Procedures and Perspectives of the 4th-Year Experience for the Doctor of Audiology Degree

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In 1988, at a conference in Chicago, IL, the Academy of Dispensing Audiologists promoted the concept of a clinical doctorate as the entry-level degree for audiology (Academy of Doctors of Audiology, 2014). Soon after, the American Academy of Audiology (AAA) released its position paper in support of the Doctor of Audiology (AuD), with a proposed academic and clinic framework (AAA, 1991). A year later, at the American Speech-Language-Hearing Association (ASHA)
national convention, ASHA passed a declaration supporting the clinical/professional doctorate degree in audiology as the entry-level academic degree required for the practice of audiology (Humes & Diefendorf, 1993). ASHA’s support was imperative due to its affiliation with the Council on Academic Accreditation (CAA), which is the accrediting agency recognized by the U.S. Department of Education for audiology and speech-language pathology programs.

After years of dialogue, CAA standards were finalized for the AuD degree. By January 1, 2007, all new students in the field of audiology seeking a Certificate of Clinical Competence (CCC-A) were required to be enrolled in a doctoral program (Council for Clinical Certification, 2009). In addition, the American Board of Audiology (ABA) of AAA set forth mandates stating that individuals seeking ABA certification must meet the requirements of a doctorate degree (AAA, 2005). This was also supported by the Accreditation Commission for Audiology Education (ACAE) through ACAE, which references the AuD as the entry-level degree for audiology (ACAE, 2012).

With the development of the AuD degree, new clinical requirements were advocated by ASHA and AAA, and the concept of the 4th-year clinical experience was introduced and implemented by educational institutions. This 4th-year experience is considered a terminal clinical experience where students gain clinical knowledge and skills that allow them the opportunity to develop into an “independent, self-evaluating practitioner” (AAA, 2009, p. 1).

In the 2007 and 2009 standards for the CCC-A, ASHA indicated that the AuD clinical experience must equal an accumulation of 52 weeks of 35 or more hours per week of experience in providing and participating in appropriate audiologic services (ASHA, 2009). This requirement changed with adoption of the 2012 standard, which requires a minimum of 1,820 hr of supervised clinical externship. No specific time frames are now mentioned. However, the AAA does recommend that this 4th year of an AuD program consist of a 12-month externship experience (AAA, 2004a). Due to these recommendations from AAA and to clinical requirements for certification with ASHA, doctoral candidates in audiology may be required by their institutions to complete a 4th-year experience. This terminal externship has been characterized by placement at an off-campus clinical site for a 12-month, full-time externship (Meyer & Novak, 2006).

CAA, ASHA, and AAA have outlined requirements and recommendations for external sites that supervise students. CAA (2011) states that the clinical externship site should be approved by the matriculating university and that the supervised activities must reflect the scope of practice in audiology. In order to achieve the CCC-A through ASHA, students must be supervised by professionals who hold current certification in audiology (ASHA, 2012). In addition, AAA (2004b) published a detailed guideline for audiology external externship sites. In their document, AAA describes the preceptor’s role as that of professional role model, clinical educator, and liaison between the student and university. AAA recommends that preceptors be licensed and have a minimum of 3 years’ work experience in the field. AAA does recognize that training, such as in areas of intraoperative monitoring, may require supervision by a professional other than an audiologist. These experiences are acceptable as long as the professional adheres to AAA’s ethics and scope of practice (AAA, 2004b).

AAA (2009) outlined the responsibilities of the educational institution when students are placed in an external site. First and foremost, the university must facilitate a triangle of communication between the university, student, and preceptor. On-site visits by a representative from the teaching institution should be part of the monitoring plan. However, if this is not possible, then AAA suggests that a videoconference, conference call, and/or some form of online session be scheduled at appropriate intervals. Phone or e-mail contacts between the university and both the preceptor and the student should also be conducted on a routine schedule determined by both parties. Furthermore, the university should provide the preceptor with information on supervision strategies and procedures that will aid him or her to effectively oversee the student’s clinical development.

AAA outlined a recommended protocol for a time sequence when placing a student in a 4th-year experience (AAA, 2006). The recommended timeline was based on initiation of the 4th-year placement in the summer. A year before the placement begins, AAA suggests that the student and a faculty/staff member from the university search for suitable sites for the first 3 months. Applications for the 4th-year experiences should then be submitted to the sites by the end of October so that the prospective sites have the opportunity to interview students throughout December and January. Using this schedule, the external sites could accept or deny students by February 1, giving students and universities time to consider options. All placements would be secured by the end of March, with the externship beginning in June or July.

Despite the fact that AAA proposed a detailed recommendation for placement and supervision of the 4th-year experience, information is not yet available on whether common methods and procedures are being used when arranging these sites and how these

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off-campus sites are monitored. Furthermore, information is lacking on the preparedness of students and the perceived value of this 4th-year experience by the students. The purpose of this study was to elicit feedback from doctoral students in audiology who were currently participating in the 4th-year experience. Information was gathered on students’ perceptions of (a) the process of acquiring the externship, (b) the role of the university in monitoring the externship placement, and (c) the value of the externship experience in developing the students’ professional knowledge and skills.

**METHOD**

**Participants**

The survey was distributed to 78 higher education institutions in 40 states that offered an AuD program accredited through CAA. The information for these eligible programs was obtained from ASHA’s website. A letter was sent to each department chair and/or clinic director requesting that the questionnaire be distributed to only those students who were participating in their terminal 4th-year experience. Students were then asked to log on to a secure Internet survey site and were asked to provide demographic information on their age, gender, state of externship site, length of externship, state of university, and anticipated graduation. Next, students responded to 15 closed-set response questions relating to their current 4th-year experience (see Appendix). Additionally, students were offered the opportunity to write comments and perspectives for each question if they desired. Of the requests sent to each university, 131 students representing programs from 27 states responded. Gender data indicated that 117 females and 14 males voluntarily participated in the study. Participants ranged in age from 24 to 46 years, with a mean age of 26.5 years. All students were within 9 months from graduating with an AuD.

**Design and Measures**

Qualitative methodology was selected for this investigation because of its appropriateness to meet the purpose of the study (i.e., to explore and examine the perceptions of doctoral students on the placement protocol and experience related to their 4th-year experience). Miles and Huberman (1994) suggested that a characteristic of qualitative research methodology is that “the possibility for understanding latent, underlying, or no obvious issues is strong” (p. 10). Analyzing the data using a qualitative method allowed themes emerging from the responses of the participants to be identified directly and compared. Multiple case studies as described by Baxter and Jack (2008) were used to enable a broader understanding and explanation of the results to be developed (Yin, 2003).

**Data Analysis**

Data analysis was completed by the researcher and two graduate students. A cross-case analysis (Miles & Huberman, 1994) was used to analyze and identify patterns in the students’ responses to the questionnaire. This enabled a comparative analysis of all cases, allowing for a cross-case search for similarities and differences.

The team also reviewed written responses to each question, in which a process was used to categorize the students’ statements into topics. This method provided key themes on students’ perceptions of their clinical experiences during their 4th-year experience.

**RESULTS**

Responses to the question relating to the timeline of the placement (question 1) revealed that 79.4% of the students were placed at a single external site for the entire 12 months of their 4th-year experience, 11.8% were placed in two separate sites, and 3.8% divided their 4th-year experience into three or more sites (see Figure 1). In the comments, one respondent explained that she was located at a university hospital (one site) but rotated between various separate departments within this same medical center.

Concerning who arranged the placement (question 2), 52.7% of the students made the initial contact with the external site. After the student initiated contact, a university representative followed through with the arrangements and paperwork. An additional 30.5% of the students indicated that they located their externship sites independently. An additional 30.5% of the students indicated that they located the site(s) and followed through with the necessary arrangements and paperwork themselves. The placement decision and all contacts and arrangements were completed by university personnel such as a supervisor/clinic director for 6.1% of the students. However, for this group, options were discussed with the students before a decision for placement was made. A small percentage (2.3%) of doctoral students chose their placement from a list provided by their educational institution but were required to make the contacts and arrangements on their own (see Figure 2). Student comments revealed 17 conditions where the placement was arranged differently than described above.
In these cases, students located a possible site for their 4th-year placement and shared this information with the clinic director/supervisor, who then made the initial contact.

Sites were most often (67.9%) characterized as having a wide variety of experiences within the audiology scope of practice (question 3; see Figure 3). A minority of students (22.1%) described their site as being highly specialized, with a focus on specific areas. Additionally, 5.3% of the students who attended multiple sites indicated that one site was very specialized whereas the other site offered a wide range of clinical experiences. Only 3.8% of the students who attended multiple sites indicated that both were highly specialized. One student reported placement at a specialized research facility.

Questions 4 and 5 focused on contacts made by the university supervisor/clinic director with the external sites while the student was in his or her 4th-year experience. When asked if a university representative made an actual visit to the site, 81.3% of the doctoral students stated that there were no visits, and 14.1% recounted one site visit from a university supervisor. Only 0.8% of the students reported...
two or more site visits by a representative from the university (see Figure 4). Nine students explained in the comments that distance was a factor; another nine students indicated that a future visit was scheduled but had not yet occurred.

To further elaborate, students were asked how often a supervisor/clinic director from their program contacted them during their 4th-year placement either by phone, electronic media such as e-mail, or regular mail. Multiple contacts with a supervisor from the university were reported by 72.3% of the students, one contact with university personnel was reported by 16.9% of the students, and no contact with the university was reported by 2.3% (questions; see Figure 5). In the comments, electronic media was noted as a popular mechanism for communication, with contacts made through discussion boards, online chats, and e-mails. Four students elaborated in the comments section, explaining that they initiated correspondence, not university personnel.

Further information was sought concerning the frequency and type of monetary compensation granted to doctoral students during their 4th-year experience (question 6; see Figure 6). Less than half (44.6%) of the students reported that they received a regular payroll check, and 33.8% reported that they received a stipend supplement. Financial support from outside sources in the form of a scholarship or grant was noted by 2.3% of the students. However, 20% of the students stated that they did not receive any form of financial support while engaged in their 4th-year experience. Compensation that was not listed, which a small number of students reported, included free housing and financial help to attend professional conferences.

Students’ perceptions of the academic and clinic preparation they received from the university before placement at the 4th-year experience were also investigated (questions 7 and 8). Academically and clinically, the students felt well equipped for the audiological assessment of adults, with a positive response rate of greater than 95%. In addition, 80% of the students generally agreed that they were prepared for both the assessment of children and the general procedures for hearing aid selection and fitting. Students’ lowest ratings were recorded for vestibular rehabilitation, cochlear implants, and (central) auditory processing (see Figures 7 and 8). A small percentage of students reported satisfactory academic (33.3%) and clinical (13.8%) preparation in vestibular rehabilitation, with 74.4% indicating that they would prefer better training before their 4th-year placement in order to refine skills in this area (see Figure 9). Several students commented on the need for preparation in business-related matters. One student described the use of mock patients in the academic
setting for the development of knowledge and skills before placement at the current site. With the absence of an actual client, this was considered an effective teaching tool by the student. Furthermore, in reference to question eight, seven students commented on their experiences at part-time external sites early in their academic programs that helped to prepare them for their current 4th-year experience.

A general positive perspective was portrayed by most students in relation to the knowledge and skills they gained while at their 4th-year experience (question 9; see Figure 10). Most of the students felt that they achieved competent skills in the assessment of adults, children, and individuals with special needs (>70%). Hearing-aid selection and fitting ranked the highest, at 88.4%. Furthermore, electrophysiological testing (71.3%) along with vestibular testing (62%) revealed significant skill development for a majority of students from their 4th-year experience. However, few students felt that they gained competent skills with vestibular rehabilitation and (central) auditory processing (<25%), which was also a weakness reported by students in their academic and clinic preparedness before placement at their 4th-year site. In the comments section, two students reported increased proficiency in the area of tinnitus and research.

When students were asked their preference for increased knowledge and skills from their 4th-year experience, 53.6% stated that they favored more exposure to cochlear implants. Vestibular testing and vestibular rehabilitation ranked second, with approximately a 35% response rate (see Figure 11). Similarly, several students expressed greater exposure to tinnitus evaluation and rehabilitation.
The last element that was investigated researched the prevalence of certification of preceptors/supervisors and future plans of students in pursuing certification. The students reported that 90% of the preceptors held the CCC-A from ASHA. Approximately 30% of these preceptors were also certified with the ABA through the AAA. When respondents were asked their upcoming plans on certification, 66.4% responded yes for a CCC-A, with 19.1% unsure and 14.5% stating no. For ABA certification, 57.3% stated yes, with 37.4% unsure at this time. A larger percentage of students reported plans to pursue ABA certification in the future when compared to the current number of preceptors with ABA certificates.

**DISCUSSION**

This investigation offers insight on AuD students’ perceptions of their 4th-year experience relating to the process of acquiring the externship, the role of the university in monitoring the placement, the
preparedness of the students, and the value of the externship experience. The focus of the study was on the experiences of students and does not reflect viewpoints from educational programs or mentoring professionals.

Several major points can be summarized from the students’ responses. First, the protocol for initial contact for placement varied and was dependent on the educational institution; however, students reported that a majority of the time, they were the ones to make the initial contact with prospective sites. Is this a good thing, or who should be in contact with external site preceptors/supervisors? For example, a student may seek a site that is convenient for living arrangements rather than a site that provides clinical experiences that he or she may need. In a situation like this, universities should carefully evaluate potential external sites to make sure the quality of the experience does not suffer in the process of meeting the student’s requests. Students are still enrolled full
time at most educational institutions, which suggests that the university has a responsibility to deliver educational services. The university representative may select a site that is more clinically relevant, with less emphasis on a specific geographic area. With something as simple as the university representative making the initial contact, precedence may be set that portrays the institution as being active in ensuring the quality of education for its students. This may open opportunities to develop a cooperative relationship with the external site that is focused on the student’s education.

Trends were also found in the quantity and quality of correspondence that occurred between the university, student, and preceptors. Although site visits were uncommon, students generally reported multiple contacts with the university supervisor/director. Contacts included e-mails, chats, discussion boards, and phone conversations. Preceptors and students may believe that site visits should occur for each placement. However, due to distance, location, and other financial causes, this may not be feasible. Electronic media can be a practical and efficient alternative for communications.
Adequate dialogue is important between the student, external site supervisor, and university representative to ensure each student’s success and educational growth. This justifies frequent and collaborative interactions that should be occurring throughout the 4th year experience. With access to electronic resources, there are unlimited opportunities for regular communication. Thus, educational programs should be investing in the manpower needed to initiate and oversee external placements. Sufficient resources and personnel should be provided so students can be placed and monitored in a timely manner. With frequent monitoring by the university, problems that may arise could be addressed swiftly before they develop into significant complications. In addition, better communication with the student, preceptor, and university representative could help define clearer expectations, limiting opportunities for misinterpretation. Better communication provides a sense of support to both the student and preceptor.

Study results also indicated that monetary compensation is commonly provided by external sites for students engaged in their 4th year experience. These monetary arrangements can help students reduce their educational loans and decrease their financial burdens. However, there are ethical concerns about the motivation of students for placements and the burden that this can place on external sites (Meyer & Novak, 2006). Students may seek out sites that offer some type of monetary compensation rather than pursue a placement for its clinical experiences and opportunities. Also, if sites offer compensation to the student, will the student feel more pressure to produce a profit when in reality that student should be focused on learning and developing new skills? In all cases, university programs should review monetary arrangements to ensure that they are practical and ethical, particularly because these students are still under the direct guidance of the educational institution.

Concerning academic and clinical preparedness for the 4th-year experience, students reported that they felt most competent conducting audiological assessments and hearing-aid selection/fitting. This would be logical because this piece of the scope of practice constitutes a primary role of audiologists in the hearing health care field (Stach, 2010). Students felt least prepared academically and clinically in vestibular rehabilitation, cochlear implants, and (central) auditory processing. However, when asked what they preferred as a focus for more training, more students indicated the greatest desire for further instruction in the area of cochlear implants.

It can be argued that it is problematic for some university programs to train students in all areas related to audiology before they enter their 4th-year external placement. Staying current with new technology and research can be considered challenging, especially due to the cost of new equipment and the number of staff needed. It may be difficult for universities to provide expertise in all areas of practice related to audiology due to restrictive resources, limited access to clients with unique or rare disorders, or lack of personnel with expertise in a specific area or disorder. Institutions may see external sites as an opportunity for students to gain knowledge and skills in areas that they cannot provide on campus. However, it is more logical for educational institutions to view external sites as an opportunity to expand exposure to clinical cases that are limited at the university setting. University programs should assume the responsibility of developing basic knowledge and clinical competency for skills within the scope of practice, even if they are low incidence. For example, university programs could provide experience in these areas by using mock patients to simulate disorders where students must test and interpret results. In addition, some experience may be gained by reviewing audiologic cases using a grand rounds model where testing, diagnosis, and treatment are thoroughly discussed.

To ensure that educational institutions are providing the knowledge and skills necessary for the adequate preparation of their AuD students, these programs should frequently review their curriculum. An assessment should be done to see if their curriculum meets the needs of the students and the requirements defined by professional agencies (ACAE, 2012; CAA, 2011). Educational programs should persistently question how they can modify their curriculum and clinical experiences to better prepare doctoral students for their terminal experience and for the work environment. Programs should seek input from students, external site supervisors, employers of former students, and their own faculty and staff. By analyzing trends from quality reviews, programs can gain insight on their curriculum’s strengths and weaknesses. This key information can be used to develop a strategic plan that addresses modifications to the curriculum to meet the changing needs of the profession.

Little evidence is available on the overall efficacy of educational strategies in clinical education for audiology (Mormer, Palmer, Messick, & Jorgensen, 2013). This includes research in the area of external placements for AuD students. Recommendations exist for best practices but are often based on professional judgment and lack verification. However, educational institutions can develop quality review programs that assess the success of their students during participation in off-campus clinical settings. Data on student
performance can provide valuable insight into the efficiency of the institution’s program and how well the program is preparing future professionals in the field of audiology. Documented trends from the perceptions of students, external preceptors, and faculty can be used to guide the curriculum and set goals for improvement.

Limitations and Future Study

Future investigations should include responses from preceptors at facilities where students are placed for these external experiences. This would provide further insight into the preparedness of students and the quality/quantity of teamwork between external sites and educational programs. Responses from preceptors could then be examined and compared to student’s perceptions, further confirming or opposing trends perceived by these students.

REFERENCES


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APPENDIX (p. 1 OF 3). QUESTIONNAIRE REGARDING STUDENTS’ PERSPECTIVES OF THEIR FOURTH-YEAR EXPERIENCE IN AUDDIOLOGY

Age ______________ State that your university is located in____________________
Gender__________ Anticipated date of graduation___________________________

1. How was the timeline of your 4th-year placement arranged?
   a. I was placed at a single site for the entire 12 months.
   b. I was placed in 2 separate sites with part of the practicum completed at one site during the first half and the rest of the practicum completed at the second site during the last half.
   c. I was placed in 2 separate sites with part of the week spent at one site and the other designated days spent at the second site.
   d. My 4th year placement was divided into 3 or more sites.
   e. My timeline for my placement was different from all of the above.
      Explain:

2. Who arranged your 4th-year placement?
   a. I made the contacts and gave the contact information to my supervisor/clinic director at the university, who then made the necessary arrangements and handled the paperwork.
   b. I originally located the site(s) and then initiated and followed through with the necessary paperwork and arrangements.
   c. I chose from a list of sites given by my supervisor/clinic director at the university and contacted the site(s), making my own arrangements.
   d. I met with my supervisor/clinic director to discuss options/preferences for sites and my supervisor/clinic director made the decision of which site(s) I would attend and made all the arrangements with the site(s).
   e. I was not given a choice or preference for my 4th-year placement. My supervisor/clinic director made all arrangements and I was assigned the site(s).
   f. My placement was arranged differently than described above.
      Explain:

3. How was your site(s) characterized?
   a. My site was very specialized with the focus on a few areas in the scope of practice for audiology.
   b. My sites were very specialized with the focus on a few areas in the scope of practice for audiology.
   c. My site(s) offered experience in a wide variety of areas within the scope of practice.
   d. Of the site(s) I participated, one site was very specialized and the other site offered a variety of experiences.
   e. My site did not match the descriptions above.
      Explain:

4. How often did your clinic director/supervisor from your AuD program visit your off-campus site(s) during your 4th-year placement?
   a. There were no visits.
   b. One site visit was made.
   c. Two or more site visits were completed.
   d. Site visits were different from those described above.
      Explain:

5. How often did your clinic director/supervisor from your program contact you during your 4th-year placement (either by phone, mail, emails)?
   a. I had no contact with my university clinic director/supervisor.
   b. My clinic director/supervisor contacted me at least once.
   c. My clinic director/supervisor contacted me multiple times.
   d. Contacts were different from those described above.
      Explain:
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6. Did you receive any monetary compensation during your 4th-year experience?
   a. I did not receive any monetary compensation.
   b. I received a stipend from my external site.
   c. I received a regular paycheck from my external site.
   d. I received a scholarship/grant from an external source other than the university.
   e. I received a scholarship/grant from the university.
   f. I received monetary compensation but it was different than described above.
      Explain:

7. I felt I was well-prepared academically for my 4th-year placement in the following areas (mark all those that apply):
   a. Audiological assessment for adults
   b. Audiological assessment for children
   c. Audiological assessment for individuals with special needs
   d. Hearing aid selection and fitting
   e. Electrophysiological testing
   f. Vestibular testing
   g. Vestibular rehabilitation
   h. Cochlear implants
   i. (Central) auditory processing
   j. Aural (re)habilitation
   k. Educational audiology

8. I felt I was well-prepared clinically by my university for my 4th-year placement in the following areas (mark all those that apply):
   a. Audiological assessment for adults
   b. Audiological assessment for children
   c. Audiological assessment for individuals with special needs
   d. Hearing aid selection and fitting
   e. Electrophysiological testing
   f. Vestibular testing
   g. Vestibular rehabilitation
   h. Cochlear implants
   i. (Central) auditory processing
   j. Aural (re)habilitation
   k. Educational audiology

9. I felt I could have received better training in the following area(s) before my 4th-year placement (mark all those that apply):
   a. Audiological assessment for adults
   b. Audiological assessment for children
   c. Audiological assessment for individuals with special needs
   d. Hearing aid selection and fitting
   e. Electrophysiological testing
   f. Vestibular testing
   g. Vestibular rehabilitation
   h. Cochlear implants
   i. (Central) auditory processing
   j. Aural (re)habilitation
   k. Educational audiology
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10. I feel I gained competent skills in the following areas from my experience obtained at my 4th-year external site(s):
   a. Audiological assessment for adults
   b. Audiological assessment for children
   c. Audiological assessment for individuals with special needs
   d. Hearing aid selection and fitting
   e. Electrophysiological testing
   f. Vestibular testing
   g. Vestibular rehabilitation
   h. Cochlear implants
   i. (Central) auditory processing
   j. Aural (re)habilitation
   k. Educational audiology

11. I would have preferred to have more experience in the following area(s) from my 4th-year site:
   a. Audiological assessment for adults
   b. Audiological assessment for children
   c. Audiological assessment for individuals with special needs
   d. Hearing aid selection and fitting
   e. Electrophysiological testing
   f. Vestibular testing
   g. Vestibular rehabilitation
   h. Cochlear implants
   i. (Central) auditory processing
   j. Aural (re)habilitation
   k. Educational audiology

12. My supervisor(s) at my site(s) held a Certificate of Clinical Competence in Audiology (CCC-A) with the American Speech-Language-Hearing Association (ASHA).
   a. Yes
   b. No
   c. Unsure
   d. It was varied
   Explain:

13. My supervisor(s) at my site(s) held American Board of Audiology (ABA) certification with the American Academy of Audiology (AAA).
   a. Yes
   b. No
   c. Unsure
   d. It was varied
   Explain:

14. I plan to obtain a Certificate of Clinic Competence in Audiology (CCC-A) from ASHA when I graduate.
   a. Yes
   b. No
   c. Unsure

15. I plan to obtain American Board of Audiology (ABA) certification with AAA upon graduation.
   a. Yes
   b. No
   c. Unsure