



## Executive Summary 2022

### Summary:

Our strategic plan for 2017-2022 focused on increasing our research efforts, translating research evidence into practice, enhancing experiences for our students, and expanding doctoral training in our disciplines. SECD's Strategic Plan represents a collective approach to serve people with special needs through research, teaching, and service/outreach. The following is an executive summary of the progress made by the SLP and AUD programs in the 2021-2022 time frame.

### Background:

#### Mission, Vision, Values

The mission of the Department of Special Education and Communication Disorders is to enhance the lives of individuals with special needs, their families, schools, and communities.

Our vision is that individuals with special needs will:

1. Achieve maximum potential for learning.
2. Communicate autonomously.
3. Enjoy optimum health and well-being throughout the lifespan.

The Department values:

**Collaboration** – We work together across multiple disciplines and scientific fields in order to find answers to big questions and solve difficult and complex problems.

**Collegiality** – Our interactions with others are respectful, polite, and professional. Each member's contributions is valued.

**Creativity/Innovation** – We strive to answer big questions and solve difficult problems to advance the department's professions of practice and deal with complex issues facing individuals with special needs or disabilities, their families, schools, and communities.

**Dedication** – We are passionate about and dedicated to the mission of the department and college, focused on success in advancing knowledge, training leaders, and serving our clients, their families, and our communities.

**Diversity** – Our faculty represent diverse expertise in research, teaching, and outreach encompassing professions of practice in special education, speech-language pathology, and audiology.

**Integrity** – We carry out our mission and strive for our goals with the highest level of integrity.

**Respect** – We respect diverse people, viewpoints, ideas, and perspectives.

### Process:

The department holds monthly department faculty/staff meetings, monthly program meetings, and an annual department-wide retreat. Programs may choose to also hold a mini retreat annually. At one or more of these meetings, the faculty and staff discuss institution and department/program goals, review the strategic plan, and modify accordingly. Annually, the department chair presents the strategic plan to college leadership (dean, associate deans, assistant dean) along with a report on activities and progress on goals. College leadership provides written feedback to the department on an annual or biannual basis. Every seven years, the department's programs undergo Academic Program Review (APR) where a team of external site visitors review a report prepared by the department, interview faculty, staff, and students, and provide written recommendations for program development. The department utilizes the APR recommendations in updating its strategic plan. The Department is due for an APR review in Fall 2023.

The department chair utilizes the strategic plan in formulating a hiring plan, advocating for resources, shaping policies, and allocating resources. Program faculty consider the strategic plan in reviewing and modifying curriculum and designing program activities and practicum experiences.

## **Results and Conclusions:**

The strategic initiatives of the Department of Special Education and Communication Disorders as they relate to the SLP and AuD programs fall into two initiatives. The summary for Fall 21, Spring 22, and Summer 22 are summarized below:

### **Initiative #1: Develop interdisciplinary research and training in the biological, behavioral, and technological aspects of communication and learning (CEHS Spires – Innovative Inquiry, Early Childhood, Global Engagement).**

- **Interdisciplinary training**
  - Since 2020 the speech-language pathology (SLP) program joined with the special education (SPED) program to offer Augmentative and Alternative Communication (AAC) to all SLP master's students and all undergraduate SPED majors. This program continues to update and expanded to meet student needs.
    - Variable credit course
    - Undergraduate and graduate option
    - Hands-on lab experience
  - 2019 Mid-Plains Professional Upgrade Partnership - Interdisciplinary Preparation in Deaf Education and Speech-Language Pathology (MPUP-IP). The last cohort for this grant was accepted in Fall 2022. (Anne Thomas – Special Education & Kristy Weissling – Speech-Language Pathology)
  - 2022 Mid-Plains Professional Upgrade Partnership - Interdisciplinary Preparation in Speech-Language Pathology, Audiology, and Deaf Education (MPUP-SPADE). This grant provides funding to master's students in Special Education (Teacher of the Deaf program), master's students in Speech-Language Pathology, and students in Clinical Doctorate in Audiology. (Anne Thomas – Special Education, Kristy Weissling – Speech-Language Pathology, Marc Brennan – Audiology)
    - Both grants expand the department's interdisciplinary training in behavioral and technological aspects of communication and learning.
  - Our students have the opportunity to receive training in research-related activities. In 2021-2022, the communication sciences and disorders faculty engaged undergraduates in research opportunities including 10 Undergraduate Creative Activities and Research Experiences (UCARE). Faculty continued to expand the number of students engaged in thesis and research other than thesis projects for a total of more than 10 projects.
    - These activities advance our initiative to develop training in research.
- **Interdisciplinary research**
  - Interdisciplinary research in the biological, behavioral, and technological aspects of communication and learning are supported by many of our faculty working across departments. Our work includes:
    - This work is supported by the following technological infrastructure:
      - **Functional Near Infrared Spectroscopy (fNIRS) Laboratory**, Rm B74 [300 ft<sup>2</sup>], NIRx brain spectroscopy system (Barkley Trust funded), ADI physiological monitoring system. Steven Barlow & Yingying Wang, principal investigators and laboratory directors.
      - **GALILEO and pTACS Somatosensory stimulus arrays** compatible with all functional neuroimaging modalities. Rm C76B [100ft<sup>2</sup>]. Steven Barlow, principal investigator/inventor.
      - **Taste Delivery System**, Rm C78 [100ft<sup>2</sup>]. Includes PowerLab, five Harvard Apparatus Modular pumps, and all necessary connectors/tubing to be MR-compatible. The system is portable on a cart approximately 2x3x3 feet. Angela Dietsch, principal investigator.
  - The department has a long-standing relationship with the Center for Brain, Biology and Behavior (CB3), which is housed at the University of Nebraska's football stadium and engages a unique relationship

- between athletics and research. It also brings together faculty in a highly multidisciplinary environment. Many of our faculty have joint appointments at this center. <https://cb3.unl.edu/>
- The Augmentative and Alternative Communication Translation (AACT) Lab under the direction of Dr. Pitt conducts interdisciplinary work with students and/or faculty in psychology, electrical engineering, and neuroscience to advance brain-computer interface (BCI) applications for communication with children and those with minimal or emerging literacy skills. This work has focused on evaluating the feasibility of incorporating scenes and pictorial symbol motion into BCI displays.
  - The Sensory Integration for Swallowing and Communication (SISC) lab under the direction of Dr. Dietsch examines the relationship between taste, swallowing physiology, and brain activity with the long-term goal of developing new rehabilitative strategies for dysphagia. The research involves collaboration between faculty in the SECD and psychology departments.
  - The Amplification and Perception Lab (AMPLab) under the direction of Dr. Brennan has developed a funded research collaboration with Dr. Carney (biomedical engineering and neuroscience) examining the role of minimal hearing loss on the perception of envelope cues.
  - The Cochlear Implant Research Lab under the direction of Dr. Hughes and the Concussion and Vestibular Evaluation Lab under the direction of Dr. Rodriguez developed a collaboration with the University of Nebraska Medical Center examining the role of illicit drug use on hearing and vestibular function.
  - A project centering on gender affirmation services (GAS) under the direction of Dr. Dietsch involves collaboration between faculty, clinical personnel, and students in SECD and the psychology department. The project researchers conducted focus groups with transgender and gender diverse people as well as clinical providers of GAS across disciplines (SLP, psychology, otolaryngology, social work), created training modules for students, supported those students as they provided clinical services in conjunction with graduate psychology students, and collected data about the acceptability and feasibility of a new intervention protocol.
  - A research study assessing the efficacy of the revised SLP graduate curriculum is analyzing student engagement and outcomes prior to and after the shift to an integrated pedagogy modeled after programs in nursing, medicine, physical therapy, and occupational therapy. Data include pre- and post-course surveys, focus groups with students, and a host of variables from classroom and clinic activities.
  - The department, college and university continue to work to assure that software is available to faculty and students. A current list is provided here: <https://itprocurement.unl.edu/software-catalog>
  - New renovations to our facility which are slated to be completed in Spring of 2023.
    - The new 13,542 ft<sup>2</sup> addition (2019-2023) on the east side of the existing BKC building and a portion of the existing first floor of BKC features new, state-of-the art research laboratories to support a wide range of extramural projects in speech motor physiology, somatosensory physiology, biomechanics, sensorimotor development and plasticity, augmentative and alternative communication BCI technology, neuroimaging and advanced data analytics for language-literacy-learning based on MRI, fNIRS, and EEG records, and an expanded motor speech clinical research laboratory instrumented for speech/voice acoustics, speech aerodynamics, orofacial and limb biomechanics, tactile assessment, and wireless electromyography.
  - The AuD, SLP, and affiliate faculty and have published 42 articles in 2022.

**Initiative #2: Strengthen academic-clinical partnerships to bring research from bench to practice (and practice to bench) and enhance clinical training opportunities. (CEHS Spires – 21st Century Teaching and Learning, Early Childhood, and Global Engagement).**

- The new 13,542 ft<sup>2</sup> addition (2019-2023) on the east side of the existing BKC building is home to the new ADA-compliant Barkley Speech Language and Hearing Clinic with an inviting patient reception/waiting room. This clinic area features 20 secured speech-language diagnostic/treatment suites instrumented with a networked digital audio-visual recording system, a dedicated smart room-life skills suite, gross motor suite, conference and observation rooms to monitor therapeutics, and a HIPAA-approved medical records review facility for graduate students and faculty.
- The Barkley Speech Language and Hearing Clinic offers specialty clinics in memory, Parkinson’s Disease (**SPEAK OUT!**<sup>®</sup> & **The LOUD Crowd**<sup>®</sup>), and adults with intellectual differences. The Barkley Speech Language and Hearing Clinic has a robust clinical population. The SLP clinic has a large client base serving adults and children with autism, a variety of individuals with augmentative and alternative communication (AAC) needs, and young children with speech and language delays. The audiology clinic provides hearing assessment, vestibular assessment, hearing aid fittings, and provides a variety of hearing screenings in the community. The audiology clinic provides services from birth through adulthood. Graduate students provide services within the Barkley Clinic in the initial stages of the both the SLP and AUD program under the direction of our ASHA-certified speech-language pathologists and audiologists.
- The department continues to have strong and extensive clinical partnerships, which allow us to provide students with a variety of externship experiences.
  - Our partnerships include contractual relationships with private practices, hospitals, intensive rehabilitation facilities, long-term care hospitals, skilled nursing facilities, and clinics.
  - Our relationships with local school districts are strong and students are placed in several districts in the state.
  - We are actively working to gain CEU status and have a plan to have this completed by 2024.
- The clinic continues to explore partnerships with community agencies and has 3 additional partnerships in the planning stages.

**Recommendations:**

- Department faculty will engage in department-level APR evaluation fall of 2023
- Faculty in the SLP and AUD programs are currently engaged in strategic planning and developing benchmarks for the next two-year period.