a doctoral degree had become the entry into the profession of audiology. That study was also designed to inform the CAA and CFCC on academic and clinical standards for the profession of audiology as

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[1]The terms "job analysis" and "practice analysis" are used interchangeably throughout this report. The term "practice analysis" is typically more appropriate when discussing issues related to the helping or health professions. The term "job analysis" is typically more appropriate when discussing generic issues or when referring to academic definitions of the term.

[2]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, NY: Professional Examination Service.

[3]Tannenbaum, R. J., & Rosenfeld, M. (1996). *The practice of audiology: A study of the clinical activities and knowledge areas for the certified audiologist.* Princeton, NJ: Educational Testing Service.

well as the content and weighting of the national Praxis examination used as part of the ASHA certification process and for licensure in most states.

The current practice and curriculum study of the profession of audiology is being conducted by ASHA under the auspices of the CAA and CFCC to modify and update the audiology performance domain identified in 2007 so as to accurately reflect current practice in audiology and inform the CAA and CFCC on academic and clinical standards for the profession of audiology, as well as the content and weighting of the national Praxis examination used as part of the ASHA certification process and for licensure in most states.

This report was created in February 2016 and describes the practice analysis study. It documents the methods used to define the performance domain for the profession of audiology; describes the types of statistical analyses conducted; reports the results of these analyses; and presents the implications of these results for use in accreditation, certification, curriculum redesign, and test development.

Goal of Credentialing

The goal of licensure and certification is public protection. This is accomplished by providing the public with assurance that those individuals who are licensed or certified possess a sufficient level of the knowledge and skills necessary for safe and effective practice. The qualifications for credentialing generally include educational requirements, some type of supervised experience, and the passing of an examination assessing the knowledge and/or skill required for competent performance (American Educational Research Association [AERA], American Psychological Association [APA], and National Council for Measurement in Education [NCME], 2014). Some form of job analysis is typically used as the basis for identifying and supporting the knowledge and skills necessary for competent performance (AERA, APA, & NCME, 2014; National Commission for Certifying Agencies [NCCA], 2014; Raymond & Neustel, 2006).

Practice Analysis

Practice or 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; Raymond & Neustel, 2006). 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 linked directly to the outcomes of a job analysis, they may be said to be job-related. Similarly, if the

content of a certification examination can be linked directly 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 (SMEs; Mehrens, 1987; NCCA, 2014; Raymond & Neustel, 2006) 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 SME factors such as race or ethnicity, experience, and gender. The practice analysis conducted to define the performance domain for newly graduated entry-level doctoral audiologists was designed to be consistent with the Standards for Educational and Psychological Testing (AERA, APA, & NCME, 2014; NCCA, 2014; Organization for Standardization, 2012) and current professional practice.

Overview of the Job Analysis Methodology

The practice analysis described in this study involved a multi-method approach that included literature review; the use of a SME panel consisting of educators, supervisors, and clinical service providers; as well as a large-scale survey of clinical service providers, educators, and clinical supervisors. First, ASHA staff assembled materials to be reviewed by the SME panel as they considered developing the performance domain to be included in the new practice analysis. These materials included the previous practice analysis survey instrument and study report (Rosenfeld, 2007) as well as relevant professional literature. Next, these materials were reviewed by the SME panel by mail, and suggestions were made to revise the domain that comprised the previous practice analysis survey instrument. The purpose of this review was to refine and update that domain so that it accurately reflected the content believed to be most important for a newly graduated entry-level doctoral audiologist and to facilitate the conduct of the SME panel meeting that was to follow this initial review by the individual panel members. Next, the panel of SMEs was brought together to review the draft performance domain. The panel's charge was to review, evaluate, and revise the content of the performance domain from the perspectives of its members' varied practice settings, content expertise, and practice experience so that it described the important professional responsibilities and foundational knowledge domain of a newly graduated entry-level doctoral audiologist.

The revised domain was then placed into survey format and administered over the Internet to 23 audiologists for pilot testing. After some minor changes, the survey was provided to the CAA and CFCC for review and comment. Their suggested changes were reviewed by the SME panel who made final changes to the survey instrument. The survey was then administered over the Internet to all 13,130 current holders of the CCC-A credential who reside in the United States, the U.S. territories, or Canada. In addition, a special attempt was made to reach the director/chair of each of the 70 CAA-accredited clinical doctoral programs in audiology and CAA-accredited master's level programs in speech-language pathology as well as the director/chair of those programs already in the accreditation process. There were a total of 300 program directors in this population. These survey recipients were asked to make two judgments: First, they were asked to rate how important the professional responsibility statements and foundational knowledge areas were for safe and effective practice by a newly graduated entry-level doctoral audiologist. Next, they were asked to identify where the professional responsibilities and foundational knowledge areas should be learned by a newly graduated entry-level doctoral audiologist to ensure safe and effective independent professional practice. The judgments of those responding to the survey were then analyzed to identify core professional responsibilities and foundational knowledge areas—that is, professional responsibilities and foundational knowledge areas that the total group of respondents, groups of respondents defined by employment function and employment facility, and relevant subgroups of respondents defined by demographic variables rated to be important. Judgments also were analyzed to determine where the professional responsibilities and foundational knowledge areas should be learned (acquired).

Data Analysis of Survey Responses

Levels of Analysis

Analyses were conducted at multiple levels of aggregation. First, analyses were conducted for the total group of respondents. Then analyses were conducted for major groups of respondents (e.g., clinical service provider, college/university professor/instructor, director/chair of an education program, director/supervisor of a clinical program, supervisor/preceptor of clinicians) as well as by primary employment facility (e.g., school, college/university, nonresidential health care facility, hospital facility). These group-level analyses were followed by a series of subgroup analyses. That is, respondents were partitioned into subgroups as defined by their responses to the background information.[4] The following variables were used to create

[4]A minimum of 25 respondents 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.

subgroups: gender, race/ethnicity, geographic region, years practicing as an audiologist, educational level, experience as a preceptor /clinical supervisor during the past 5 years, and supervisor of newly graduated entry-level doctoral audiologists during the past 5 years. Each level of analysis is important for ensuring the relevance and fairness of the decisions that will be made based on the outcomes of this practice analysis.

Frequency Counts of Zero Responses

As noted above, each professional responsibility statement and each foundational knowledge area was rated on a 6-point Importance scale. The zero point on this scale indicated that the professional responsibility statement or foundational knowledge area was either not performed or not needed by a newly graduated entry-level doctoral audiologist. For each statement and foundational knowledge area, the percent zero responses were computed separately at each level of analysis. If 51% or more of the respondents in any analysis provided a zero response, the professional responsibility statement and/or foundational knowledge area was flagged (Rosenfeld, Freeberg, & Bukatko, 1992). Any flagged statements or knowledge 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 a newly graduated entry-level doctoral audiologist. Clearly, if the job-relatedness of professional responsibility statements and foundational knowledge areas is to be supported, a majority of respondents should indicate that the statements and knowledge areas are a part of the performance domain of a newly graduated entry-level doctoral audiologist.

Mean Importance Ratings and the Standard Error of the Mean

The mean importance rating and standard error of the mean were computed for each professional responsibility statement and each foundational knowledge area. The zero rating was not included in the computation of the mean and standard error of the mean. Means and standard errors were computed separately for the total group analysis, for each group-level analysis, and for each subgroup analysis. The mean provides an indication of the absolute level of importance attributed to the professional responsibility statements and foundational knowledge areas. It is used to differentiate between more important and less important professional responsibility statements and more important and less important foundational knowledge areas. The standard error of the mean is the standard deviation of a group of sample means about the population mean. It allows us to estimate the probability that a sample mean will fall within a given range of values about the population mean. A small standard error would indicate that the sample mean is relatively close to the population mean and that if another similar

sample were to be drawn, it is likely that the mean of that sample would be similar to the mean of the initial sample.

It is recommended that a mean rating of 3.50 be applied as a standard to distinguish more important professional responsibility statements and foundational knowledge areas from less important ones. Mean ratings equal to or greater than 3.50 (rounds to a rating of "Important") will be classified as more important. Although all judgmental standards may be subject to debate, experience indicates that a mean value of 3.50 on these types of rating scales provides a solid foundation for claims of job-relatedness. 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.

Level of Agreement Analyses

Level of agreement indices were computed for all group and subgroup analyses based on mean importance ratings. Contingency tables were generated using the 3.50 standard and the percent of classification agreement within the groups or subgroups being compared. For example, in the case of female and male audiologists, the percent agreement between their mean importance ratings relative to the 3.50 standard was computed.

Correlation of Mean Importance Ratings

Correlations of mean importance ratings were computed for each group and subgroup analysis to assess the similarity of the profile of their ratings.

Content Coverage Ratings

Respondents were asked to rate how well the professional responsibility statements covered what a newly graduated entry-level doctoral audiologist should be able to do and how well the foundational knowledge areas covered what a newly graduated entry-level doctoral audiologist should know. These judgments provide an indication of the comprehensiveness of the performance domain defined in the practice analysis survey. The rating scale anchors for these judgments ranged from (1) *very poorly* to (5) *very well*; the midpoint was (3) *adequately*.

Summary of Results

Summary of Analyses of Importance Ratings for Professional Responsibilities

There were no instances in which a majority of respondents in either the total group or any group or subgroup indicated that a professional responsibility was not performed or used by a newly graduated entry-level doctoral audiologist. All professional responsibility statements were judged to be part of the practice of newly graduated entry-level doctoral audiologists by the vast majority of respondents.

Twenty-five of 110 professional responsibility rated statements (23%) were rated as being critically important for a newly graduated entry-level doctoral audiologist to be able to perform competently by the total group of respondents. These professional responsibilities were found in the General Activities, Evaluation, Intervention, Documentation, and Communication sections of the survey.

Twenty-nine of 110 professional responsibility rated statements (26%) were rated below 3.50 by the total group of respondents indicating they were judged to be moderately important or less for a newly graduated entry-level doctoral audiologist to be able to perform competently. These responsibilities were found in the Prevention (Conservation), Evaluation, Intervention, and Other Professional Responsibilities sections of the survey.

Group-level analyses were conducted for two variables (employment function and employment facility) and resulted in the identification of 21 additional professional responsibility statements (20%) that did not meet the 3.50 standard. It should be noted that 16 of these statements failed to achieve the 3.50 standard in only one of the group comparisons. Subgroup analyses identified no additional professional responsibilities that had not already been identified in the total group or group analyses.

Sixty professional responsibility statements (55%) were judged to be important by the total group, all groups, and all subgroups of respondents and can be considered the core professional responsibilities judged to be important for safe and effective independent professional practice by a newly graduated entry-level doctoral audiologist. Overall, there were 31 group and subgroup comparisons made (13 group comparisons and 18 subgroup comparisons). Given the large number of comparisons, it is recommended that any statement that was rated 3.50 and above in 90% of the comparisons still be eligible for consideration as a core professional responsibility. Of the 21 statements identified in the group and subgroup analyses, only five

statements (#24, “Select, fit, and verify hearing protection devices”; #84, “Advocate for legislation beneficial to the profession and the individuals served”; #85, “Assess program outcomes for continuous quality improvement of service delivery to patients”; #86, “Identify service needs, offer new services as needed, establish links with existing service providers”; and #87, “Introduce and use new assessment and intervention techniques that have an adequate base of evidence to support use”) did not meet this standard. They were rated below 3.50 in many comparisons. Although all statements receiving a mean rating below 3.50 should be reviewed by the CAA and CFCC to determine whether or not to include them in academic and certification standards, particular attention should be paid to the 29 statements that were rated below 3.50 in the overall analysis as well as the five statements in the group and subgroup analyses that were rated below 3.50 in more than 10% of those comparisons.

Percent agreement analyses by groups and subgroups were quite high, ranging from 75% to 99%; the majority were 90% or above. This indicates there was very good agreement regarding those professional responsibilities rated either above or below 3.50. Correlational analyses for all groups and subgroups were also quite high. All correlations were .89 or above, indicating a high level of agreement on the profiles of ratings of importance.

Survey respondents were asked to rate how well the professional responsibility statements covered what a newly graduated entry-level doctoral audiologist should be able to do. Judgments were made on a 5-point scale. The scale points were as follows: (1) *Very poorly*, (2) *Poorly*, (3) *Adequately*, (4) *Well*, and (5) *Very well*. The mean rating by the total group or respondents was 3.86, indicating they believed the domain was well covered. All but two of the 408 respondents to this question (virtually 100%) thought the domain was at least covered adequately, whereas 64% of respondents thought the domain was covered well or very well.

Knowledge Areas

There were no instances in which a majority of respondents in either the total group or any group or subgroup indicated that a knowledge area was not used by a newly graduated entry-level doctoral audiologist. All knowledge areas were judged to be part of the practice of newly graduated entry-level doctoral audiologists by the vast majority of respondents.

One of the 29 rated foundational knowledge statements was rated as being critically important to be possessed by a newly graduated entry-level doctoral audiologist for safe and effective independent practice by the total group of respondents. Twenty-four of the 29 rated foundational knowledge statements

(83%) were rated 3.50 or above by the total group of respondents. Five knowledge statements were rated below 3.50. All five statements were rated as being moderately important for safe and effective practice.

Group-level analyses were conducted for two variables (employment function and employment facility) and resulted in the identification of four additional knowledge areas that did not meet the 3.50 standard. Subgroup analyses did not identify any additional knowledge areas that had not been identified in the total group or group analyses.

Twenty of 29 rated foundational knowledge statements (69%) were judged to be important by the total group, all groups, and all subgroups of respondents. These statements along with knowledge statement #21, "Management and business practices" (which was rated above 3.50 in 90% or more of the 31 comparisons made on each knowledge statement), can be considered to be core foundational knowledge judged to be important to be possessed by newly graduated entry-level doctoral audiologists for safe and effective independent professional practice. The eight remaining knowledge statements that were rated below 3.50 should be reviewed by the CAA, CFCC, and exam committees to determine whether or not to include them for consideration in the setting of academic standards, certification standards, and test specifications. If they are included, a strong rationale should be provided to document the reason for their inclusion.

Percent agreement analyses by group and subgroup were high, ranging from 79% to 100%; the majority were 90% or above. This indicates there was very good agreement regarding those foundational knowledge statements rated either above or below 3.50. Correlational analyses for all groups and subgroups were very high, ranging from .80 to .99; the vast majority of correlations were .90 or above, indicating a high level of agreement on the profiles of ratings of importance.

Summary of Analyses of Importance Ratings for Foundational

Content Coverage: Foundational Knowledge Areas

Survey respondents were asked to rate how well the foundational knowledge statements covered the general background that a newly graduated entry-level doctoral audiologist should possess. Judgments were made on a 5-point scale. The scale points were as follows: (1) *Very poorly*, (2) *Poorly*, (3) *Adequately*, (4) *Well*, and (5) *Very well*. The mean rating by the total group or respondents was 4.10, indicating they believed the domain was well covered. All but six of the 500 respondents to this question thought the domain was at

least covered adequately, whereas 67% of respondents thought the domain was covered well or very well.

Implications

Content and Weighting for the National Praxis Examination

One of the major purposes of this practice analysis was to provide data to aid in the identification and weighting of content for the Praxis examination as well as providing data to support documentation of its validity. The procedures used in this study were designed to be consistent with professional standards for the design and validation of certification examinations. Professional 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 used in this study is consistent with this requirement of demonstrating job relevance. Professional responsibilities and foundational knowledge areas rated 3.50 or above were judged as being important for safe and effective independent practice by a newly graduated entry-level doctoral audiologist by 785 respondents representing clinical service providers, educators, and clinical supervisors from a variety of employment functions and facilities. This cut-point or standard will reduce the likelihood of including content in the Praxis examination that is not important for a newly graduated entry-level doctoral audiologist.

Implications for documenting validity. The domain of clinical activity statements and knowledge areas was developed by a panel of 11 SMEs that included educators, clinical supervisors, and clinical service providers from a variety of practice settings. The experts had representation by gender, ethnicity, and geographic region. The panel members utilized the previous practice analysis, relevant professional literature, and their knowledge and experience as ASHA-certified audiologists to revise and update the performance domain of professional responsibilities and foundational knowledge areas. After much discussion, the domain they developed consisted of 110 rated professional responsibilities and 29 rated foundational knowledge areas. The domain was placed in survey format and administered via the Internet to 13,130 audiologists holding the CCC-A and to the directors/chairs of all 70 CAA-accredited clinical doctoral programs in audiology and CAA-accredited master's-level programs in speech-language-pathology as well as to the director/chair of those programs already in the accreditation process. Seven hundred and eighty-five responses were received and analyzed. Analyses indicated that all the professional responsibility statements and foundational knowledge areas were judged to be part of the performance domain of a newly graduated entry-level doctoral audiologist

prepared to practice independently in a safe and effective manner. Data were presented indicating that respondents believed that the professional responsibilities and foundational knowledge areas contained in the survey instrument covered those domains well. Analyses were conducted for the total group of respondents, groups of respondents defined by employment function and employment facility, and by subgroups of respondents defined by demographic variables. The most important professional responsibilities and foundational knowledge areas were identified, and there was strong agreement among groups and subgroups of respondents on the importance of the professional responsibilities and foundational knowledge areas. Subsets of professional responsibility statements (55%) and foundational knowledge areas (69%) were judged to be important by the total group of respondents as well as by all groups and subgroups of respondents. These professional responsibilities and knowledge areas provide a sound basis for use in setting test specifications.

Implications for exam development committees. The professional responsibility statements and foundational knowledge areas passing the 3.50 cut-point should be considered as the primary pool from which test specifications are built. These may be added to by considering the professional responsibility statements that received importance ratings of 3.50 or higher in 90% of the 31 comparisons made for each professional responsibility and foundational knowledge statement. If exam development committees composed of CCC-A audiologists decide to include professional responsibility statements and foundational knowledge areas that were not universally endorsed as being important in the test specifications, a compelling written justification should be provided. Survey respondents were asked for input on the appropriate balance of questions on the examination based on the different sections of the survey. The percentage of items assigned to each section of the survey should be used as guidance by exam development committees as they consider the number of items to assign to each section of the examination. The results of the practice analysis 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. Exam development committees may wish to design simulations to assess professional responsibilities or to identify the knowledge or skills required to perform those activities and assess knowledge and skills. Questions written for the exam need to be linked back to the test specifications by the question writer as well as by an independent group of audiologists. Linkages from test questions to test specifications, and from test specifications to the practice analysis, provide a strong network for use in documenting the validity of certification examinations.

Implications for the CAA and CFCC. The CAA formulates the standards for the accreditation of graduate education programs that provide entry-level professional preparation in audiology and applies these standards in the accreditation of these programs. The CFCC sets the standards for the certification of individuals and verifies that individuals have met those standards. These standards are designed to demonstrate that certified audiologists possess the knowledge and skills necessary for safe and effective entry-level independent practice and maintain their expertise through continuing education. It is important to note that in the development of test specifications for the Praxis examination, an example of high stakes testing, it was recommended that the 3.50 cut-point be used to identify potential test content; the 3.50 cut-point need not apply to curriculum-related standards. As long as a professional responsibility or knowledge area is judged to be part of the performance domain of a newly graduated entry-level doctoral audiologist, it may be included in the consideration of both academic and certification standards.

The results of this practice analysis study can be used by the CAA and CFCC as a database to inform their decision making and assist in ensuring that the standards they develop are consistent with the scope and practice of the profession. The ratings in this study were obtained from 785 ASHA-certified audiologists who included clinical service providers, educators, and clinical supervisors from a range of employment functions and facilities providing a broad view of the entry-level practice of newly graduated doctoral audiologists. The results from this study provide relevant findings that are important for both the CAA and CFCC to consider:

- All 110 rated professional responsibilities and 29 rated foundational knowledge areas were judged to be part of the practice of a newly graduated entry-level doctoral audiologist. Therefore, all the professional responsibilities and foundational knowledge areas can be considered for standard setting by both the CAA and the CFCC.
- The 60 professional responsibilities that were judged to be important (received an importance rating of 3.50 or above) by the total group of respondents, all groups of respondents, and all subgroups of respondents, as well as the 16 statements that were rated 3.50 and above in 90% of the 31 comparisons made for each statement, should be considered as part of the core set of professional responsibilities for newly graduated entry-level doctoral audiologists. These professional responsibilities were judged to be important virtually everywhere a newly graduated entry-level doctoral audiologist is likely to practice. In addition, 25 of these professional responsibility statements were rated as being

critically important for a newly graduated entry-level doctoral audiologist to be able to perform in a safe and effective manner by the total group of respondents. These professional responsibilities should be reviewed carefully when both academic and certification standards are being considered to ensure they are appropriately represented in both sets of standards. Opportunities should be provided in the curriculum to ensure that the knowledge and skills necessary to carry out these responsibilities are provided and assessment made to ensure they have been mastered.

- Twenty of the 29 foundational knowledge statements (69%) that were judged to be important by the total group, all groups, and all subgroups of respondents as well as knowledge statement #21 (received importance ratings of 3.50 or above in 90% or more of the 31 comparisons made for each knowledge statement) can be considered to be core foundational knowledge judged to be important to be possessed by newly graduated entry-level doctoral audiologists for safe and effective independent professional practice. Special attention should be paid to knowledge statement #24, "Amplification principles and technologies," which was rated as being extremely important.
- The vast majority of professional responsibility statements (90%) were judged to be best learned in both the academic program classroom/laboratory and clinical experience as a student by the total group, groups of respondents, and subgroups of respondents. Nine responsibilities were judged to be best learned on the job (post-graduation) or during professional development (e.g., continuing education). The professional responsibility statements that were rated as being best learned on the job were located in the Other Professional Responsibilities section of the practice analysis survey instrument. Both the CAA and CFCC should consider whether some of the knowledge and skills necessary to perform these responsibilities should be included in academic and certification standards or learned on the job (post-graduation) or during professional development (e.g., continuing education).
- The majority of foundational knowledge statements were judged to be best learned in the academic program classroom/laboratory; the remaining foundational knowledge statements were judged to be best learned in both the academic program classroom/laboratory and clinical experience as a student, with the exception of one knowledge area (#25, "Principles of clinical supervision") being judged as best learned on the job (post-graduation) or during professional development. These findings were similar for the total group, groups of respondents, and subgroups of respondents.

The CAA and CFCC should consider both the importance ratings obtained for each professional responsibility and foundational knowledge statement along with the judgments of where they should best be learned or acquired when deciding whether or not to include the relevant knowledge and skills in academic and certification standards and the relative emphasis to apply to each. These decisions require the expert judgment of these council members informed by the structured input from the 785 respondents who participated in this practice analysis. Although certain criteria have been applied in this study to evaluate the defined performance domain, it is ultimately the CAA and CFCC that need to come to agreement in terms of what they consider to be important and relevant professional responsibilities and foundational knowledge areas for a newly graduated entry-level doctoral audiologist. To this end, the CAA and CFCC may elect to apply their 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.