Curricular and Externship Models in Audiology Education

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Audiology Clinical Education

» What comes to mind?
  » It is a process over 4 years and should integrate with didactic education.
  » Is a single full-time externship for 1 year (for 9 months to 12 months) the best model?
  » We need outcomes data on how graduates are doing even 1 to 5 years out of their programs.

» To cover:
  » ATSU Clinical Education
  » What we have added
  » Ideas for consideration
ATSU Department of Audiology

» Observations 4 hours per week for year one
» Clinical rotations 8 hours per week year two
» 16 to 24 hours per week year three
» 40 hours per week in year four

» At affiliated clinical sites in Phoenix/Mesa for the first two and ½ years and local or distant sites for the last year and ½ of the program

» Students do not have to be on campus for the last year and ½ but there are several online courses during that time
Pros and Cons

» Students show progress at a fast rate in various clinical settings
  » Often fast-paced
  » Pressure on students and Pressure on preceptors
Good exposure to typical practices in audiology, but not easy to gain experience in every aspect of audiology as equitably as desired for all students in the first portion of their clinical education (timing of clinical activities related to classes)

APD, AR, CI, IONM, hearing conservation, details of business practices ???
Added Component: AR

Department initiated additional opportunities:

Quarterly aural rehabilitation

- Pairs of students develop and implement group aural rehab for locally established sites under the supervision of a FT faculty member who teaches **AUD 621 Audiological Rehabilitation for Adults**
- Local senior centers, multigenerational centers and other sites established by the faculty
- Multiple group sessions
- Additional information and hearing aid checks provided at the sites
Also: Matter of Balance

“A Matter of Balance: Managing Concerns About Falls

A program designed to reduce the fear of falling and increase the activity levels of older adults who have this concern. It is based upon research conducted by the Roybal Center for Enhancement of Late-Life Function at Boston University.”

http://www.mmc.org/mh_body.cfm?id=3498
Initially a volunteer service opportunity for students from all disciplines within ATSU

Audiology now assigns students as a clinical rotation in year 1

Faculty have been trained as master trainers

8 hour training session for the students
» Then pairs of students become the coaches/leaders for group sessions
» Conduct the classes, which consists of eight two-hour sessions for groups of 10 to 12 participants at established sites
» Preceptors observe and assist
AR and MOB

» Students provide favorable reports on getting to interact with geriatric population and working on interpersonal communication skills and oral presentation skills

» Students sometimes state that they miss doing other hands-on clinical procedures when they are in these rotations
MOB and IPE

» The training is done with ATSU students from various programs and with master trainers from various programs

» I would like to mix audiology students with students from other disciplines as the coaches for group sessions (OT, PT, PA, DO, AT) — timing is the obstacle

» Valuable experience overall and could add the component of Interprofessional Education
Recently Added

» AUD 619 and 629 Clinical Module I-II

This two-course sequence is designed to provide students with opportunities to review and practice clinical procedures covered in previous and concurrent applied courses. Hands-on practice experiences are provided in a laboratory environment under faculty supervision and mentorship with a focus on the integration of diagnostic and treatment measures. (1 credit each course)

» This is not a rotation, but a guided practice module on campus with FT faculty
AUD 719 and 729 Clinical Module III-IV

This two-course sequence is designed to provide students with opportunities to review and practice clinical procedures covered in previous and concurrent applied courses. Hands on practice experiences are provided in a laboratory environment under faculty supervision and mentorship with a focus on the integration of diagnostic and treatment measures. (1 credit each course)
Intended Benefit

» Clinical modules were added to be able to sequence specific hands-on skills and clinical integration of procedures recently taught
  » For example, student may have just learned about tinnitus and they are not engaging in tinnitus evaluation and treatment out in their clinics so they start to forget some of the info and skills

» Goal is to reinforce the prior classroom and laboratory learning, to provide repetition of practice on skills and integration of information to enhance skill, speed, confidence and clinical decision-making
» Details still being designed

» Planning to use combinations of students testing each other, role playing, testing volunteers and students from other programs, computer based simulations, standardized patients if appropriate, clinical case presentations
Providing repetition with the equipment over time (after the class and lab have ended) to increase speed and confidence before or while the student is also doing these things in the clinic.

Perhaps basic case hx, audio and immittance in first module; then adding in OAE, ECochG and ABR in second module; and then adding in HA HIT measures, programming and troubleshooting in next; etc...

Student can practice a procedure and can be given data to analyze which is not necessarily the normal data acquired, so they get some hands on repetition, but interpretation and report writing with more interesting data.
Keeping up the skills on some things not seen often in the clinic but still tested in comprehensive exams and sought out in 4th year placements since we educate students as a generalist with knowledge and skill in many areas.

Currently considering how to work this in with faculty load and # of students in each class.
Likely adding 1 credit of teaching to each faculty with the 4 modules being added over Fall and Winter quarters

1 or 2 faculty to teach one clinical module with 6-7 students in lab at a time for 2.5 hours every other week (Students alternate weeks so they can get more guidance and mentoring and access to equipment – won’t work with 12 to 13 students in the labs at one time)
Regarding Simulations

» I recently conducted a focus group with 4\textsuperscript{th} year students
  » Need to be engaging and somewhat realistic
  » Need a variety of cases with complete data
  » Summary of responses: “Good for basics, helped with masking, solidifying some concepts, some animations seemed silly, would not want too much of it”

» More options and better simulations would be beneficial
More...

» Mannequins
» Computer and mannequin
» Few options currently for audiology
  » Intelligent Hearing Systems ABR-OAE Simulator
  » Anatomically accurate ear model would be nice

» Commonly used in other health professional education
  » Medicine
  » Dentistry
  » Optometry
What about a Case Presentation Model of Education?
Using Cases

» Case/Clinical Presentation Model a version of PBL

» Teri Hamill at Nova Southeastern is currently working on materials for web-based case based learning for audiology students

» Andros: an audiogram interpretation beta software

» Some texts with cases

» [http://www.audstudent.com/andros.htm](http://www.audstudent.com/andros.htm)
University of Calgary Medical School modified its curriculum in the mid 1990s to what is called a ‘Clinical Presentation’ curriculum.

“This innovative model, which has now been adopted by over 15 other medical schools worldwide, aims to organize teaching around the 120+/- 5 ways a patient can present to a physician. These clinical presentations can take the form of historical points (e.g. chest pain), physical examination signs (e.g. hypertension), or laboratory abnormalities (e.g. elevated serum lipids). This structure thus takes the over 3200 diagnostic entities known in medicine, and organizes them within the framework of the finite (120+/-5) ways patients present to their physicians.”
Faculty members help develop the curriculum

“Faculty members were asked to develop their course objectives in a logical and structured fashion. What spontaneously emanated from the minds of these skilled teachers were classification systems, unique to each clinical presentation, that have subsequently been called ‘schemes’. These schemes provide scaffolding onto which basic and clinical sciences knowledge can be both structured and integrated, while also aiding in clinical problem solving.”
“The Clinical Presentation curriculum teaches the basic science and clinical knowledge pertinent to each clinical presentation and provides an approach to the solution of the clinical problems.”
School of Osteopathic Medicine in Arizona (SOMA)

» Clinical Presentation Model as an integrated educational approach

» Students on campus for 1 year and then in community health centers for remaining years with clinical preceptor faculty

» 125 clinical presentations developed into schemes

  » Teaching students how to logically organize their critical thinking

» First class graduated in 2011 with 100+ students
» Looking at how the schemes were developed and used in the D.O. school

» Looking at more case presentation model ideas for audiology
  » A great deal of hands-on skills need to be taught in the early part of the Au.D. program
    » Test equipment, test protocols, technology related to patient management
    » Perhaps CPM could be used in later clinical years and even on-line with 4\textsuperscript{th} year students to reinforce big picture integration (interpretation, overall case management, counseling)
A few extra thoughts...
REGARDING THE DOE STATE AUTHORIZATION RULE:
FYI

DOE state authorization regulations in Section 600.9 of the Oct. 29, 2010, final program integrity rule:

Section 600.9(c) of the new state authorization regulation requires institutions offering distance education programs to: (1) meet any state requirements necessary to be legally offering postsecondary distance education in that state, and (2) upon request, document to the secretary the state’s approval.

http://www.acenet.edu/AM/Template.cfm?Section=Home&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=40122
In response to the regulations, several organizations have collected information about the relevant regulations in each state. The WICHE Cooperative for Educational Technologies (WCET) along with other organizations has created a directory of state regulations, which is available on their website, [http://wcet.wiche.edu/advance/state-approval](http://wcet.wiche.edu/advance/state-approval) along with a lot of additional information about this issue.