

How is Educational Audiology Being Taught? A Review of Syllabi from Au.D. Programs, Fall 2005

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Little is known about the nature and extent of educational audiology courses taught in graduate training programs. The two purposes of the present investigation were (1) to determine how many of the 60 accredited Audiology Doctorate (AuD.) programs in the United States include a course in educational audiology in their curriculum, and (2) to summarize the learning objectives from those courses. We learned that slightly more than half of the programs either require a class in educational audiology (N = 25, 42%) or incorporate educational audiology content in other courses (N = 7, 12%). A qualitative analysis of 167 learning objectives from course syllabi indicated a strong consensus across programs regarding expected student outcomes. Educational audiology is now a recognized specialty among many training programs and is being taught with consistency across programs.

Introduction

Since the passage of the Education of All Handicapped Children's Act in 1975 (PL 94-142), audiologists have provided services in school settings across the country (Madell & Montano, 2000). Although these services require specialized knowledge and skills, educational audiology was not recognized as a specialty in most Master's degree training programs (Berg, Blair, Veiweg, & Wilson-Vlotman, 1986; Flexer, 1989; Johnson, Benson, & Seaton, 1997). Over the last decade, however, audiology education has evolved to a doctoral level of preparation. With this change, is educational audiology now formally recognized and included in the curriculum? This study was conducted to determine how many accredited Audiology Doctorate (AuD.) programs in the United States include a course in educational audiology in their curriculum, and to summarize the learning objectives from those courses.

Methods

Our project consisted of two phases: a program review and a course syllabi review.

Phase 1: Program Review. We first reviewed a list of all residential programs accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA), as reported on its website (www.asha.org/gradguide). At that time (August 2005), the web site listed 60 universities offering the AuD. degree. We excluded programs with "candidate" status from review.

We then examined these 60 universities' web sites to determine if a course in educational audiology was required in their AuD. program. Since web site information can be incomplete or out-of-date, we also contacted all universities that did not list a class in educational audiology by email and by telephone in order to confirm that none was offered. Although we made several attempts, we were unable to obtain information from four programs.

Phase 2: Syllabi Review. During August-September 2005, we emailed or telephoned the 25 programs that reported requiring a class in educational audiology to obtain the name of the course instructor. We then contacted instructors by email or

telephone with a request to send their course syllabi, so that we could include their learning objectives in an overall analysis.

Twenty-two instructors (88 %) responded. Three of these instructors indicated that the course, although "on the books," had not yet been taught, and therefore syllabi had not yet been developed. Three instructors submitted syllabi that did not include stated learning objectives. Learning objectives are statements placed in a syllabus to inform the learner of the expected outcomes of the course. Learning objectives use verbs that allow for measurable achievement of those outcomes (e.g., *list, define, explain, select, measure, interpret, demonstrate*). An example of a measurable learning outcome is, "Upon completion of this course, students will be able to *measure* the acoustic properties of a classroom." This skill can be objectively measured by an evaluation, compared to a less precise expectation of "understanding" or *appreciating* classroom acoustics." (See Kruse [n.d.] or Bixler [2002] for more comprehensive discussions on writing learning objectives.)

The syllabi from the remaining 16 instructors yielded a total of 183 learning objectives. We first used two pre-established criteria to decide whether to include or discard each learning objective. The criteria were these: (1) a learning objective must include a behavior that is observable and measurable, and (2) a learning objective must appear in more than one syllabi. Sixteen learning objectives were discarded because they did not meet these criteria.

The remaining 167 learning objectives then were analyzed as qualitative data using the "grounded theory method" (Denzin & Lincoln, 2005; Have, 2004). The grounded theory method uses concurrent sampling and analysis, constant comparisons, and theoretical sampling. Constant comparisons are done by comparing data from different subjects, comparing data with an emerging category, and comparing a specific category with other categories. Comparisons are made until saturation occurs and recurring themes are identified.

Course objectives were analyzed using a file card system. Each objective was written on individual file cards and reviewed to identify recurring themes, which were used as coding strategies. We organized the file cards by coding categories in

order to identify the most prevalent objectives in counseling courses.

The two authors independently analyzed data to identify recurring themes, and then compared results in order to achieve joint agreement concerning emerging themes. This last process, called “triangulation,” provides a method of validating information by having multiple data sources, methods, investigators, or theories.

Results

Phase 1. The number of residential Au.D. programs providing coursework in educational audiology in Fall 2005 is represented in Table 1. We were able to collect information from 56 (N = 93%) of the 60 Au.D. accredited programs. Twenty five programs (42%) required a class dedicated to educational audiology. In addition, seven (12%) programs reported that, although they did not require a specific course in educational audiology, they had actively integrated educational audiology into other courses (e.g., aural rehabilitation or pediatric audiology). Twenty-four programs (40%) did not offer a class in educational audiology.

Table 1. Information on Educational Audiology Taught in Au.D. Programs

Category	Number of Programs (N=60)	%
Educational audiology course required	25	42%
Educational audiology course NOT required	24	40%
Educational audiology integrated into courses	7	12%
No information	4	6%

Phase 2. The qualitative analysis of 167 learning objectives indicates a strong consensus among instructors regarding course content. Four major themes emerged: (1) the effects of hearing loss on child development and learning, (2) the legal foundations of educational audiology, (3) audiology’s scope of practice in school settings, (4) and the need for effective interpersonal skills (Table 2). The four themes are developed below as composite learning objectives with representative concepts.

1. Students will describe the effects of hearing loss on development and learning.

Concepts include: types of hearing loss commonly seen in school age children; the impact of hearing loss on speech and language development; the impact of hearing loss on family dynamics; the effect of hearing loss on a child’s educational, vocational, social, and psychological development.

2. Students will describe the legal foundations of educational audiology.

Concepts include: the history of the Individuals with Disabilities Education Act (IDEA); the Individualized Education Plan and Individualized Family Service Plan processes; educational audiology as defined by IDEA, including roles/responsibilities and service delivery models; collaboration;

family rights; transition; models of service delivery, developing educational goals; developing procedures for affecting change in educational systems.

3. Students will describe audiology’s scope of practice within the school setting.

Concepts include: screening for hearing loss; providing audiologic assessment; developing/providing hearing conservation programs; recommending and managing amplification and assistive technology; evaluating classroom acoustics and recommending modifications; providing auditory training; providing psycho-social support; case management; using questionnaires to determine degree of handicap; assessing and remediating auditory processing disorders; supporting special populations.

4. Students will demonstrate effective communication skills with a wide range of constituents.

Concepts include: communicating effectively with other professionals via written and oral reports, consultations, in-services, marketing; communicating effectively with parents and students; case coordination; nonprofessional personal adjustment counseling; demonstrating cultural competence.

Table 2. Learning Objectives for Educational Audiology

1. Describe the effects of hearing loss on development and learning.
2. Describe the legal foundations of educational audiology.
3. Describe audiology’s scope of practice within the school setting.
4. Demonstrate effective communication skills with a wide range of constituents.

While most of these topics appeared in most syllabi, the following observations were made:

- Only seven of the 16 syllabi addressed classroom acoustics. This topic may be covered in other courses, but because Federal standards are now available (American National Standards Institute, 2002), and because classroom acoustics is directly related to the role of the educational audiologist, course instructors are encouraged to include the measurement and modification of classroom acoustics in their learning objectives. See Crandell, Smaldino, and Flexer (2005) for more information.
- Only four of the 16 syllabi addressed hearing conservation. Again, this topic might be covered in other courses, but if not, instructors of educational audiology courses might want to consider how to prepare audiology students to teach children and others about noise, and how to motivate them to protect themselves from preventable hearing loss.

Discussion

It has long been acknowledged that the clinical model of

audiologic service delivery does not suit the educational setting (English, 1995). Over the last 20 years, educational audiologists have assumed the responsibility of defining the differences between the two models of service delivery and describing educational audiology. It is encouraging to report that more than half of Au.D. programs are now providing formal instruction to audiology students to equip them with the appropriate skills and knowledge base needed to serve children in school settings, and that course designers generally agree on their intended student learning outcomes. Au.D. programs considering the inclusion of educational audiology in their curricula are invited to use the results of this study to design their own courses and learning outcomes.

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