

Virgil Orr Junior Faculty Award 2020  
**Dr. Laura Bostick, College of Education**  
Assistant Professor, Department of Curriculum, Instruction, and Leadership  
Associate Director, UTeachTech Program

I am truly honored to be nominated by the College of Education for the Virgil Orr Junior Faculty Award. I admire and respect the people with whom I work very much, so being recognized by them in this way means a great deal to me.

**I. Beliefs regarding teaching, research, and service as they apply to the University's mission**

I think a short description of my past can help me to convey what I believe and how those values align to the overall mission of the University. Neither before nor during my time at Louisiana Tech have I had a conventional academic career. Before entering the education field, I spent 17 years as a biomedical engineer at NASA's Johnson Space Center. While at NASA, I staffed the Mission Control Center during Space Shuttle flights; trained astronauts and cosmonauts; and designed, built, and certified medical and life sciences hardware that flew on the Space Shuttle, the Russian Mir Space Station, and the International Space Station.

My interest in education started in 2002, when my daughter, now in high school, was born blind. I realized I would need to prepare myself to navigate the special needs portion of the educational system, so I completed a master's program in special education. Then, while still at NASA, I founded the Texas chapter of the National Organization of Parents of Blind Children, later serving as president of the national organization. Through my work with these organizations, I met many people in the education field, and after leaving NASA, in 2011, I was given the opportunity to come to Louisiana Tech to coordinate the curriculum and student support for the College of Education's Teaching Blind Students program in the Institute on Blindness. I earned both my graduate certificate in teaching students with visual impairments and my doctorate in educational leadership while working at the Institute on Blindness. Upon completing my doctorate in 2016, I was hired as Acting Assistant Professor by the Department of Curriculum, Instruction, and Leadership to teach special education full time, replacing a faculty member who had left unexpectedly.

In the summer of 2017, I began my dream job: Associate Director of the UTeachTech program, a teacher preparation program through which Science Technology, Engineering and Math (STEM) majors can earn a minor in secondary education and certification to teach high school along with their content degree. This position allows me to combine my STEM background and the project design and management skills I learned at NASA with the teaching, research, and service I have come to love while working at the University.

**In my time at Louisiana Tech, I have worked in several different areas, but there is a constant theme and goal throughout all aspects of my work: I want to find ways to better serve ALL students, especially those traditionally underrepresented in higher education.** From the first class I taught in 2013 to our recent success in securing a \$1.2M NSF grant to foster computer science education in north Louisiana, my work on each course, each research study, each grant proposal, and each committee is aimed at multiplying the effect of the efforts of myself and my colleagues to achieve that goal. **This is a high goal, but I believe I am achieving it step by step – designing and building programs that will evolve, I hope, into systemic change and greater accessibility in teacher education.**

**Beliefs concerning the importance of Teaching:**

**I believe our students must be our number one priority.** To that end, I seek to deliver instruction that is inspiring and clear, yet rigorous. I design and differentiate course content, materials, and delivery not only to reach all my students, but also to model for them how they can one day reach their own diverse students. The majority of my teaching has been in an online or hybrid format, and although I prefer face-to-face classes, I do appreciate that the online format serves students who might not be able to attend traditional classes. **Every time I teach a course, I revise it, striving to make it more personal, meaningful, applicable, and accessible.** I listen to my students, because I believe learning starts with relationships. I am especially proud of the feedback I have received from students, including:

*"I think this course is possibly the best online course I have ever taken."*

*"I think Dr. Bostick is doing an AMAZING job! It is really hard to learn SPED strictly on a computer, but she is making it happen."*

*"[Dr. Bostick] is the most organized, approachable professor I have had for an online class. I did go meet with her once face-to-face and I could tell she really had a passion for SPED."*

**Beliefs concerning the importance of Research:**

Research is the engine of educational innovation. In teaching and preparing our students to teach, we must be open to research that demonstrates the effectiveness of tested instructional practices. **As part of the faculty at Louisiana Tech, a Tier One National University, I have an obligation to add to the research base of my field, and on a personal level, that requirement fits with my goal of improving how we better serve all students.**

My position became tenure-track just this year; however, long before that, I began working with a colleague in Kinesiology on various research projects involving motor skills in children who are blind/visually impaired. This research is the basis of my publications to date. My research interests stretch beyond adaptive physical education to include other sources of educational equity: early intervention for young children with disabilities, braille literacy, recruiting and retaining underrepresented groups in STEM education, and STEM accessibility.

**As Principal Investigator, I was thrilled to learn in March that NSF will be funding our \$1.2M Robert Noyce Teacher Scholarship Program grant proposal to foster computer science education in north Louisiana.** For this project, CyberTeach-LA, an interdisciplinary project team from the College of Education and College of Engineering and Science is partnering with high-need local education agencies and the National Integrated Cyber Education Research Center (NICERC), to recruit, prepare, and retain 20 STEM teachers highly trained in computer science principles to teach in high-need north Louisiana schools. A key element of our proposal is the development of a new computer science education pathway at Louisiana Tech, with a focus on increasing participation of underrepresented groups. Currently only 16% of Louisiana public high schools teach computer science, and 70% of instructors of those courses are not certified in that content area. The project will provide generous scholarships to 20 Louisiana Tech students to become teachers in high-need schools. On average, a teacher affects 3,000 children over the course of his or her career, so our 20 CyberTeach-LA Noyce Scholars could potentially give 60,000 diverse students in Louisiana communities access to professional computer science education. The grant program includes planned research to evaluate program elements, resulting number of graduates, and subsequent effectiveness of graduates. This research will add to the relatively new knowledge base of computer science education in two specific contexts: (1) effective and accessible computer science education in diverse and rural areas and (2) successful recruitment, preparation, and retention practices of computer science teachers among "Generation Z."

**Beliefs concerning the importance of Service:**

Service to the University and community is perhaps most effective when tied closely to the educational mission of the University. I have been heavily involved with organizations of the blind for over 15 years, holding leadership positions including serving as president of two state and one national organization for parents of blind children. In this capacity, I have written articles, given speeches, planned conventions, developed projects, and served as a mentor at workshops and other activities to improve the education of children who are blind/visually impaired. **I incorporate my passion for educating diverse groups of students into the work I do for the University: the courses I teach, the committees on which I serve, the program I manage, the research I do, the grant funding I seek, and the outreach projects in which I participate.**

One such outreach project was the Touchdown Touch Tour for Students with Visual Impairments I co-created with my colleagues in COE and LA Tech Athletics. People who are blind/visually impaired use touch instead of sight to learn concepts, and this tour allowed them to experience the size, shape, and texture of all things football: from cleats to shoulder pads, and from kicking tees to goalposts. Parents and Louisiana Tech faculty and staff who observed the students learned how best to teach them – something they can use in the future.

I also co-developed and presented a workshop for College of Education faculty concerning the applicable laws, best practices, and resources available for serving students with disabilities in higher education. The feedback from the post-workshop survey indicated that after the presentation, the faculty felt much more prepared to have students with disabilities in their classes.

## II. Courses taught and overall teacher evaluation ratings

My first position at Louisiana Tech University was as Coordinator of Curriculum and Student Support for the Institute on Blindness inside the College of Education. I redesigned and taught four courses during my time at the Institute. Although I taught the courses, the Professor of Record was my supervisor, Dr. Edward Bell, so I received no teaching evaluations.

- EDCI 581: Visually Impaired Child in the PK-12 Classroom (taught 2 quarters)
- EDCI 582: Educational & Functional Implications of Low Vision & Blindness (taught 2 quarters plus 1 quarter as an overload after leaving the Institute on Blindness in 2016\*)
- EDCI 579: Developmental Aspects of Blindness, Assessment & Evaluation (taught 3 quarters)
- EDCI 584: Orientation & Mobility for Teachers of Blind Students (taught 4 quarters)

In the Fall of 2016, I was hired as an Acting Assistant Professor in the Department of Curriculum, Instruction, and Leadership. During that academic year I was fully immersed in teaching special education courses. Once again, redesigning and adapting the content was a key component of my work, and I added rigor to the online offerings. I also co-created the plan of study and coursework for the College of Education's new one-year cohort Master of Arts in Teaching program, and I then taught in that program.

Courses Taught as Acting Assistant Professor			
Quarter	Course #	Course Name	Rating
Fall 16	EDCI 484	Collaboration & Teaming for Inclusion – (2 sections) –	3.1
	EDCI 482	Strategies & Procedures for Serving Young Children with Special Needs	2.9
	EDCI 582	Educational & Functional Implications of Low Vision & Blindness	N/A*
Winter 17	SPED 485	Evaluating Diverse Learners (cross-listed as SPED 565)	3.8
	EDCI 482	Strategies & Procedures for Serving Young Children with Special Needs	3.6
	EDCI 403	Materials & Methods for Teaching Reading in the Content Area	3.8
	EDCI 437	Reading/Language Arts Methods	4.0
Spring 17	SPED 484	Collaboration & Teaming for Inclusion	3.8
	SPED 472	Transitional & Vocational Procedures	3.2
	SPED 588	Educational Strategies & Methods for Students in Diverse Settings	4.0

In the Summer of 2017, I became the Associate Director of the UTeachTech program. Building, managing, and sustaining the program is the primary focus of the position, so my teaching load was reduced to 9 credit hours per academic year. The expectation is that I will ultimately teach courses in the UTeachTech program, but at this time, I am the only faculty member in the department credentialed to teach special education, so my load is made up of SPED courses. Special education is a passion of mine, so I appreciate the opportunity to keep a hand in it.

Courses Taught as Associate Director of the UTeachTech Program			
Quarter	Course #	Course Name	Rating
Winter 18	SPED 484	Collaboration & Teaming for Inclusion	3.8
Spring 18	SPED 472	Transitional & Vocational Procedures	3.5
	SPED 588	Educ Strategies & Methods for Students in Diverse Settings – (2 sections) –	3.5
Smr 18	SPED 484	Collaboration & Teaming for Inclusion	N/A
Fall 18	EDCI 301	Knowing & Learning (STEM)	3.5
Winter 19	SPED 484	Collaboration & Teaming for Inclusion	3.7
Spring 19	SPED 482	Strategies & Procedures for Serving Young Children with Special Needs	3.6
	SPED 484	Collaboration & Teaming for Inclusion	3.6
Fall 2019	SPED 484	Collaboration & Teaming for Inclusion	3.6
Winter 20	SPED 484	Collaboration & Teaming for Inclusion	4.0
Spring 20	SPED 472	Transitional & Vocational Procedures	TBD

**I find that grounding myself in teaching, even though my other duties limit the number of courses, keeps me focused on the needs of my students, and ultimately their students.** I prioritize continual improvement in all courses I teach, and I am proud of my gains, which are most apparent in the improvement in my average instructor ratings each year (see table) and the student comments I have received (see below). Some course improvements I have implemented include adapting course content for an online setting, making the Moodle site easy to navigate (Quality Matters design), providing multiple means of representation, expression, and engagement (universal design principles), and ensuring accessibility. I gather qualitative student feedback each quarter, in addition to the official University evaluation, and I make changes based on the feedback, including: offering optional face-to-face meetings for my 100% online courses and extending office hours to accommodate students who work or are in clinical residencies at K-12 schools during the day.

Year	Avg. Instructor Rating (All Courses)
2016/2017	3.4
2017/2018	3.5
2018/2019	3.6
2019/2020 (F, W)	3.8

#### Select Student Comments:

*"I learned so much in SPED 484 and felt so heard. I felt as though Dr. Bostick really wanted us to learn the information and was willing to do almost anything to teach it to us."*

*"Professor Bostick's 482 class was the most influential SPED class I have had and the class that I have certainly learned the most in. ... She was extremely supportive of us and we felt we could tell her anything that we were nervous about and she worked to relieve some of the stress for us in a way that not only helped us, but did not lessen the actual content we were to learn or give us an easy way out."*

*"I love how part of the course really addressed our attitudes in our relationships with special education students, their families, and teachers/administrators/others involved in a student's special education. I felt that the workload was definitely manageable, and I felt like I really grew in comfort in this course--comfort in instructing special education students."*

I am also acting as the special education program steward and the course steward for all 11 SPED courses taught in the department. In this capacity, I train and mentor all our SPED adjuncts, and I have extensively redesigned courses to align the content with the new Louisiana Teacher Preparation Competencies.

### **III. Selected list of publications, grants, and similar activities**

#### **Publications:**

- Brian, A., **Bostick, L.**, Starrett, A., Klavina, A., Miedema, S. T., Pennell, A., Stribing, A., Gilbert, E., & Lieberman, L. J. (2020). The effects of ecologically valid intervention strategies on the locomotor skills of children with visual impairments. *Adapted Physical Activity Quarterly*, 37(2), 177-192. <https://doi.org/10.1123/apaq.2019-0019>
- Brian, A., Haegele, J. A., Nesbitt, D., Lieberman, L., **Bostick, L.**, Taunton, S., & Stodden, D. F. (2018). A Pilot investigation of the perceived motor competence of children with visual impairments and those who are sighted. *Journal of Visual Impairments and Blindness*, 112(1), 118-124.
- Brian, A., **Bostick, L.**, Taunton, S., & Pennell, A. (2017). Construct validity and reliability for the Test of Perceived Motor Competence for Children with Visual Impairments. *British Journal of Visual Impairment*, 35(2), 113-119.
- Brian, A., Haegele, J. A., Lieberman, L., & **Bostick, L.** (2016). The content and face validity for the Test of Perceived Motor Competence for children with visual impairments: A Delphi investigation. *British Journal of Visual Impairments*, 34(3), 238-247.
- Brian, A., Haegele, J. A., & **Bostick, L.** (2016). Perceived motor competence of children with visual impairments: A pilot study. *British Journal of Visual Impairment*, 34(2), 151-155.
- Brian, A., Haegele, J., & **Bostick, L.** (2016). Perceived motor competence of children with visual impairments [abstract]. *Research Quarterly for Exercise and Sport*, 87(supplement 2), A29.
- Bostick, L.** (2014). Working with blind/visually impaired students: Strategies for classroom teachers. *READ: Reading, Exploration and Discovery*, 33(1), 85-87.

### **Grants Awarded:**

Principal Investigator, NSF Robert Noyce Teacher Scholarship Program Grant: *Creating Infrastructure for Computer Science Education in Rural North Louisiana*. **Funded \$1.2M** (July 2020-June 2025)

Co-Principal Investigator, NSF Inclusion Across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (NSF INCLUDES) Planning Grant: *Project ACCESS: Accessible Cyber Content Expanded through State Synergies* (subcontract with Cyber Innovation Center). **Funded \$100K** (July 2020-June 2021)

Program Manager, Board of Regents Louisiana Systemic Initiatives Program (LaSIP) Grant: *Making Makerspaces Work for Early Childhood Education*. **Funded \$285K** (July 2017-September 2018)

### **Grants Submitted/Pending:**

Co-Principal Investigator (Louisiana Tech), NSF Louis Stokes Alliances for Minority Participation (LSAMP) Grant: *Louis Stokes Louisiana Alliance for Minority Participation 2020-2025* (LS-LAMP) [A Louis Stokes Science, Technology, Engineering, and Mathematics (STEM) Pathways and Research Alliance between 14 public and private educational institutions]. Requested \$165K – Submitted November 2019

## **IV. Selected list of community/service activities**

### **Professional Service:**

- Peer Reviewer – *Journal of Blindness Innovation & Research*
- Peer Reviewer – *British Journal of Visual Impairments*
- Quality Matters (QM) Certified Peer Reviewer
- Louisiana Unified English Braille State Implementation Team

### **University Service:**

- Co-Creator – Touchdown Touch Tour for Students with Visual Impairments (COE and LA Tech Athletics)
- Education Panel Presenter – Third Annual Let Us Dream I-20 Community Conference

### **College of Education Service:**

- Co-Coordinator – NASA Educator Resource Center (ERC)
- Co-Developer/Presenter – Accessibility in Higher Education Workshop
- Science Olympiad International Volunteer
- Regional Science Fair Volunteer
- Search and Advisory Committee Member for CIL Department Chair Selection
- COE Impact Strategic Planning Team Member
- COE Committee on Diversity
- COE Innovative Learning Group

### **Department of Curriculum, Instruction, and Leadership Service:**

- Acting SPED Program Steward and Course Steward [SPED 400/502, SPED 440/544, SPED 472(G), SPED 473/588, SPED 482(G), SPED 484(G), SPED 485/565, SPED 488/588]
- Advisory Council (A-Team) Member
- Curriculum Committee Member
- Field & Clinical Experiences Committee Member
- Deans for Impact Common Indicator System (CIS) Team Member
- Dissertation Advising Committee Member for 4 students – 1 graduated; 3 in process
- Competency Alignment Working Group Member
- Deans for Impact/LDOE Impact Collaborative Team Member
- Science Continuous Improvement Group Member
- CAEP Accreditation Staff; CAEP Standards 4 & 5 Committee

### **Community Service:**

- National Federation of the Blind of Louisiana (NFBL) Volunteer/Board Member
- Consultant, *National Center for Blind Youth in Science* (NSF Grant #1322855, Award: \$1.5M)
- Louisiana Center for the Blind (LCB) Volunteer
- Presented on educating students with special needs at over 10 workshops/conventions