Current State of Educational Audiology Training in the United States

Susan Dillmuth-Miller[1]
Natasha Seaton[2]
Samantha J. Gustafson[3]

Authors' Affiliation:
[1]Department of Communication Sciences & Disorders, East Stroudsburg University, East Stroudsburg, Pennsylvania
[2] Happy Ears Hearing Center, Peoria, Arizona
[3] Department of Speech, Language and Hearing Sciences, Indiana University, Bloomington, Indiana

Corresponding Author:
Samantha Gustafson
2631 E Discovery Parkway, Bloomington, IN 47408
Phone: 812-855-6271
Email: sjgustaf@iu.edu

Abstract

The specialty of educational audiology was first defined a half-century ago; however, the way in which audiology students are prepared for this specialty has varied over the years. In the last evaluation of educational audiology preparation that was reported nearly 20 years ago, only 54% of programs reported to provide training in this specialty area. The purpose of this inquiry was to gain insight into how educational audiology content and clinical training opportunities were offered to graduate students enrolled in Doctor of Audiology (Au.D.) programs in the United States. We also sought to understand how educational audiology training aligned with state-level practice requirements. Data were collected via questionnaires sent to Au.D. programs. Results revealed that educational audiology is covered via coursework in all but one graduate program (98.6%) and that 92% of programs offered the opportunity for at least some of their students to gain hands-on training through clinical rotations and/or externships. Survey responses also indicated that the majority of educational audiology training is being provided by instructors with first-hand experience in the specialty. Finally, when examining state-level requirements to practice in the schools, data revealed a pervasive lack of awareness of state practice requirements among Au.D. programs. Although educational audiology courses and hands-on training opportunities are offered in the majority of Au.D. programs, further research is necessary to understand the role that pre-clinical education plays in the employment of educational audiologists and in the outcomes for students who are deaf and hard of hearing.

Introduction

Students with hearing differences are served by a team of professionals that typically includes the educational audiologist, speech-language pathologist, and the teacher of the deaf. However, the educational audiologist is the only professional who holds a comprehensive understanding of the auditory system, technology, physics of sound transmission, and habilitation/rehabilitation (Sexton, 1991). In 1964, The Joint Committee on Audiology and Education of the Deaf (JCAED) described competencies and qualifications needed by audiologists providing services to school-aged deaf and hard of hearing children (Ventry, 1965). They summarized the need for an audiologist who could be a liaison between clinical audiology and the school - noting knowledge, qualifications, and competencies that differed from that of clinical audiology, including educational methods, laws, teacher training, and the impact of deafness on young learners (Beckrow, 2001; Berg, 1991). Despite this history of differentiation between educational audiology and clinical audiology, variations in requirements to practice and lack of consistency in university training programs exist (Berg, 1991; English & Vargo, 2006). This report will provide an update on the status of educational audiology training and practice requirements across the United States (U.S.).

Educational Audiology Training

There is a long-standing history of underdeveloped and inconsistent educational audiology curricula across the U.S. In response to the need for specialized training, Frederick Berg and Samuel Fletcher at Utah State University developed an M.S., Ed.S. and an Ed.D. in educational audiology in 1966 to alleviate unmet needs of deaf and hard of hearing children in schools (Berg & Fletcher, 1967). Few university programs followed this groundbreaking educational model. To be sure, a survey of program directors conducted in the 1980s found wide variation across audiology training programs from some directors not seeing a need for any educational audiology training, to a few that made extensive curricular revisions (Bebout, 1985). Twenty years later, English and Vargo (2006) surveyed 60 accredited U.S. Doctor of Audiology (Au.D.) programs by examining websites and following up with program chairs via telephone or email to determine if an educational audiology course was required. Syllabi were checked to ensure that the educational audiology scope of practice was covered. Results revealed that 42% of the programs required an educational audiology course; 40% did not require a course; 12% reported they integrated the information into another course; and 6% of programs provided no information about whether or not this content was covered. About half of the syllabi were missing objectives relating to classroom acoustics and 75% were missing content covering hearing loss prevention. Although not perfect, this was an improvement from previous research (see Berg, 1991 for a review) and authors were encouraged that 54% of the Au.D. programs were providing some level of formal instruction regarding the service of children in school settings (English & Vargo, 2006).

When English and Vargo published their study in 2006, audiology was making its transition from the entry-level degree of a two-year master's program to a four-year doctoral program. The expanded program requirement aimed to enhance the clinical training and expertise of audiologists, and this transition likely contributed to the significant increase in programs providing educational audiology instruction between 1991 to 2006. However, 2006 was still early in the master's-to-doctoral transition process, with various states and programs adopting the Au.D. at different times. To facilitate the field's transition, the Accreditation Commission for Audiology Education

(ACAE) was established to provide accreditation for Au.D. programs, further solidifying the Au.D. as the standard degree for the profession. In 2025, 37 states in the U.S. require an Au.D. to practice audiology (American Academy of Audiology, n.d.; National Council of State Boards of Examiners, n.d.). With the changes to the accreditation requirements and the increased number of Au.D. programs since 2006, it is likely that the proportion of programs covering educational audiology has increased. Furthermore, the most recent ACAE standards require knowledge of diagnosis, treatment, and management of hearing loss in an educational environment but allows university programs flexibility in how this knowledge is delivered (ACAE, 2016).

Although English and Vargo's (2006) study represents the most in-depth study looking at the delivery of educational audiology instruction to date, one recent survey asked 264 educational audiologists from multiple countries about training in educational audiology during the respondents' graduate program (Gustafson et al., 2024). On the whole, only 60.6% reported that they received training in educational audiology. Authors examined how training experience differed for educational audiologists with varying work experience. The percentage of respondents reporting educational audiology training increased from 44% to 79% between educational audiologists with 20+ years of experience and educational audiologists with <10 years of experience, respectively. Although not a direct examination of how educational audiology training is provided in graduate programs, these results suggest that there likely has been an increase in the number of graduate programs offering educational audiology training when compared to English & Vargo's results.

State Practice Requirements

To practice audiology, most states require at least a master's degree in audiology, successful completion of a praxis exam, and a required number of clinical experience hours (American Speech-Language-Hearing Association [ASHA], n.d.); however, a few states recognize the different skill set necessary as a *school-based* audiologist and require additional preparation in the area of educational audiology. In a 1990 survey, Johnson reported that five states required additional qualifications such as completion of a school-based internship and/or special coursework in their university program to work as an educational audiologist (Johnson, 1991). In an unpublished master's thesis, Bone (2000) revisited Johnson's original survey, gathering responses from 25 of 50 states' Directors for Special Education. Bone reported that seven of the 25 responding states required audiologists working the school system to have some sort of certification from the Department of Education (beyond licensure). Unlike Johnson, however, Bone did not examine what was required to obtain this additional certification.

In 2004, the U.S. Department of Education reaffirmed the need for school audiologists in the reauthorization of the Individuals with Disabilities Education Act (IDEA) (originally the *Education for All Handicapped Children Act of 1975* (PL 94-142)) by specifically outlining "audiological services" to children with hearing challenges (U.S. Congress, 1975; U.S. Congress, 2004). Following this important legislation, Richburg and Smiley (2009) surveyed speech-language-hearing consultants in each state's education agency. Of the 46 states that responded, additional qualifications beyond state licensure was required for only six states – roughly the same number of states reported in the two decades prior (Bone, 2000; Johnson, 1991). Taken together, these reports suggest that the vast majority of states across the country do not prioritize the recognition of these skills with certifications or specialized training beyond what is required for state licensure. Notably, Richburg and

Smiley's report was published 15 years ago, prior to ASHA requiring the Au.D. as the entry-level degree in 2012 (Academy of Doctors of Audiology, n.d.). An update is needed to understand whether more recent changes in education policy have led to changes in practice and/or licensure requirements for audiologists serving children in the schools.

Even with IDEA recognition, the number of students without educational audiology support is difficult to document, and the need for educational audiologists remains high. Specifically, it is estimated that 3,785 more educational audiologists are needed to staff at the recommended ratio of one educational audiologist for every 10,000 students, as recommended by ASHA and EAA (ASHA, 2002; Johnson & Seaton, 2021). This need for educational audiologists is fueled, in part, by early identification of hearing loss and advances in technology (e.g., digital hearing aids, expanding access to cochlear implants for children), which allow most deaf and hard of hearing children to receive much of their education alongside their typically-hearing peers (U.S. Department of Education et al., 2021). Additionally, the Americans with Disabilities Act (ADA) Amendments Act (ADA Amendments Act of 2008) expanded the interpretation of disability, further increasing the number of children that can be served under a 504 plan. The result of these expanded services likely exacerbated the personnel shortage amongst educational audiologists, a shortage perceived to be fueled by an increasing caseload and fewer and fewer audiologists entering the workforce as educational audiologists (ASHA, 2022; Council of Academic Programs in Communication Sciences and Disorders & ASHA, 2021). Although directly examining the shortage of educational audiologists and causes and consequences of large caseloads is outside the scope of this paper, this workload reality underscores the need for high quality educational audiology training and consistency in requirements to practice. A thorough understanding of how educational audiologists are prepared in modern Au.D. programs and the current state of requirements to practice educational audiology are essential first steps in addressing the critical shortage of these professionals. As such, the Educational Audiology Association (EAA) Advocacy Committee conducted a survey of educational audiology training and state requirements between 2021 and 2023, the findings of which are presented here.

Methods

Considering that comprehensive curriculum information is not available on all Au.D. program websites, the EAA Advocacy Committee developed a survey to gather the information of interest directly from individuals with knowledge of Au.D. programs in the U.S. (Appendix A). Survey questions were initially developed by two of the authors; Seaton, who was a doctoral student at the University of Arizona and Dillmuth-Miller, an associate professor and clinical audiologist at East Stroudsburg University with experience starting an educational audiology program in Pennsylvania and former president of the EAA. Although the survey was not piloted prior to distribution, the questions were reviewed and revised by several EAA Advocacy Committee members. Figure 1 shows a timeline of survey response requests and submissions. The initial survey invitation was emailed to directors and department chairs of 74 Au.D. programs in July 2021 with a follow-up email sent in August 2021. Responses from approximately 57% of Au.D. programs in the U.S. were received from this round of survey requests. Two entries were received from one university; however, one respondent indicated that responses were for the undergraduate program, so their responses were discarded. To gather information about the 32 remaining Au.D. programs whose chairs and program directors did not answer our initial survey requests, we attempted to contacted

others who would have knowledge of educational audiology training in their programs. The majority of Au.D. programs with outstanding surveys did not provide information about their educational audiology instructor on their websites; therefore, graduate students enrolled in the targeted Au.D. programs and state representatives of the EAA were contacted via email. Graduate students were identified by their membership in EAA and the Student Academy of Audiology. At this time, the department chair and program director at one new Au.D. program were invited to complete the survey. By September 2022, 58 programs in the US (77%) were represented in our database. When multiple entries were received from respondents representing the same university, the program's website was consulted to determine the correct information about educational audiology coursework (survey questions 2-4). The remaining questions (questions 5-7) were reviewed by two of the authors (NS, SJG) for similar responses to determine the best representative response. In the Fall of 2023, authors attempted to gather information about the 17 remaining Au.D. programs via an open call on the EAA's email listserv to identify faculty working in the remaining programs. These faculty, as well as department chairs and program directors at six new Au.D. programs were invited to complete the survey. Responses were ultimately obtained from 93.8% of invited Au.D. programs. Due to programs opening and closing between the start of survey data collection and the writing of this report, these data represent 93.8% of the 80 Au.D. programs open in the U.S. in October 2024.

State requirements to work as an educational audiologist were determined by looking at the ASHA state-by-state webpage (ASHA, n.d.) and then visiting each state's department of education website for further information to determine if the state required

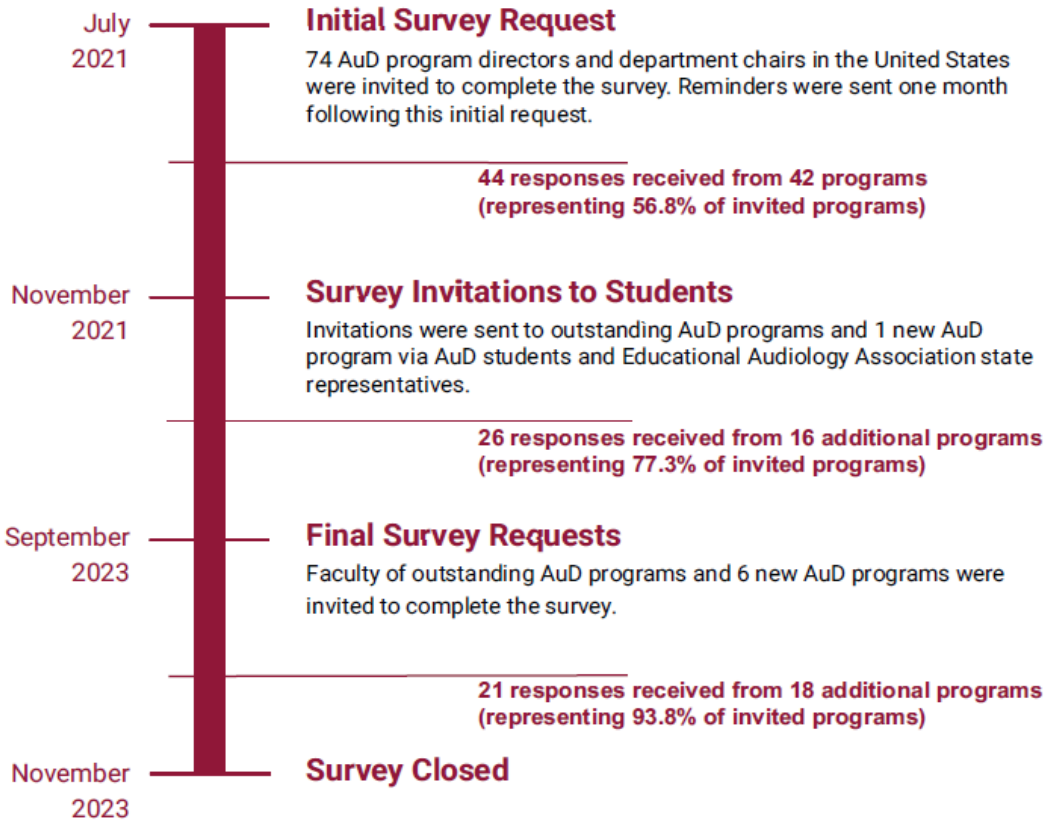

Figure 1 Timeline of survey data collection.

additional requirements beyond state licensure to work as an educational audiologist. Forty-one states were represented in the survey, as nine do not have Au.D. university programs. In addition to gathering state requirements for practice from state websites, survey respondents (described above) were asked whether or not their state required a Department of Education certification to work as an educational audiologist. These survey responses were compared to data obtained from our independent list of state-by-state requirements to practice.

Results

Educational Audiology Coursework

One of the survey questions asked respondents to select the format used to cover educational audiology in their program. Respondents could select one of four responses: Full course, Section in a class, Articles and resources, Not covered, or 'other' with the opportunity to enter free-text as their response. Of the responses indicating 'other' (n=7), six were recategorized into one of the four available responses via the consensus of at least two authors (NS, SJG). Two respondents originally reporting 'Full course' also stated their courses were combined with other courses (e.g., rehabilitation). Due to the content of their free-text response, these responses were recategorized to a 'Section in a class'. After the distribution of 'other' responses and recategorization of the full course responses, a full course dedicated to educational audiology was reported for 29 AuD programs (38.7%), with 45 (60.0%) reporting that educational audiology was covered in a section of at least one course, and one program (1.3%) reporting that it was covered by providing students articles and resources.

Respondents who reported that educational audiology was covered as a full course were asked to complete two additional questions regarding their program's educational audiology course. The two programs recategorized from 'Full course' to 'Section in a class' were not included in further calculations of 'Full course' data. The first asked how many credits the educational audiology course was worth. Respondents could select 1 credit, 2 credit, 3 credits, or use the 'other' option to type in their answer. Two universities reported 'other' responses; one listed their course to be 1.5 credits and is reported as such. The other university reported their course to be 11 credits; however, after consulting their program website it was determined to be 3 credits and was categorized as such. Educational audiology was reported to be covered as a 1-credit course in five programs (17.2%), as a 1.5-credit course in one program (3.4%), as a 2-credit course in 10 programs (34.5%), and as a 3-credit course in 13 programs (44.8%).

For Au.D. programs with a dedicated educational audiology course, we were interested in the work experience of the instructor. Respondents were asked if their program's educational audiology class was taught by an educational audiologist. Response options provided were, "Yes, and the professor is currently a practicing educational audiologist," "Yes, but the professor is currently a retired educational audiologist," and "Other" with the opportunity to submit a free-text response. Two authors (NS, SJG) analyzed the 13 'Other' responses and created three additional categories: Yes, but the professor is a former educational audiologist (e.g., now works as a professor); No, the professor has never served as an educational audiologist; and Unknown. Results are displayed in Table 1 below.

Table 1
Summary of responses to the survey question: "Was your educational audiology class taught by an educational audiologist? If not, who taught it?"

Professor Category	Number of Programs	Percentage
Currently an Educational Audiologist	12	41.4%
Formerly an Educational Audiologist	13	44.8%
Not an Educational Audiologist	3	10.3%
Unknown	1	3.4%

Note. The response "Formerly an Educational Audiologist" includes those that indicated a retired educational audiologist was teaching the class along with those recategorized from 'other'.

Hands-On Educational Audiology Training

The next two survey questions requested information about whether students in each program have the opportunity to complete an educational audiology clinical rotation and an externship in educational audiology. Response options for the clinical rotation in educational audiology included 'Yes, and it is mandatory for everyone', 'Yes, but not everyone will have the experience', 'No', and 'Other' with the opportunity to provide a free-text answer. At the consensus of two authors (NS, SJG), four of the six 'Other' responses could be recategorized into the original options. The remaining two were categorized as 'Other - Yes, but it is unknown if it is mandatory or optional.' Nine programs (12.0%) reported to have mandatory educational audiology rotations for all students. Fifty-five programs (73.3%) reported the option of an educational audiology rotation, but that not all students would have the opportunity to rotate through. Nine programs (12.0%) reported no opportunity for students to experience an educational audiology rotation. Two programs (2.7%) selecting 'Other' explained that they had an educational audiology rotation; however, it was unclear whether it was mandatory or optional for students.

The question asking if an educational audiology externship was available to students included response options 'Yes', 'No', 'Unsure', or 'Other' with the opportunity to provide a free-text answer. We received 20 'Other' responses, 14 of these responses were easily categorized into existing response options. Educational audiology externships were allowed in 52 (69.3%) programs but not allowed in 11 (14.7%) programs. Six programs (8.0%) were unsure if students were allowed to complete an educational audiology externship. Of the remaining six responses, five (6.7%) were recategorized as 'Other - Only if the school placement is part of a comprehensive experience.'

State Requirements for Practicing Educational Audiologists

Recall that both website analysis and survey responses were used to understand state requirements for practicing educational audiology. Table 2 shows the 11 states that, based on our independent website analysis, require an educational license in place of or beyond the audiology state licensure to work as an educational audiologist. In eight of these states, the state board of education requires additional educational coursework or competencies, and in four of these states, a school-based experience is required for the program to be "state-approved". Three states, Alaska, Nebraska, and Tennessee, require a teaching license or certificate, but the teaching license/certificate does not demand any additional educational training or experience.

Table 2 *List of states that require additional certification/training to practice as an educational audiologist*

State	Additional Coursework Requirement	School-based Experience Requirement
Alaska*	–	–
California	State Board of Education approved program	–
Colorado	State Board of Education approved program requiring specific coursework	8-week internship
Idaho	State Board of Education approved program	–
Iowa	Defined coursework	Internship or 2-year working in the public school
Nebraska*	–	–
Ohio	State Board of Education approved program	–
Tennessee*	–	–
Utah	State Board of Education approved program,	Experience in the public school
Washington	State Board of Education approved program	–
Wisconsin	Demonstrates certain competencies	50 hour practicum in the schools

** These states require an educational certificate but do not require any additional educational audiology training.*

When survey respondents were asked if the state in which their university was located required educational certification from the department of education to work as an educational audiologist, respondents could select from one of three options: Yes, No, and Unsure; no text-box option was given for this question. Forty-one states were represented in the survey, since nine do not have Au.D. university programs. Thirteen (17.3%) programs reported yes, certification from the department of education was required, 43 (57.3%) programs reported no, and 19 (25.3%) programs were unsure. Of the 21 programs located in states requiring department of education certification, 47.6% of program respondents incorrectly reported that their state did not require department of education certification to practice audiology in the schools or were unsure of their state's requirements. Of the 54 programs in states that do not require department of education certification, 29.6% of program respondents were incorrect or unsure of their state's requirements.

Discussion

The purpose of this report was to provide an update on the state of educational audiology training in Au.D. programs throughout the U.S. Results showed that all Au.D. programs surveyed provided some sort of training in educational audiology, with 92% also offering an opportunity for at least some students to gain hands-on training through clinical rotations and/or externships. Results also show that only eight states require specialized school-based training to work as an educational audiologist.

Educational Audiology Training in the Au.D. Curriculum

Didactic Instruction

We found that all but one program (98.7%) directly covered educational audiology in their coursework; a sizable increase from the 54% reported in English and Vargo's 2006 survey. This increase aligns with the findings from Gustafson et al. (2024), where survey data showed higher rates of training reported by those in the field for less than 10 years than those in the field for 20+ years. Although there has been an overall increase in providing didactic instruction in educational audiology; how the information is packaged appears to have shifted. In English and Vargo (2006), the majority (78%) of the 32 programs providing educational audiology content did so with a dedicated course, with the other 21.8% reporting that educational audiology was integrated into other courses. Our results suggest that the majority of Au.D. programs (60.8%) who offer didactic instruction in educational audiology do so by including the content in another course rather than dedicating a course to educational audiology entirely (39.2%). It is important to acknowledge that this survey did not ask how much educational audiology content is included when this content is part of another course. That is, covering educational audiology content during 1/3 of a 3-credit course could be considered equivalent to a stand-alone 1-credit course. Whether educational audiology is best covered in combination with other courses (e.g., pediatric audiology) or as a stand-alone course is a pedagogical discussion outside the scope of this report. At present, Au.D. students and children who are deaf and hard of hearing in the schools would be best served by Au.D. programs auditing their syllabi to ensure that their students are being prepared for the entire educational audiology scope of practice (EAA, 2019).

To our knowledge, this is the first report of the professional experience of educational audiology instructors. Although the idea of having someone with practical experience in a specialty area teaching future providers has intuitive value, we are not aware of any study that has investigated the impact of instructor's knowledge and experience (in any specialty area) on graduate student preparedness. Nevertheless, we were encouraged to learn that nearly all courses dedicated to educational audiology are taught by current or former educational audiologists. Note that this finding represents only a small fraction of educational audiology instruction in the U.S. today. Due to a flaw in our study design, programs reporting that educational audiology was covered as a section in another course or 'Other' on the survey were not asked about the professional experience of the instructor(s).

There is evidence at the undergraduate level showing that adjunct faculty increase student interest and subsequent decisions to major in topics as compared to full-time faculty (Bettinger & Long, 2010). Future research is needed to understand if this would replicate at the graduate level, as this might suggest that having an adjunct instructor (i.e., someone who works full-time as an educational audiologist) teaching educational audiology content could increase the number of pre-clinical audiology students who consider a career in educational audiology. Increasing student interest in the specialty of educational audiology is a critical step in addressing the shortage of educational audiologists across the U.S. Importantly, if universities are to hire adjunct faculty to teach educational audiology, offering those instructors opportunities for formal training in teaching methodologies is vital, as the value of pedagogical training in higher education is well- established (Moreira et al., 2023; Postareff et al., 2007; Robinson & Hope, 2013).

Hands-On Training

Research in vestibular audiology, another area of audiology requiring specialized knowledge, has found

that students require hands-on experiences to be adequately prepared to practice as a vestibular audiologist post-graduation (Callahan et al., 2013). This need is reflected in ACAE's Clinical Experience Standard #25, which is intended to ensure that 'audiologists can act independently at graduation in any practice environment' (ACAE, 2016). We found that six programs (8%) reported no opportunity (short-term rotation or externship) for any of their students to receive hands-on training in educational audiology, leaving students in these programs with no chance of being adequately prepared to practice as educational audiologists upon graduation. We did receive a handful of comments from respondents when asked if students could complete an externship in an educational setting. Comments included: concern for the limited experience in other areas (e.g., vestibular testing, fitting hearing aids, cochlear implants) that comes with an educational audiology rotation (n=5), difficulty finding available positions (n=4), difficulty aligning externship start/end dates with the academic calendar (n=1), state licensure issues (n=1), and the position being unpaid (n=1). Addressing these particular challenges would be a good first-step in increasing the number of externship opportunities for students interested in educational audiology. Due to the expanding scope of audiology and increased knowledge required for audiology specialty areas, it is unrealistic for programs to prepare every student to work in every area during their first day on the job. However, given the importance of hands-on training in clinical practice preparation, programs should, at minimum, have an educational audiology rotation opportunity available for any student who wishes to pursue it.

State Requirements for Practicing Educational Audiology

Given the unique set of skills required to successfully provide educational audiology services, we were concerned that only eight states require additional training to be eligible to practice in the educational setting. In attempts to understand why so few states require additional training, we looked to another related service profession: speech-language pathology. Using the website analysis method reported above, we also examined state requirements to practice school-based speech-language pathology [See supplemental data]. Compared to the 16% of states that require additional training for educational audiology, 66% of states require additional training for school-based speech pathologists. When looking at hands-on training requirements, a school-based experience is required for speech-language pathologists in 24% of states but only in 8% for educational audiologists. The discrepancy in state requirements likely lies in historical origins between the two professions. That is, speech-language pathology began in the early 1900s within the school system when a group of schoolteachers self-proclaimed themselves speech teachers and formed a subgroup under the National Educational Association. Later, another group of speech language correctionists, now known as ASHA, organized, with 36% of the original members associated with speech programs in higher education (see Duchan, 2018 for a review). In contrast, audiology began nearly 40 years later out of a need to provide aural rehabilitation and fit hearing aids to military personnel during World War II (see Jerger, 2019 for a review). Combined with this origin outside of the education system and the fact that the specialty of educational audiology is nearly 80 years younger than school-based speech pathology, the few states requiring additional training and experience for educational audiology licensure could be considered progressive in their support of students who have special listening needs. Future research should seek to understand how educational audiology services and student outcomes might differ between states with and without additional licensure requirements, as these

data will be instrumental in the advocacy for improved audiologic support for students in academic settings.

Intersection of State Requirements and University Training

States with licensing boards that require additional training or a school-based experience are more likely to have the university programs with additional didactic training than states with no additional training requirements. Table 3 shows survey responses stratified by whether the program is located in a state with or without additional training requirements to practice in the schools. Of the 16 programs in states that require additional training, 50% require a full class in educational audiology. This is in contrast to the programs in states without additional training requirements where only 36% require a full class in educational audiology. The rate of programs offering hands-on educational audiology experiences prior to the externship is similar between those in states requiring additional training (87.5%) and those in states that do not (88.1%). One might expect to find mandatory educational audiology short-term rotations at the six programs located in states where hands-on, school-based experience is required to practice in schools (Colorado, Iowa, Utah, Wisconsin); however, that was not the case. None of these programs reported that educational audiology experiences were mandatory. Rather, all but one reported these short-term clinical rotations were available to only some of their students, with one reporting no opportunities for short-term clinical rotations. School-based externships were allowed at all but one of these six programs. This lack of mandatory educational audiology rotation is notable, as audiologists practicing in states that require hands-on, school-based experiences for educational certification who were not provided those opportunities in their graduate training program would find themselves ineligible to hold positions that are well within their professional scope of practice. Ensuring eligibility to practice in the school system post-graduation would require that students in these programs advocate early for educational audiology rotations or externship opportunities. Additionally, considering that audiologists do not always seek/find employment in the same state they were trained, it is important for university programs to ensure their students are able to practice anywhere in the U.S. With respect to educational audiology opportunities, this can be accomplished by providing didactic teaching in educational audiology, discussing the student's interest in educational audiology early in the Au.D. curriculum, and offering opportunities for hands-on training in the schools. We acknowledge that the ability of Au.D. programs to require educational audiology rotations to all students is likely limited by the number of educational audiologists who are available to supervise students, a challenge influenced by many factors. Nevertheless, the reality of the shortage of educational audiologists combined with the lack of mandatory educational audiology rotations could contribute to new audiologists being untrained, and thus ineligible, to practice educational audiology in their state.

Programs who do not require educational audiology rotations may be unaware of their state's requirements for practice in the schools. Recall that 47.6 % of survey respondents located in states requiring department of education certification for educational audiology were uncertain or incorrect in their understanding of their state's law. The relatively common incorrect or incomplete understanding of state requirements could be due to the varying types of respondents to our survey call (e.g., department chairs, students); however, it is notable that our data are consistent with a previous survey of state agency consultants and practicing educational audiologists that also showed nearly half of respondents had incorrect or uncertain understanding about their state's requirements to

Table 3

Survey responses separated by the state's requirement for additional training requirements to practice educational audiology (Note. Ed Aud = educational audiologist)

How is Educational Audiology covered in your program?	**Full Course**	**Section in a course**	**Other**	
States with Additional Requirements % (n)	50% (8)	50% (8)	--	
States with No Additional Requirements	35.6% (21)	62.7% (37)	1.7% (1)	
If your program has a dedicated educational audiology course, how many units is it?	**1 credit**	**1.5 credits**	**2 credits**	**3 credits**
States with Additional Requirements % (n)	25% (2)	--	12.5% (1)	62.5% (5)
States with No Additional Requirements	14.3% (3)	4.8% (1)	42.9% (9)	38.1% (8)
Was your educational audiology class taught by an educational audiologist? If not, who taught it?	**Current Ed Aud**	**Former Ed Aud**	**Not an Ed Aud**	**Unknown**
States with Additional Requirements % (n)	44.4% (4)	44.5% (4)	--	11.1% (1)
States with No Additional Requirements	38.1% (8)	47.6% (10)	14.3% (3)	--
Do students have access to an educational audiology clinic rotation?	**Yes - it is mandatory**	**Yes - not everyone will have the opportunity**	**No**	**Other**
States with Additional Requirements % (n)	6.3% (1)	81.3% (13)	12.5% (2)	–
States with No Additional Requirements	13.6% (8)	71.2% (42)	11.9% (7)	3.4% (2)
Do students have access to an educational audiology clinic rotation?	**Yes - it is mandatory**	**Yes - not everyone will have the opportunity**	**No**	**Other**
States with Additional Requirements % (n)	6.3% (1)	81.3% (13)	12.5% (2)	–
States with No Additional Requirements	13.6% (8)	71.2% (42)	11.9% (7)	3.4% (2)
Do students have access to an educational audiology externship?	**Yes**	**No**	**Unsure**	**Other**
States with Additional Requirements % (n)	68.8% (11)	25% (4)	--	6.25% (1)
States with No Additional Requirements	69.5% (41)	11.9% (7)	10.2% (6)	8.5% (5)
Does your state require department of education certification to work as an educational audiologist?	**Yes**	**No**	**Unsure**	
States with Additional Requirements % (n)	50% (8)	31.3% (5)	18.8% (3)	
States with No Additional Requirements	8.5% (5)	64.4% (38)	27.1% (16)	

practice audiology in the schools (Richburg & Smiley, 2009). In our survey, half of the respondents whose programs were in states that not only had department of education licensure/certification requirements but also required additional training to practice as an educational audiologist were incorrect or unsure about their state's licensure/certification requirements. This pervasive lack of awareness of state requirements for practicing in the schools is concerning and should be addressed by programs through an audit of their state's requirements to ensure that they are adequately preparing their students for school-based practice.

Limitations and Call for Research

Data presented here were collected over a broad range of time by a team of volunteers charged with improving our understanding of the state of educational audiology training. Due to the survey not being piloted prior to distribution, a flaw in our survey limited our ability to fully describe the professional experience of educational audiology instructors and resulted in needing to re-categorize several "other" free-text responses. Additionally, because information from each program was gathered in a variety of ways (e.g., anonymous survey, website search) and from varying reporters (e.g., department chairs, students), it is possible that some programs may be misrepresented or be represented by data that are slightly outdated (e.g., programs with a recent change in instructor for their educational audiology course). Despite these limitations, this is the first study in nearly two decades that offers a picture of what educational audiology training looks like in Au.D. programs across the U.S. Notably, the majority of research describing educational audiology training is decades old and not peer reviewed, including anecdotal evidence from books, master's theses, and periodicals. Because the majority of educational audiologists spend their days working in the field with large caseloads, there is limited time for them to be involved in the research that is needed for professional advances to occur. High quality research is needed to better understand the role that pre-clinical education plays in the employment of educational audiologists and in the outcomes for students who are deaf and hard of hearing.

Acknowledgements

Special thanks to members of the Educational Audiology Association Advocacy Committee for their input throughout the entire process of this project.

References

Academy of Doctors of Audiology. (n.d.). *Au.D. History*. Retrieved May 28, 2025, from https://www.audiologist.org/about/leadership/aud-history

Accreditation Commission for Audiology Education. (2016). *Accreditation Standards for the Doctor of Audiology Program*. https://acaeaccred.org/wp-content/uploads/2016/07/ACAE-Standards-5.11NEW-WEB-2.pdf

ADA Amendments Act of 2008, Pub. L. No. 110–325 (2008). https://www.govinfo.gov/app/details/PLAW-110publ325/

American Academy of Audiology. (n.d.). *State Audiology Licensing Information*. Retrieved May 28, 2025, from https://www.audiology.org/advocacy/legislative-and-regulatory-activities/state-affairs/state-audiology-licensing-information/

American Speech-Language-Hearing Association. (n.d.). *State-by-state*. Retrieved October 23, 2024, from https://www.asha.org/advocacy/state/

American Speech-Language-Hearing Association. (2002). *Guidelines for Audiology Service Provision in and for Schools*. American Speech-Language-Hearing Association. https://www.asha.org/policy/gl2002-00005/?srsltid=AfmBOoopLmn6ElY0ksOKoLEINTWSBr3Kx-ZLV54I13luvxV_UkIDCQwX

American Speech-Language-Hearing Association. (2022). *Schools survey report: Trends in educational audiology, 2010-2022*.

https://www.asha.org/siteassets/surveys/2022-schools-survey-educational-audiology-trends.pdf

Bebout, J. M. (1985). Audiology in public education. *The Hearing Journal*, *38*(5), 7–12.

Beckrow, B. J. (2001). *Academic preparation in educational audiology: A survey of graduate audiology programs*. Central Michigan University. https://search.proquest.com/openview/c79b05085e18e45803d463784ea6cd7b/1?pq-origsite=gscholar&cbl=18750&diss=y

Berg, F. (1991). Historical Perspectives of Educational Audiology. *Seminars in Hearing*, *12*(04), 305–316. https://doi.org/10.1055/s-0028-1085504

Berg, F., & Fletcher, S. (1967). The hard of hearing child and educational audiology. Proceedings of International Conference on Oral Education of the Deaf: The Alexander Graham Bell Association for the Deaf, 874–885.

Bettinger, E. P., & Long, B. T. (2010). Does Cheaper Mean Better? The Impact of Using Adjunct Instructors on Student Outcomes. *The Review of Economics and Statistics*, *92*(3), 598–613. https://doi.org/10.1162/REST_a_00014

Bone, M. K. (2000). *Status of educational audiology: A nationwide survey*. Central Michigan University. https://search.proquest.com/openview/c86d9f56bf242c1622e3b44e6e2c7c21/1?pq-origsite=gscholar&cbl=18750&diss=y

Callahan, A. J., Yost, A. B., Richards, K. L., & Rogers, A. L. (2013). Academic Training of Audiology Graduate Students in Vestibular Evaluation and Balance Assessment Procedures. *Contemporary Issues in Communication Science and Disorders*, *40*, 116–137.

Council of Academic Programs in Communication Sciences and Disorders & American Speech-Language-Hearing Association. (2021). *Communication sciences and disorders (CSD) education survey national aggregate data report: 2019-2020 academic year.* Retrieved from www.capcsd.org and www.asha.org

Duchan, J. F. (2018, December 20). *What Do You Know About Your Profession's History?* (world) [Review-article]. The ASHA Leader; American Speech-Language-Hearing Association. https://doi.org/10.1044/leader.FTR.07232002.4

Education for All Handicapped Children Act of 1975. 20 U.S.C. (1975). § 1401 et seq.

Educational Audiology Association. (2019). *Educational Audiology Scope of Practice*. https://www.edaud.org/assets/docs/PositionStatements/eaa-ps-edaud-scope-of-practice-2019.pdf

English, K., & Vargo, J. (2006). How is educational audiology being taught? A review of syllabi from Au. D. programs, Fall 2005. *Journal of Educational Audiology*, *13*, 15–17.

Gustafson, S. J., Newsome, E., Pilling, N., & Segura, E. (2024). Survey of collaboration supporting students who are deaf and hard of hearing. *Journal of Deaf Studies and Deaf Education*, *29*(4), 517–526. https://doi.org/10.1093/deafed/enae006

Jerger, J. (2019). Ten Highlights from the History of Audiology: A top-10 list of events and achievements in audiology during the last 75 years: Dr Jerger highlights 10 great events in our field's rich history, ranging from CC Bunch's early audiometric work to the establishment of the first AuD training program. *The Hearing Review*, *26*(5), 10–14.

Johnson, C. D. (1991). The "state" of educational audiology: Survey results and goals for the future. *Educational Audiology Association Monograph*, *2*(1), 71–80.

Johnson, C. D., & Seaton, J. (2021). *Educational Audiology Handbook* (p. 7). Plural Publishing, Incorporated.

Moreira, M. A., Arcas, B., Sánchez, T., García, R., Melero, M. J., Cunha, N., Viana, M., & Almeida, M. E. (2023). Teachers' pedagogical competences in higher education: A systematic literature review. *Journal of University Teaching and Learning Practice*, *20*(1), 90–123.

National Council of State Boards of Examiners. (n.d.). *NCSB Business Office—States that Require a Doctoral Degree*. Retrieved May 25, 2025, from https://www.ncsb.info/doctoral-degree

Postareff, L., Lindblom-Ylänne, S., & Nevgi, A. (2007). The effect of pedagogical training on teaching in higher education. *Teaching and Teacher Education*, *23*(5), 557–571. https://doi.org/10.1016/j.tate.2006.11.013

Richburg, C. M., & Smiley, D. F. (2009). The "state" of educational audiology revisited. *Journal of Educational Audiology*, *15*, 63–73.

Robinson, T. E., & Hope, W. C. (2013). Teaching in Higher Education: Is There a Need for Training in Pedagogy in Graduate Degree Programs? *Research in Higher Education Journal*, *21*. https://eric.ed.gov/?id=EJ1064657

Sexton, J. (1991). Team Management of the Child with Hearing Loss. *Seminars in Hearing*, *12*(04), 329–339. https://doi.org/10.1055/s-0028-1085506

The Individuals with Disabilities Education Improvement Act of 2004. 20 U.S.C. (2004). § 1400 et seq.

U.S. Department of Education, Office of Special Education and Rehabilitative Services, & Office of Special Education Programs. (2021). *42nd Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act, 2020*. https://www.ed.gov/sites/ed/files/about/reports/annual/osep/2020/parts-b-c/42nd-arc-for-idea.pdf

Ventry, I. M. (1965). Audiology and education of the deaf, a research project and training manual sponsored by the joint committee on audiology and education of the deaf. https://eric.ed.gov/?id=ED014192

Appendix A. Survey used in this study.

1. What university are you reporting for?
    a. [Free response]
2. How is educational audiology covered in your program?
    a. A full course
    b. A section in a class
    c. Articles and resources
    d. Not covered
    e. Other
        i. [Free response]
3. If your program has a dedicated educational audiology course, how many units is it? (Note, this question was only posed to those responding 'A full course' to question #2)
    a. 1 credit
    b. 2 credits
    c. 3 credits
    d. Other
        i. [Free response]
4. Was your educational audiology class taught by an educational audiologist? If not, who taught it? *(Note, this question was only posed to those responding 'A full course' to question #2)*
    a. Yes, and the professor is currently a practicing educational audiologist
    b. Yes, but the professor is currently a retired educational audiologist
    c. Other
        i. [Free response]
5. Do students have access to an educational audiology clinic rotation?
    a. Yes, and it is mandatory for everyone
    b. Yes, but not everyone will have the experience
    c. No
    d. Other
        i. [Free response]
6. Do students have access to an educational audiology externship?
    a. Yes
    b. No
    c. Unsure
    d. Other
        i. [Free response]
7. Does your state require department of education certification to work as an educational audiologist?
    a. Yes
    b. No
    c. Unsure

Supplementary Material

This table outlines state licensure requirements for speech-language pathologists to work in the education setting. Data were obtained from the American Speech, Language, and Hearing Association (https://www.asha.org/advocacy/state/).

State	Additional Requirement beyond state licensure	Internship required?	Extra coursework required?	Education Praxis or equivalent exam?
AL	Yes	No	No	Yes
AK	Yes	Yes	No	Yes
AZ	No	No	No	Yes
AR	Yes	No	No	Yes
CA	Yes	Yes	Yes	Yes
CO	Yes	Yes	Yes	Yes
CT	Yes	Yes	Yes	No
DE	No	No	No	Yes
D.C.	Yes	Yes	Yes	No
FL	Yes	Yes	Yes	Yes
GA	Yes	Yes	Yes	Yes
HI	No	No	No	No
ID	Yes	Yes	Yes	Yes
IL	Yes	Yes	Yes	Yes
IN	No	No	No	No
IA	Yes	Yes	Yes	Yes
KS	No	No	No	No
KY	Yes	Yes	Yes	Yes
LA	Yes	Yes	Yes	Yes
ME	Yes	No	Yes	Yes
MD	No	No	No	No
MA	Yes	Yes	Yes	Yes
MI	No	No	No	No
MN	No	No	No	No
MS	Yes	No	No	Yes
MO	No	No	No	No
MT	No	No	No	No
NE	Yes	Yes	No	Yes
NV	Yes	Yes	Yes	Yes
NH	No	No	No	No
NJ	Yes	Yes	No	Yes
NM	No	No	No	No
NY	Yes	Yes	Yes	Yes

State	Additional Requirement beyond state or educational license	Internship required?	Extra coursework required?	Education Praxis or equivalent exam?
NC	No	No	No	No
ND	Yes	No	Yes	No
OH	Yes	No	No	Yes
OK	Yes	No	Yes	Yes
OR	No	No	No	No
PA	Yes	Yes	Yes	Yes
RI	Yes	Yes	Yes	Yes
SC	Yes	Yes	No	Yes
SD	No	No	No	No
TN	Yes	No	No	Yes
TX	No	No	No	No
UT	No	No	No	No
VT	Yes	No	Yes	Yes
VA	No	No	No	No
WA	Yes	No	Yes	Yes
WV	Yes	No	Yes	Yes
WI	No	No	No	No
WY	Yes	No	Yes	Yes