

## **2005-2006 :: B.S. in Speech-Language Pathology and Audiology**

### **1. Mission Statement:**

The mission of the Program in Speech-Language Pathology and Audiology is to provide students with foundation knowledge in the speech, language, and hearing sciences, and in the disorders of communication. It is also the mission of the program to assist students to discover their clinical potential through introductory opportunities observing and participating in clinical practice. The program prepares students for entry to graduate professional programs in speech-language pathology or audiology, or for licensure as a speech-language pathology assistant.

### **2. Objectives:**

#### **2.1 Speech and Language Foundations:**

Students will demonstrate foundation knowledge in speech, language, and hearing sciences and disorders.

**2.1.1 Related General Education Outcome Item(s):** 4. Natural Science; 9. Social & Behavioral Science

**2.1.2 Related Strategic Plan Item(s):** V-1 Life Science Health Collaborations

**2.1.3 Student Related Objective:** Yes - This is a student related objective.

#### **2.2 Assessment and Intervention:**

Students will demonstrate foundation knowledge and beginning level skills for culturally sensitive assessment and intervention of communication disorders.

**2.2.1 Related General Education Outcome Item(s):** 9. Social & Behavioral Science

**2.2.2 Related Strategic Plan Item(s):** V-1 Life Science Health Collaborations

**2.2.3 Student Related Objective:** Yes - This is a student related objective.

#### **2.3 Foundation in Clinical Practice:**

Students will demonstrate foundation knowledge and beginning level skills in clinical practice: develop appropriate intervention plans with measurable and achievable goals that meet client needs, implement intervention plans, select appropriate materials, measure and evaluate client's performance and progress, modify intervention plans as appropriate, complete administrative and reporting functions.

**2.3.1 Related General Education Outcome Item(s):** 9. Social & Behavioral Science

**2.3.2 Related Strategic Plan Item(s):** V-1 Life Science Health Collaborations

**2.3.3 Student Related Objective:** Yes - This is a student related objective.

#### **2.4 Foundation in Ethical Practice:**

Students will demonstrate foundation knowledge regarding the ASHA Code of Ethics and principles of ethical practice and apply that knowledge to clinical practice.

**2.4.1 Related General Education Outcome Item(s):** 9. Social & Behavioral Science

**2.4.2 Related Strategic Plan Item(s):** V-1 Life Science Health Collaborations

**2.4.3 Student Related Objective:** Yes - This is a student related objective.

### **3. Measures & Findings:**

**3.1 Embedded multiple-choice benchmark item-sets :** Embedded multiple-choice benchmark item-sets (SPAU 3303, 3341, 3344)

**3.1.1 Success Criteria:** 75% of students score above 75%.

**3.1.2 Related Objective(s):** Speech and Language Foundations

**3.1.3 Results Related To Success Criteria:**

Criterion generally met across courses: SPAU 3301 75%, 3341 77%, 3344 72%. Instructors identified patterns of strengths and weakness within their courses and will determine ways to enhance instruction in weaker areas. The measure and criterion level appear appropriate.

**3.1.4 Achievement Level:** Partially Met

**3.1.5 Further Action:** Yes

**3.2 Items on senior exit survey :** Items on senior exit survey asking how successfully SPAU meets it's goals

**3.2.1 Success Criteria:**

At least 80% of students report the program is successful or very successful in meeting its learning objectives.

**3.2.2 Related Objective(s):** Speech and Language Foundations

**3.2.3 Results Related To Success Criteria:** Data will be collected at the end of the Spring `07 semester and aggregated with Fall data. Not a sufficient number of December graduates to warrant analysis.

**3.2.4 Further Action:** No

**3.3 Paper assignment evaluated with rubric :** Paper assignment evaluated with rubric (SPAU 3343)

**3.3.1 Success Criteria:** 75% of students score above 75% on scoring rubrics.

**3.3.2 Related Objective(s):** Assessment and Intervention

**3.3.3 Results Related To Success Criteria:** Findings indicate that 82.5% of the students met criterion.

**3.3.4 Achievement Level:** Met

**3.3.5 Further Action:** No

**3.4 Writing exercise evaluated with rubric:** Writing exercise evaluated with rubric (SPAU 3340)

**3.4.1 Success Criteria:** 75% of students score above 75% on scoring rubrics.

**3.4.2 Related Objective(s):** Assessment and Intervention

**3.4.3 Results Related To Success Criteria:**

Course not offered in the fall `06 semester. Data will be collected in the spring `07 semester.

**3.4.4 Further Action:** No

**3.5 Writing exercise evaluated with rubric:** Writing exercise evaluated with rubric (SPAU 3340)

**3.5.1 Success Criteria:** 75% of students score above 75% on scoring rubrics.

**3.5.2 Related Objective(s):** Assessment and Intervention

**3.5.3 Results Related To Success Criteria:**

Course not offered in the Fall `06 semester. Data will be collected in the Spring `07 semester.

**3.5.4 Further Action:** No

**3.6 senior exit survey :** Items on senior exit survey asking how successfully SPAU meets it's goals

**3.6.1 Success Criteria:**

At least 80% of students report the program is successful or very successful at meeting its goals

**3.6.2 Related Objective(s):** Assessment and Intervention

**3.6.3 Results Related To Success Criteria:** Data will be collected at the end of the Spring `07 semester and aggregated with Fall data. Not a sufficient number of December graduates to warrant analysis.

**3.6.4 Further Action:** No

**3.7 Embedded multiple-choice benchmark item-sets :** Embedded multiple-choice benchmark item-sets (SPAU 3301, 4308)

**3.7.1 Success Criteria:** 75% of students score above 75%.

**3.7.2 Related Objective(s):** Foundation in Clinical Practice

**3.7.3 Results Related To Success Criteria:** In SPAU 3301 criterion met at 84%. SPAU 4308 not offered in fall semester.

**3.7.4 Achievement Level:** Met

**3.7.5 Further Action:** No

**3.8 Senior Exit Survey:** Items on senior exit survey asking how successfully SPAU meets it's goals

**3.8.1 Success Criteria:**

At least 80% of students report the program is successful or very successful at meeting its goals.

**3.8.2 Related Objective(s):** Foundation in Clinical Practice

**3.8.3 Results Related To Success Criteria:** Data will be collected at the end of the Spring `07 semester and aggregated with Fall data. Not a sufficient number of December graduates to warrant analysis.

**3.8.4 Further Action:** No

**3.9 Embedded multiple-choice benchmark item-sets :** Embedded multiple-choice benchmark item-sets (SPAU 3301)

**3.9.1 Success Criteria:** 75% of students score above 75%.

**3.9.2 Related Objective(s):** Foundation in Ethical Practice

**3.9.3 Results Related To Success Criteria:** 84% of the students met criterion on this measure.

**3.9.4 Achievement Level:** Met

**3.9.5 Further Action:** No

**3.10 Senior Exit Survey:** Items on senior exit survey asking how successfully SPAU meets it's goals

**3.10.1 Success Criteria:**

At least 80% of students report the program is successful or very successful in meeting its goals

**3.10.2 Related Objective(s):** Foundation in Ethical Practice

**3.10.3 Results Related To Success Criteria:** Data will be collected at the end of the Spring `07 semester and aggregated with Fall data. Not a sufficient number of December graduates to warrant analysis.

**3.10.4 Further Action:** No

## 5. Closing the Loop:

### 5.1 Additional Assessment Measures:

Objectives 3 and 4 have only two types of measures which do not provide sufficient direct measurements to adequately evaluate student learning. A measure derived from SPAU 3390 Clinical Practicum would provide useful information regarding student knowledge as demonstrated in supervised clinical practice. Specific data extracted from supervisor evaluations and the students' written reports may be useful. Clinical faculty will work together to identify valid means of assessing student learning through documents gathered in conjunction with clinical practicum.

**5.1.1 Related Objective(s):** Foundation in Clinical Practice; Foundation in Ethical Practice

**5.1.2 Responsible Person:** Clinical Faculty

**5.1.3 Target Date:** January 2007

**5.1.4 Priority:** Low Priority

**5.2 Address areas of weakness in Individual courses:** Each of the instructors identified specific content areas within their courses in which student performance was below criterion. Instructors will examine how those content areas were presented and make adjustments as required so that criterion performance will be achieved.

**5.2.1 Related Objective(s):**

Speech and Language Foundations; Assessment and Intervention; Foundation in Clinical Practice; Foundation in Ethical Practice

**5.2.2 Related Measure(s):** Embedded multiple-choice benchmark item-sets

**5.2.3 Responsible Person:** Individual course instructors

**5.2.4 Target Date:** Sp `07 or whenever the course is next scheduled

**5.2.5 Priority:** Medium Priority

## 6. Analysis:

### 6.1 Program/Unit Strengths:

**6.1.1 Objectives/Outcomes Exceeded or Met:** The assessment findings showed that the students in the program achieved or exceeded criterion in each learning goal. This suggests that our ongoing system of program improvement has been effective. Embedded questions on examinations indicate an acceptable level of student learning.

The program has lacked a systematic approach student learning. The development of clearer learning goals has improved the program focus. We see this as particularly important because it is typical for instructors to change across semesters and for multiple sections of a given course to be taught by different instructors. Making instructors aware of program goals and expectations has improved the quality of instruction and made it more consistent.

### 6.2 Program / Unit Weaknesses:

**6.2.1 Objectives / Outcomes Partially or Not Met:** This is our initial cycle of using a systematic approach to assessment of student attainment of learning goals. Our initial approach included somewhat arbitrary criteria for learning success and our measures lacked validation. We will continue to modify and expand our measures and develop more effective triangulation approaches to help us validate our assessments.

## 7. Report:

### 7.1 Executive Summary:

The B.S. program in Speech-Language Pathology and Audiology has dual functions. It provides the foundation coursework, especially in the basic communication sciences for students planning to enter graduate school in speech-language pathology or audiology and it prepares graduates seeking the bachelor's as a terminal degree and who plan to seek employment as a speech-language pathology assistant. The program has grown in recent years, but now appears to have stabilized at about 125. The program's Fast-Track which allows the top students to enroll in 12 hours of graduate coursework in their senior year has been very effective in routing excellent undergraduates in to the UTD masters program in Communication Disorders.

Most students in the program are community college transfer students who enter in their junior year and many are part-time, but about 25% are 4-year, full-time students many of whom have entered UTD on scholarship. In addition, several of the program's classes are part of the University Core curriculum or required or elective in another major. Finally, a subset of courses form a prerequisite cluster for students admitted to the graduate programs in Communication Disorders or Audiology who are entering from out-of-field or are seeking to learn if speech-language pathology or audiology is an appropriate career choice. Thus, the classes contain a mix of transfer and 4-year undergraduate students, out-of-field graduate students, and non-majors. Formulating learning goals and assessment measures appropriate for the diversity of constituents served was initially daunting. Furthermore, the program has not previously undergone systematic assessment.

In the past year, the faculty established program learning goals and developed a mechanism for assessing student learning, and determined that students met criterion across learning goals. Faculty review of the assessment results has given the faculty confidence that despite the previous lack of an ongoing assessment program, the students were acquiring the knowledge expected. The measures used in the first round of assessments were mainly based on classroom performance on examinations (embedded multiple choice questions and essays evaluated with a rubric.) The faculty has decided that in the future, data should be collected on the students' performance in clinical practicum. This includes evaluating written treatment and progress reports using rubrics, but also supervisor evaluation of clinical performance using measurement criteria based on the student learning goals. This will allow for greater focus on the program's major in the assessment because only majors are permitted to participate in practicum. In addition, we will make use of the ongoing exit questionnaire required of students graduating from the program to evaluate both satisfaction and student perceptions of strengths and weakness in their knowledge as they prepare to enter graduate school or the workforce.

### **7.2 Top 3 Program/Unit Accomplishments:** New Faculty hires-The past two years has seen significant additions to our family:

Dr. John Hart – Cognitive Neuroscience  
 Dr. Tom Campbell – Speech Pathology, Director Callier Center  
 Dr. Christine Dollaghan – Speech Pathology  
 Dr. Christa McIntyre –Neuroscience  
 Dr. Mandy Maguire – Language Development  
 Dr. Shayla Holub – Social Development  
 Dr. Candice Mills – Social Development  
 Dr. Daniel Krawczyk – Cognitive Neuroscience  
 Dr. Bart Rypma – Cognitive Neuroscience  
 Dr. Deborah Wiebe – Medical Psychology

Significance of hires - These hires, in various ways, advanced several important School and Institutional objectives:

- 1) develop the joint brain-imaging Center with UT Southwestern and UT Arlington (Hart, Krawczyk, Maguire, Rypma)
- 2) develop the Center for BrainHealth (Hart, Krawczyk, Maguire, McIntyre, Mills, Rypma)
- 3) develop strong new leadership and programs at the Callier Center (Campbell, Dollaghan, Maguire)
- 4) strengthen faculty range for proposed Center for Children and Families (Campbell, Dollaghan, Holub, Maguire, Mills)

### **7.3 Research Activities or Publications:**

The School conducts research both within and across its three subsuming divisions: Psychological Sciences, Communication Sciences and Cognition and Neuroscience. Additionally School faculty conduct collaborative projects with institutions around the country, most notably UT Southwestern Medical Center, but also such institutions as Johns Hopkins, University of California at San Francisco, University of Wisconsin, Baylor Medical Center, University of Dijon, and University of Hamburg among numerous others. Collaborative projects with industry provide a small but growing part of the School's research programs, particularly in the area of bioengineering. During 2006 research on cochlear implants, hearing aids, neural stimulation and neural interfaces for prostheses were conducted. School faculty generated approximately 100 scholarly articles, over 100 presentations at national conferences, 20 chapters in edited volumes and 10 books. Faculty were featured speakers at several national or university meetings. The School also hosts its own speaker series to enhance the scholarly life of its programs. The central vehicle for this is the School's colloquium series which hosted 6 nationally prominent

speakers during 2006. The Callier Center's Bruton Conference also brings prominent speakers to campus, as well as providing outreach to the community. Similarly the Center for Brain Health's "The Brain: An owner's Guide" disseminates current research information to the lay public.

### Grants

<b>PI</b>	<b>Funding Agency</b>	<b>Title</b>	<b>Total Award</b>
Assmann	NSF	Perception of Frequency-Shafted Speech	223,418
Atzori	NIH/NIDCD	Acetylcholine and Dopamine Modulation in Auditory Cortex	1,223,284
Bharadwaj	NIH	Speech Production in Children with Cochlear Implants	200,310
Buckley	NIH	Cross-modal Plasticity in Pre-Lingually Deaf Children	83,490
Chapman	Baylor	Neurobehavioral Outcome of Head Injury in Children	396,968
Chapman	Baylor	Neurobehavioral Outcome of Head Injury in Children	45,587
Chapman	NIH	Genetic Factors in Outcome from Traumatic Brain	87,627
Dodd	DEPT OF ED	Projects FAMILY 2001+: Facilitating and Mentoring Interdisciplinary Learning for the Years 2001+	1,206,914
Geers/Tobey	NIH/NIDCD	Long-term Outcomes of Cochlear Implantation in Early Childhood (Shannon Award)	100,000
Golden/Perwaiz	NSF	Doctoral Dissertation Research: Statistical Models of Hypertext Comprehension	10,560

Holub	Timberlawn Foundation	The Role of Parents' Restrictive Feeding Practices and General Parenting Style in Children's Eating	27,357.00
Jerger, S.	NIH	Auditory Processing in Hearing Impaired Children	1,783,366
Katz, W.	Veteran's Affairs	Treatment of Apraxia of Speech Following Stroke	77,000
Kilgard	JAMES S MCDONNELL	Brain Plasticity and Neuro-Rehabilitation	446,000
Kilgard	NIH	Cortical Plasticity and Processing of Speech Sounds	224,250
Kilgard	NIH Supplement	Cortical Plasticity and Processing of Speech Sounds	41,711
King/Hart	UNCF Merck Foundation	Quantification of Cortical Atrophy by Fractal Dimension	85,000
Lomber	NIH	Cerebral Organization Following Cochlear Implant	224,250
Lomber	NIH	Dev of fMRI Compatible Reversible Deactivation	380,290
Lomber	NSF	Cerebral Control of Aurally-Mediated Behavior	451,179
Lomber	NSF supplement	Cerebral Control of Aurally-Mediated Behavior	10,000
Malhotra	NIH	Cerebral Control of Sound Localization	31,069
Moore	UTSWMCD	Personality Theories and Dynamics	23,500
O'Toole	ONR	Evaluating Face and Person Recognition Algorithms with Human Benchmarks	325,545
O'Toole	ONR	Face recognition performance: Humans vs Machines	175,000
Olness	NIH/NIDCD	Narratives in African Americans & Caucasians with Aphasia	202,500
Owen	Child Care Group	Relationship-Centered Child Care & Children's Dev	82,012
Owen	Timberlawn	Relationship-Centered Child Care	37,165
Owen	NIH/NICHHD	Study of Early Child Care and Youth	42,500
Roeser	CALLIER FN	Service, Training and Research for Cochlear Implant Children	795,898
Stillman	OHSU	Validation of Evidence-Based Assessment Strategies to Promote Achievement in Children who are Deaf-Blind	190,000
Thompson	RBC Life Sciences	Nootropic Effects of Microhydrin and Microhydrin-Plus in Aging	101,132
Tobey	UT AUSTIN	Motor Control of Serial Organization of Speech	138,041
Tobey	JOHN HOPKINS U	Lang Outcomes in Pediatric Cochlear Implantation	1,531,219
Tobey	MED EI CORP	SPECT rCBF in Adult Cochlear Implant Users	12,000
Underwood	NIH	Social Aggression: Precursors and Outcomes	1,470,400
Underwood	NIH	Social Aggression: Origins, Development and Outcomes	597,320

**7.4 Instructional/Training Activities (presented or received):** Number of students who graduated (by level and total)

21 in December 2006

Number of students in each degree program

131 majors

Number of new majors

41 in Fall 2006

Grants related to teaching

None

Major curricular changes

None

New programs or certificates

None

Updates or additions to classroom technology

Program primarily uses classrooms at Callier-Richardson which was recently opened. All classrooms have up-to-date technology

Teaching collaborations (internal and external)

None

Retention efforts and documented success(es)

The program does not have a specific initiative related to retention.

Service learning or community-based learning courses

Students may enroll in an Internship which provides opportunities for participation in community-based facilities and projects.

Student engagement initiatives and activities

The undergraduate chapter of the National Speech-Language-Hearing Association is active in community service and schedules speakers on topics of general interest to speech-language pathology and audiology students.

Faculty development activities

All faculty are provide travel funds for attendance at professional meeting.

Teaching recognition awards

None

Student achievement awards

The Deans award is provided each semester to the SPAU student demonstrating the highest level of academic achievement.

### 7.5 Public Service:

The School of Behavioral and Brain Sciences provides very extensive community service through numerous service programs of its Callier Center and Center for Brain Health, as well as collaborative efforts of various faculty. The Callier Center offered over 25 different clinical service programs generating over 40,000 patient contacts during 2006. Examples are its programs with such clinical populations as hearing impaired individuals across the age spectrum, language disorders, speech problems and autistic spectrum disorders. Similarly the Center for Brain Health offers service programs in Alzheimer's disease and Brain-injury in children. The School has extensive programs with numerous school districts providing educational programs for all hearing-impaired preschoolers in the Dallas Independent School District and audiological consultation with the Plano School District. Individual faculty in our neuroscience programs have also provided seminars for Plano and Richardson Schools in the area of brain research. The Center for Brain Health hosts an annual public lecture series on aspects of brain research and the Callier Center offered two Bruton Conferences in 2006 primarily for professionals in the field of communication disorders. Callier audiologists also participated in outreach programs for hearing assessments in Panama and Mozambique.

### 7.6 Other External Activities:

The School has a number of international collaborations both via its academic programs and through clinical initiatives. During 2006 visiting scholars came from the Czech Republic, Mexico, Germany, France and Britain to engage in collaborative research programs. We have agreements in place for exchange with the University of Dijon, University of Hamburg, University of Chile, University of Montpellier and the University of Guanajuato. Faculty from the School were invited speakers at numerous international conferences and were Scholars-in-Residence at Dijon, Prague, Oxford and Tokyo. Clinical initiatives through the Callier Center took place in Mozambique and Panama. Ross Roeser is Editor of the International Journal of Audiology.

### 7.7 Contributions to UTD:

The faculty in the School of Behavioral and Brain Sciences are unusually broad in the scope of their interests, subject populations studied, level of analysis employed in their work and the methodologies utilized. The diversity of these endeavors, coupled with the geographic proximity of two of the School's facilities to Southwestern Medical Center, has made the School a natural collaborator with other units of the University, the Medical School, as well as other institutions around the country. Examples of these efforts include investigations on developing new hearing technologies, combining efforts of surgeons, hearing, language and speech researchers and electrical engineers; developing new prostheses, engaging neuroscientists, computer science and electrical engineering faculty and neurosurgeons, and investigations on long-term consequences of pediatric brain injury, joining cognitive neuroscientists, pediatricians and virtual world engineers. In addition to these research partnerships, the School provides extensive direct service to the community through its various clinical programs. This community

involvement has resulted in significant levels of philanthropic support for the School's programs.

### **7.8 Top 3 Program / Unit Challenges:**

The major challenge to the Speech-Language Pathology and Audiology program is its location on the Richardson campus 40 minutes removed from the offices and labs of most of the instructional faculty. For students, this means that they have fewer drop-in opportunities with faculty and are less likely to become involved in faculty research. For faculty, it means that they are not as well connected to the students. There is no immediate solution to this problem. Efforts to hold some undergraduate classes at Callier-Dallas usually meet with resistance from students who do not wish to have the inconvenience of a commute to the Callier-Dallas campus. The diversity of backgrounds of the students, especially in science and math, makes keeping all of the students in a class fully engaged is a continuing challenge. The structure and requirements of the program are best tuned to full-time students. Part-time students trying to fit courses within their work schedules often take courses out of sequence and do not fully benefit from the progression of learning built into the program.