

A Comparison of Entrance and Graduation Requirements for the Au.D. with Other First Professional Degrees

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Abstract

Over the past several years there has been increasing reference to the Doctor of Audiology degree (Au.D.) as a “first professional degree.” Currently, first professional degrees are awarded in the fields of chiropractic, dentistry, law, medicine, optometry, osteopathic medicine, pharmacy, podiatry, theology, and veterinary medicine. General entrance requirements, clinical experiences, and graduation requirements for the Au.D. degree were compared to the health-care professions awarding first professional degrees. Comparisons were also made to the professions of pharmacy, psychology and speech-language pathology. For all first professional degree occupations, unique entrance and competency examination processes have been developed. The four-year postbachelor’s Au.D. degree model is similar in length to first professional degree programs, although most of the other occupations provide the opportunity to specialize after graduation. For the factors examined in this study, including entrance requirements, entrance examinations, program length, graduation requirements, and certification requirements, the Au.D. continues to be more similar to the nonprofessional degree models of psychology and speech-language pathology. The comparison with first professional degree programs yields information for possible further evolution of the education of audiologists.

Key Words: Accreditation, college admissions test, education, health occupations, licensure, professional

Abbreviations: AAA = American Academy of Audiology; AAMC = Association of American Medical Colleges; AFA = Audiology Foundation of America; Au.D. = Doctor of Audiology; CCAT = Chiropractic College Admissions Test; DAT = Dental Admissions Test; EPPP = Examination for Professional Practice in Psychology; GRE = Graduate Records Exam; MCAT = Medical College Admissions Test; MPJE = Multi-State Pharmacy Jurisprudence Exam; NAPLEX = North American Pharmacist Licensure Examination; NBCE = National Board of Chiropractic Examiners; NBDE = National Board of Dentistry Examiners; NBEO = National Board of Examiners Optometry; NBPME = National Board of Podiatry Medical Examiners; NCES = National Center for Education Statistics; OAT = Optometry Admissions Test; PCAT = Pharmacy College Admissions Test; SLP = speech-language pathology; USMLE = United States Medical Licensure Examination

Sumario

En los últimos años se ha hablado cada vez con más frecuencia del Doctorado en Audiología (Au.D.) como un “primer grado profesional”. Actualmente, los

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primeros grados profesiones se confieren en los campos de quiropráctico, dentistería, leyes, medicina, optometría, medicina osteopática, farmacia, podología, teología y medicina veterinaria. Se realizó una comparación entre los requisitos generales de ingreso, las experiencias clínicas y los requisitos de graduación del grado en Au.D., con aquellos de otras profesiones en salud que confieren primeros grados profesionales. También se comparó con las profesiones en farmacia, psicología y patología del habla-lenguaje. Se han creado procesos de ingreso y de examen de aptitudes para todas las ocupaciones de primer grado profesional. El modelo de cuatro años para obtener el grado post-bachillerato en Au.D. es similar en duración a otros programas de primer grado profesional, aunque la mayoría de las otras profesiones brinda la oportunidad de especializarse después de la graduación. De acuerdo a los factores examinados en este estudio, incluyendo requisitos de ingreso, exámenes de ingreso, duración del programa, requisitos de graduación y de certificación, el Au.D. continúa siendo más parecido a los modelos de grado no profesional en psicología o patología de habla-lenguaje. La comparación con programas de primer grado profesional aporta información para una posible mayor evolución en la educación de los audiólogos.

Palabras Clave: Acreditación, prueba de admisión universitaria, educación, ocupaciones en salud, acreditación, profesional

Abreviaturas: AAA = Academia Americana de Audiología; AAMC = Asociación Americana de Facultades de Medicina; AFA = Fundación Audiológica de América; Au.D. = Doctor en Audiología; CCAT = Prueba de Admisión a la Escuela de Quiroprácticos; DAT = Prueba de Admisión Dental; EPPP = Examen para Práctica Profesional en Psicología; GRE = Examen de Registro del Graduado; MCAT = Examen de Admisión para Facultad de Medicina; MPJE = Examen Multi-Estatal de Jurisprudencia en Farmacia; NAPLEX = Examen de Acreditación Farmacéutica de Norte América; NBCE = Examen Nacional de Evaluadores de Quiroprácticos; NBDE = Examen Nacional de Evaluadores de Dentistería; NBEO = Examen Nacional de Evaluadores de Optometristas; NBPME = Examen Nacional de Evaluadores de Podología Médica; NCES = Centro Nacional de Estadísticas en Educación; OAT = Prueba de Admisión en Optometría; PCAT = Prueba de Admisión de Facultades de Farmacia; SLP = patología del habla-lenguaje; USMLE = Examen de Acreditación Médicas de los Estados Unidos

Over the past several years there has been increasing reference to the Doctor of Audiology degree (Au.D.) as a “first professional degree.” According to the National Center for Education Statistics (NCES), the definition of a “first professional degree” is one that is awarded following completion of a program that meets all of the following criteria: (1) completion of the academic requirements to begin practice in the profession; (2) at least two years of college work prior to entering the program; and (3) a total of at least six academic years of college work to complete the degree program, including prior required college work plus the length of the professional program itself. It is a distinctive degree offered to the following ten fields: chiropractic (D.C. or D.C.M.), dentistry (D.D.S. or D.D.M.), law (L.L.B., J.D.), medicine (M.D.), optometry (O.D.), osteopathic medicine (D.O.), pharmacy

(Pharm.D.), podiatry (D.P.M., D.P., or Pod.D), theology (M.Div., M.H.L., B.D., or ordination), and veterinary medicine (D.V.M.). The NCES provides further evidence of the criteria by which these professions are defined. These criteria include the fact that entry to practice in first professional fields is generally controlled by professional licensure, that such training is *only* available through study that goes beyond the baccalaureate level, and that the necessary training generally requires at least three years of post-baccalaureate-level study (though not necessarily the completion of a baccalaureate degree). The Au.D., as currently modeled, would appear to meet the academic criteria although the issue of certification versus licensure continues to be a topic of debate.

The profession of audiology is relatively young when compared with other professions represented by first professional degrees.

The roots of the profession can be traced to Raymond Carhart and the communicative disorders and hearing loss of the veterans returning from the battles of World War II. Out of these efforts grew the practice of audiology, and therefore audiology as a profession is approximately 60 years old. None of the other professions granting first professional degrees was developed after the formation of audiology.

The profession of audiology evolved over 40 years from a bachelor's degree to a master's degree and then to the professional doctorate. It was in the late 1980s that the Academy of Dispensing Audiologists convened a conference on audiology education from which the concept of the Au.D. degree was formed. Along with the American Academy of Audiology, the Audiology Foundation of America (AFA), and the American Speech-Language-Hearing Association, efforts began in earnest to transform the profession of audiology to a doctoring profession. Important during this evolution was the concept of "professional degree" versus the traditional research degree (Ph.D.). During the 1980s, momentum for the Au.D. increased, and independent surveys reported that the majority of the audiologists in the U.S. supported the Au.D. as a distinctive degree and degree designator (Audiology Foundation of America, 2004). In 1994 the first Au.D. program was created at Baylor College of Medicine. In the subsequent ten years, nearly 60 resident programs and four distance learning programs have been initiated (Audiology Foundation of America, 2004).

Walden et al (2004) opined that establishing or obtaining the Au.D. degree was not the end of the evolution but was only the first step toward achieving equality with other health professions. They noted that the academic underpinnings to achieve the degree must also stand equal with other health professions. Professional degree programs often include unique and/or specialized entrance, graduation, and licensure examination requirements. For example, entrance to medical schools requires achievement of benchmark scores on the Medical College Admissions Test (MCAT). The MCAT was developed by the Association of American Medical Colleges (AAMC) in cooperation with its member U.S. medical schools. According to the AAMC, the purpose of the MCAT is to assess mastery of basic concepts in biology, chemistry (general and

organic), and physics; scientific problem solving and critical thinking skills; and writing skills. The skills and concepts tested by the MCAT are those identified by physicians and medical educators as prerequisite for educational programming leading to the practice of medicine.

Now that the Au.D. has become firmly established as the entry-level degree for the practice of audiology, comparison with first-professional-degree professions of other factors associated with education and entry into practice can be undertaken. The experience of these other professions may provide valuable insight on further developments that need to be considered or implemented to reach the educational equality noted by Walden et al (2004). Therefore, the purpose of this study was to compare and contrast the established first professional degrees with the current standing of the Au.D. degree in terms of entrance requirements to academic programs, national examination standards, and licensure and certification requirements.

METHODS

As audiology is a health profession, this review was designed to compare the Au.D. to first professional degrees awarded by other health-care professions. Law and theology, therefore, were not included in this review. Veterinary medicine was also not included because that profession does not provide human health care. For additional perspective, however, the professions of psychology, pharmacy, and speech pathology were included due to continued references to these professions during the development of the Au.D. Psychology offers both the Ph.D. and Psy.D. and therefore offers important insights for audiology. Pharmacy (Pharm.D.) was included due to its relatively recent evolution to the doctoral level. Speech-language pathology (SLP) was included due to the long-standing relationship, particularly in academia, between audiology and speech-language pathology. For the purposes of this study, therefore, the academic and entry-level requirements for audiology were compared to the following ten health-care professions: medicine, dentistry, chiropractic, optometry, osteopathic medicine, podiatry, pharmacy, psychology, and speech-language pathology.

The academic and entry-level requirements

for entrance, graduation, national examination, and certification were examined in this study. In terms of entrance requirements, we sought to determine whether a specific degree or major was required for entrance to degree programs. Specific admission criteria are usually established by each academic program. As used in this study, "entrance requirements" refers to the general guidelines promulgated by the respective professional organizations and therefore typically used by academic programs. We also sought to determine whether a standard entrance exam was required, and, if so, how the test was constructed. We felt it important to know what the graduation requirements entail with regard to distinctive degree designation, length of programs, as well as externships and residency programs. We also sought to determine if there are any significant differences between the national graduation and/or licensure examinations in terms of content and process. Finally, we sought to determine the relative relationships between certification and licensure within the various professions.

Individuals in each profession were contacted and interviewed to determine the appropriate organizations and administrative bodies that govern the criteria of interest. Web sites of each organization were identified. All data were found on government, education, and professional organization Web sites. A list of the Web sites from which data was gleaned is provided at the end of the article as a reference. The information gleaned from each site was compiled into tables for comparison.

RESULTS

General Entrance Requirements

The first comparison was entry requirements for each profession (Table 1).

Audiology, podiatry, and speech-language pathology were the only professions that reported requiring a bachelor's degree. The other seven professions reported requiring a minimum of two to three years of specific course work or a bachelor's degree that includes the same prerequisites. Optometry, medicine, and osteopathic medicine all required three years of undergraduate preparation as a minimum for acceptance. Most professional degree program entrance requirements described the two- to three-year minimum requirement to graduate school as a rare opportunity, and recommended a bachelor's degree. The majority of students accepted into speech-language pathology or audiology programs tend to have a degree in "communicative disorders," "communicative sciences," or "speech-language pathology and audiology." The first professional degree programs generally accept students with a science background, although the specific science varies. The exception is psychology, which appears to require incoming students to have a bachelor's degree in psychology but oftentimes a master's degree in psychology as well before being accepted to a doctoral program.

Audiology, psychology, and speech-language pathology programs have generally utilized the Graduate Records Examination (GRE) as the standard entrance examination, although it should be noted that the GRE is not required for entrance by any of the respective professional organizations of these three professions (Table 2). The GRE was designed to help predict success at the graduate school level but was not designed necessarily to predict success in professional education. Six of the seven professional degrees required a specialized standardized entrance exam tailored to their profession. The exception is chiropractic, which does not

Table 1. Entrance Degree Requirements

	Degree Requirements
Audiology	Bachelor's degree
Chiropractic	2 years or bachelor's*
Dentistry	2 years or bachelor's*
Optometry	3 years or bachelor's*
Osteopathic Medicine	3 years or bachelor's*
Pharmacy	2 years or bachelor's*
Medicine	3 years or bachelor's*
Podiatry	Bachelor's degree
Psychology	Bachelor's and/or master's degree
Speech-Language Pathology	Bachelor's degree

* Most students who apply have the bachelor's degree.

Table 2. Standardized Entrance Examination Requirements

	Exam	Sections	Questions	Time
Audiology	GRE	3	58	150 min.
Chiropractic	CCAT			
Dentistry	DAT	4	290	255 min.
Optometry	OAT	4	240	260 min.
Osteopathic Medicine	MCAT	4	219	345 min.
Pharmacy	PCAT*	6	280	270 min.
Medicine	MCAT	4	219	345 min.
Podiatry	MCAT**	4	219	345 min.
Psychology	GRE	3	58	150 min.
Speech-Language Pathology	GRE	3	58	150 min.

* Not all schools require the PCAT at this time.

** Some schools will accept the DAT or GRE in lieu of the MCAT.

require a standardized entrance examination at this time although the Chiropractic College Admissions Test has been developed. There were several individual podiatry programs that accepted the Dental Admissions Test (DAT) or GRE as an alternative to the MCAT, but otherwise each profession has developed or adopted an examination that assesses

preparation for the specific field.

Common among the entrance examinations for medicine, osteopathic medicine, pharmacy, dentistry, optometry, and podiatry is the inclusion of sections addressing knowledge in the sciences (Table 3). Each includes sections on biology, general chemistry, and organic chemistry in addition

Table 3. Entrance Examination Content Areas

Test	Professions	Primary Content Areas	Writing Essay
Medical College Admissions Test (MCAT)	Medicine, Osteopathic medicine, Podiatry	Verbal Reasoning Physical Science <ul style="list-style-type: none"> • Chemistry • Physics Writing Sample Biological Sciences <ul style="list-style-type: none"> • Biology • Organic Chemistry 	Yes
Optometry Admissions Test (OAT)	Optometry	Survey of Natural Sciences <ul style="list-style-type: none"> • Biology • General Chemistry • Organic Chemistry Reading Comprehension Physics Quantitative Reasoning	No
Dental Admissions Test (DAT)	Dentistry	Survey of Natural Sciences <ul style="list-style-type: none"> • Biology • General Chemistry • Organic Chemistry Perceptual Ability Reading Comprehension Quantitative Reasoning <ul style="list-style-type: none"> • Mathematics 	No
Pharmacy College Admissions Test (PCAT)	Pharmacy	Verbal Ability Biology Reading Comprehension Quantitative Ability Chemistry Critical Thinking	Yes
Graduate Records Examination (GRE)	Audiology, Speech Pathology, Psychology	Analytical Writing Verbal Quantitative	Yes

to sections on reasoning and reading comprehension. Only the GRE does not specifically include a section on science.

The GRE has the fewest number of questions at 58. All other first professional degree programs have more questions on their entrance examinations. The examination with the second smallest number of questions was the MCAT, having 219 questions, and the largest exam being the Pharmacy College Admission Test (PCAT) at 300 questions. Due to the greater number of items on each test, all professional degree program entrance exams are allotted longer times to complete the examination. The GRE is the shortest examination at 150 minutes (2 hours and 30 minutes) while the Dental Admissions Test (DAT) is the next shortest at 245 minutes (4 hours and 5 minutes). The longest time allotted for an examination was the MCAT at 345 minutes (5 hours and 45 minutes). Overall, the DAT, OAT, MCAT, and PCAT had more academic sections, a greater emphasis on science, more questions and allotted time for their exams than the GRE.

Graduation Requirements

Nine of the ten professions have a specific degree designator. Speech-language pathology is the only profession without a specific degree designator although a professional doctorate in speech pathology has been proposed at several universities. Psychology uses both the professional degree designator ("Psy.D.") and the traditional "Ph.D." designator, both of which are recognized within the profession as applicable for clinical practice. The Psy.D. curriculum is clinically based, whereas the

Ph.D. in psychology holds to the traditional research-based curriculum.

Nine of the ten programs are, for the most part, four-year programs. There is one chiropractic program that has a three-year program, but the remainder are four years in length. The only exception on the list is speech-language pathology, which continues to have the two-year master's degree program. Audiology currently has four three-year programs with the remainder being four-year programs.

The manner and type of clinical experiences differ between professions (Table 4). The educational model for most audiology programs includes a one-year externship in the last year of the program of study. Chiropractors do not require a specific externship experience while most dental programs offer a clinical internship, which varies between three months and a full year, during the last year of the program. Osteopaths must complete a one-year internship after graduation as part of their requirements to obtain licensure to practice. Pharmacy students also are required to complete an externship prior to graduation, most commonly a series of rotations at multiple sites. Psychology majors must complete a one-year internship during their last year of school. Speech pathologists complete a clinical fellowship year of nine months after graduation.

Chiropractic, optometry, medicine, and podiatry do not have an internship requirement to graduate. Clinical rotations for these professions are completed during their four years of graduate training and are integrated with the curriculum. Instead of an internship/externship in these programs, these professions require postgraduate

Table 4. Program and Graduation Requirements

	Degree Designator	Length of Program	Clinical Externship	Required Postdoctorate Residency Program	Specialization Length
Audiology	Au.D.	3–4 years	Last Year	None	None
Chiropractic	D.C.	3–5 years	None	optional, Specialization	Varies by program
Dentistry	D.D.S.	4 years	Last Year	optional, Specialization	1–3 years
Optometry	O.D.	4 years	None	optional, Specialization	1–3 years
Osteopathic Medicine	D.O.	4 years	1 year*	optional, Specialization	2–6 years
Pharmacy	Pharm.D.	4 years	Last Year	optional, Specialization	1–2 years
Medicine	M.D.	4 years	None	optional, Specialization	2–6+ years
Podiatry	D.P.M.	4 years	None	optional, Specialization	1–3 years
Psychology	Ph.D., Psy.D.	4 years	Last Year	Yes, 1 year full	Varies by program
Speech-Language Pathology	M.S.	2 years	9 months **	None	None

* Required 12 month rotation(s) after graduation.

** Clinical fellowship year to obtain certification.

residency programs for specialization. Residencies vary in length from one to six years, depending on the area of specialization. Typically, chiropractors and psychologists do not undertake specialized postgraduate training, but they are available. Currently there are no postgraduate residencies or areas of specializations available for audiology

or speech pathology graduates.

Licensure and Certification Requirements

The licensing examination for each profession varies much like the entrance examinations (Table 5). The examination for

Table 5. National Licensure Examinations Comparison

	Exam	Sections	Questions	Time Allotted
Audiology	PRAXIS II: Subject Assessments (Audiology)	One	150 m.c.	120 min.
Chiropractic	NBCE (National Board of Chiropractic Examiners)	Part I (6 multiple-choice sections) Part II (6 multiple-choice sections) Part III (cases) Part IV (24 interactive stages, various questions)	660 m.c. 660 m.c. 150 m.c. simulations	6 hours 6 hours varies varies
Dentistry	NBDE (National Board of Dentistry Examiners)	Part I (4 multiple-choice sections) Part II (1 multiple-choice section, and 1 case section)	400 m.c. 500 m.c.	7 hours 1 1/2 days
Optometry	NBEO (National Board of Examiners in Optometry)	Part I (4 multiple-choice sections) Part II (5 multiple-choice sections) Part III (5 station patient care test, plus written exam)	435 m.c. 435 m.c. 160 m.c. + oral	11 1/2 hours 11 1/2 hours 210+ min.
Osteopathic Medicine	USMLE (United States Medical Licensing Examination)	Step I (Various sections multiple-choice exam) Step II (A. Clinical knowledge B. Clinical Skills) Step III (9 Select cases, plus multiple choice.)	350 400 500 + 9 simulations	8 hours 9 hours 2 days
Pharmacy	NAPLEX (North American Pharmacist Licensure Examination) and the MPJE (Multi-state Pharmacy Jurisprudence Exam)	One Varies—based on government laws	150 50–100	5 hours varies
Medicine	USMLE (United States Medical Licensing Examination)	Step I (Various sections multiple-choice exam) Step II (A. Clinical knowledge B. Clinical Skills) Step III (9 Select cases, plus multiple choice.)	350 400 500 + 9 simulations	8 hours 9 hours 2 days
Podiatry	NBPME (National Board of Podiatry Medical Examiners)	Part I (Various sections multiple-choice exam) Part II (Various sections multiple-choice exam) Part III (Various sections multiple-choice exam)	150 m.c. 150 m.c. 180 m.c.	3 hours 3 hours 4 hours
Psychology	EPPP (Examination for Professional Practice in Psychology)	6 sections, multiple choice, plus 15 min. tutorial	225 m.c.	4 hours
Speech-Language Pathology	PRAXIS II: Subject Assessments (Speech-Language Pathology)	One	150 m.c.	120 min.

** The MPJE varies from state to state because it is based on individual state laws.

audiology and speech-language pathology is administered by the Educational Testing Service (ETS). The PRAXIS examination is actually a series of subject examinations, most of which are designed for teachers and educators. The current examination process and format is the same as was required for persons graduating in audiology with a master's degree. The PRAXIS examination for both audiology and speech-language pathology consists of 150 multiple-choice questions.

The National Board of Chiropractic Examiners Test (NBCE) has four parts, the first three of which are administered prior to graduation. The first two sections (Parts I and II) address basic and clinical sciences respectively while Part III focuses on clinical competency. Part IV is a performance examination and is used as a licensing examination in most states. Similarly, the examinations for physicians and osteopaths are comprised of three sections. Step 1 assesses an understanding of basic science concepts and is generally given after the second year of education. Step 2 assesses whether medical students can apply medical knowledge essential for patient care. Step 2 is given toward the end of the educational process. The purpose of Step 3 is to identify those graduates of medical school who can practice independently. Podiatry also has three parts in their National Board of Podiatry Medical Examiners Exam (NBPME). However, all three of the parts on the NBPME are multiple choice. There is no performance section on this exam. Parts 1 and 2 are completed prior to graduation with Part 3 completed after graduation. The dentistry examination has two sections, given at different times in the educational process.

The number of questions varies from a low of 150 multiple choice (audiology, pharmacy, and speech pathology) to a high of 1470 multiple choice questions (chiropractic). All of the professions offering first professional degrees have examinations with multiple sections, given at different times during the educational process and with a significantly higher number of questions in total than audiology. In addition, most of these professions have incorporated into the examination a process that uses clinical case studies to determine competency. Obviously, the greater number of questions necessitates longer periods of time to complete the various parts of an examination.

None of the professions require certification as a qualification to graduate or practice (Table 6). It is not a requirement for audiology and speech-language pathology to be certified prior to entering practice; however, most state licensure laws recognize certification in these professions in lieu of completing specific licensing requirements. Certification in other professions is most commonly used to recognize advanced achievement educationally but is optional.

DISCUSSION

The purpose of this review of occupations with first professional degrees was to examine the similarities and differences in academic and entry level requirements they share with audiology, as modeled with the Au.D. degree. In addition, the similarities and differences with the professions of pharmacy, psychology and speech-language pathology were included. As audiology continues its evolution, understanding the current educational standards and processes

Table 6. Certification Requirements

	Required to Practice?	Required to Specialize?	Required to Obtain License?
Audiology	NO	None	NO*
Chiropractic	NO	NO	NO
Dentistry	NO	NO	NO
Optometry	NO	NO	NO
Osteopathic Medicine	NO	YES	NO
Pharmacy	NO	NO	NO
Medicine	NO	YES	NO
Podiatry	Optional	Optional	NO
Psychology	NO	NO	NO
Speech-Language Pathology*	NO	None	NO*

* Certification facilitates obtaining license.

of other professions, particularly those that award the first professional degree, can be beneficial to establishing a roadmap to success.

Whereas the entry requirements for both audiology and all other professions generally require a bachelor's degree, first professional degree occupations require a much greater emphasis in the hard sciences. While a specific undergraduate degree is not required, the content of the entrance examinations includes sections on biology, chemistry, and physics, which thereby necessitates training in the sciences as a prerequisite to achieving benchmark scores on the examinations. The majority of undergraduates entering audiology programs continue to graduate with backgrounds in communicative disorders and are admitted to graduate programs based, in part, on the GRE examination.

The GRE has been utilized for many years in audiology as a predictor of success at the graduate level. Other occupations with first professional degrees generally utilize a unique examination developed specifically to measure successful mastery of pre-professional material in addition to reasoning, writing, and communication skills. The GRE clearly does not contain elements designed to measure the pre-professional knowledge development. The lack of core sciences as part of both the traditional undergraduate curriculum in communicative disorders, and as part of the GRE examination, are distinct differences between other professional degrees and the Au.D. This is not to disparage the role or the long-standing tradition of the GRE, only to suggest that the GRE should be reconsidered as the test of choice if a science background is indeed considered appropriate prior to entry to Au.D. programs.

If the curriculum leading to the Doctor of Audiology degree requires prerequisite science knowledge, or any other specific knowledge base, then it may be necessary to reexamine the criteria for entrance to Au.D. programs. While the GRE has served audiology well in the past, other options include the utilization of an existing test such as those used in dentistry or optometry, or development of a unique test that evaluates a knowledge base unique to audiology. Another option would be to consider the Subject Tests of the Educational Testing Service in areas such as biology, psychology, and mathematics, which can be taken in lieu

of or in addition to the General Test of the GRE. If the development of a specific test for entrance to audiology programs is deemed necessary, the use of the Subject Test process might also be explored.

The clinical experiences for each profession vary widely, particularly in regard to a formalized intern/externship, and likely vary between schools as well. However, the other professions appear to offer more standardization for the clinical experiences than audiology. Psychology, particularly the program leading to the Ph.D., and speech pathology generally seem to be similar to audiology in terms of the standardization of the clinical experiences.

All of the other health professions that offer a first professional degree have developed and utilize a national examination process administered by their own professions. While the questions on the PRAXIS examination, both for audiology and speech-language pathology, were developed by panels of experts in those fields, the examination is administered by an independent business. The same is true for pharmacy. Assuming the number of sections and questions is an indicator of rigor, then the PRAXIS would have to be deemed significantly less rigorous than those of other professions. In addition, the PRAXIS does not include the more global clinical case study format used in other professions as a measure of competency. The requirement for certification appears to not be an issue with any profession; however, the criteria for and utility of certification do appear different. Many of the professions that award first professional degrees use certification to indicate a higher level of achievement, after graduation and specialization. In professions such as medicine, certification is achieved once and is not renewed annually, which is currently the case in audiology and speech-language pathology.

This study of first professional degrees reveals some clear similarities for occupations with first professional degrees and therefore some ideas for change for the audiology profession. Whether these differences between academic programs in audiology and those offering first professional degrees are viewed as weaknesses in audiology or strengths in the other fields, the differences are apparent. Based on the information presented herein, audiology continues to be more similar to

those professions whose home has been in graduate schools, or, conversely, dissimilar to those whose homes are professional schools. While the necessity and/or timing to develop a specific examination for entrance to audiology programs, or an examination for graduation and/or licensure can be debated, it is clear these are unique elements for other first professional degree occupations. These first professional degree programs have developed effective requirements that are challenging and that produce community-recognized, competent professionals. Perhaps equally important is that the factors explored herein are requirements that are universally accepted and recognized by all constituencies, including professional organizations, individual university programs and institutions, and the public.

Having undertaken the transition to a doctoring profession, it is perhaps time for audiology to consider adopting more universally relevant criteria by which to judge pre-professional preparation, progress, graduation and licensure requirements. This would be another important step to not only being recognized as a first professional degree, but also be more relevant to undergraduate students and the public at large.

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