Matthew S. Taylor

Vita-At-A-Glance

- Assistant Professor, Special Education, The College of New Jersey (2019-present).
- **Post Doctoral Scholar**, **Mathematics and STEM Education** (2017-2019). University of Central Florida, Orlando FL.
- CADRE Fellowship (2018-Present). National Science Foundation, DRK-12.
- Ph.D. Exceptional Education (2017). University of Central Florida, Orlando, FL.
- 21 peer-reviewed manuscripts published or under review since 2015.

ACADEMIC BACKGROUND

Post Doctorate	University of Central Florida, Orlando, FL
2017-2019	STEM Education
Ph.D.	University of Central Florida, Orlando, FL
2017	Education: Exceptional Student Education Track
M.Ed.	Salem State University, Salem, MA
2010	Education: Reading Specialist K-12
B.S. 2006	Gordon College, Wenham, MA Early Childhood Education PreK-2 nd Grade (Students with and without disabilities) Psychology

PROFESSIONAL EXPERIENCE

2019- present	Assistant Professor, Special Education (Assistive and Education Technology)
	The College of New Jersey, Ewing, NJ.	

2017-2019 **Post Doctoral Scholar, STEM Education, NASA, Nemours Children Hospital**Drs. Sarah Bush & Megan Nickels, College of Community Innovation and Education UCF/Nemours PedsAcademy, Orlando, FL.

2016-2017 Graduate Research Associate, STEM Education

Dr. Megan Nickels, College of Community Innovation and Education University of Central Florida, Orlando, FL.

2016-2016 **Summer Policy Internship** Drs. Renee Bradley & Larry Wexler Office of Special Education Programs and Rehabilitation Services, Washington, D.C. 2014-2017 **Graduate Research Associate, Project LEAD** Dr. Lisa Dieker, College of Community Innovation and Education University of Central Florida, Orlando, FL. 2014-2019 Co-Administrator, iCanLearn Program Down Syndrome Foundation of Florida, Orlando, FL. 2014-2017 Graduate Research Associate, TLE TeachLivETM University of Central Florida, Orlando, FL. 2006-2014 Teacher, John H. Duval Elementary School Whitman-Hanson Regional School District, Whitman, MA. General Education Classroom Teacher, Kindergarten Full Day (Inclusion) 2011-2014 Special Education Teacher, Cognitively Delayed Classroom (Kindergartensecond grade)

Professional Certifications

2006-2011

2005-present Massachusetts Department of Education	
_	Professional License Early Childhood Education PreK-2 nd Grade (Students with
	and without disabilities)

2015-present Advanced Distributed Learning for Technology-Mediated Course Delivery (ADL5000)

ADL5000 addresses the important pedagogical, logistical, and technological

issues involved in designing and delivering effective online courses.

SELECTED HONORS AND AWARDS

2018	Community for Advancing Discovery Research in Education (CADRE). National
	Science Foundation, DRK-12
2018	University of Central Florida Outstanding Dissertation Award, University of
	Central Florida
2017	STEM Satellites Post-Doctoral Scholar, NASA, University of Central Florida
2016	TED CEC Poster Presentation, Best Quantitative Study
2016	CEC Poster Presentation, Best Quantitative Study
2014	Project LEAD Scholar, University of Central Florida

RESEARCH AND SCHOLARLY ACTIVITY

RESEARCH FOCUS

My research focuses on the integration of children with disabilities (specifically intellectual disabilities) and science, technology, engineering, and mathematics (STEM) curriculum, particularly computer programming and robotics, as well as interdisciplinary education practices with related services personnel.

Publications

Peer Reviewed-Published or Accepted

- * denotes written with graduate student
- 18. Lohmann, M. J., Kappel, A., & **Taylor, M. S.** (accepted 2021). Augmentative and alternative communication & remote learning. *Rural Special Education Quarterly*.
- 17. Lottero-Purdue, P., Figueroa, M., Mikeska, J., & **Taylor, M. S.** (accepted 2021). Preservice teachers' noticing about discussions to support students revising their design ideas. *American Society of Engineering Educators Conference Proceedings*.
- 16. Lottero-Purdue, P., Figueroa, M., Mikeska, J., & **Taylor, M. S.** (accepted 2021). Preservice teachers noticing about students' written design performance and improvement ideas. *American Society of Engineering Educators Conference Proceedings*.
- 15. Towson, J., **Taylor, M. S.**, Abarca, D. L., Paul, C., & Ezekiel-Wilder, F. (2020). Virtual simulation and coaching to improve the interprofessional communication skills of speech-language pathology graduate students. *Perspectives of the ASHA Special Interests Groups*, 6 (1), 80-100. https://doi.org/10.1044/2020 PERSP-20-00098
- 14. **Taylor, M. S.**, Lohmann, M. J., & Kappel, A. (2020). Using assistive technology to support science instruction in the inclusive elementary classroom. *Journal of Special Education Technology*. https://doi.org/10.1177/0162643420947826

- 12. *Simpson, H., Bush, S., Nickels, M., & **Taylor, M. S.** (2020). The role of high stakes testing on teaching science in the elementary grades. *Dimensions*.
- 11. *Doyle, H., Bush, S. B., Nickels, M., & **Taylor, M. S.** (2020). Implementing Number Talks: The journey of a 5th grade teacher. *Dimensions in Mathematics*, 40 (1).
- 10. *Kelley, T., Nickels, M., Bush, S., **Taylor, M. S.**, & Cullen, C. J. (2019). Robotics in mathematics: Three perimeter tasks. *The Elementary STEM Journal*, *23*(3). Retrieved from https://www.iteea.org/Publications/Journals/ESCJournal/ESJ-March2019.aspx
- 9. *Cole, A. L., Nickels, M., **Taylor, M. S.**, & Bush, S. B. (2019). Tigers and bears: An exploration in Scratch. *The Elementary STEM Journal*, *24*(2). Retrieved from https://www.iteea.org/Publications/Journals/ESCJournal/ESJDec19.aspx
- 8. Nickels, M., Bush, S., Karp, K., *Fralish, B., **Taylor, M. S.**, Bush, S., & Karp, J. (2018). Computer programming: Algorithm for mathematics exploration! *The Elementary STEM Journal*, 23(2). Retrieved from https://www.iteea.org/Publications/Journals/ESCJournal/ESJ-December2018.aspx
- 7. *Abarca, D. L., Towson, J. A., Ehren, B., & **Taylor, M. S.** (2018). Young minds, young readers: Dialogic reading with adolescent mothers and their children. *International Public Health Journal*, 10(4), 455-467.
- 6. Delisio, L., Bukaty. C., & **Taylor, M. S**. (2018). Effects of a graphic organizer intervention package on the mathematics word problem solving abilities of students with autism spectrum disorders. *Journal of Special Education Apprenticeship*, 7(22), 1-22. Retrieved from: https://eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=EJ1185372
- 5. **Taylor, M. S.** (2018). Computer Programming with Prek-1st grade students with intellectual disabilities. *Journal of Special Education*, *52*(2), 78-88. https://doi.org/10.1177/0022466918761120
- 4. Towson, J. A., **Taylor, M. S.**, Tucker, J., Donehower, C., Pabian, P., & Zraick, R. I. (2018). Impact of virtual simulation on the interprofessional communication skills of speech-language pathology students: A pilot study. *Teaching and Learning in Communication Sciences & Disorders*, 2(2), 1-24. Retrieved from https://ir.library.illinoisstate.edu/tlcsd/vol2/iss2/2
- 3. **Taylor, M. S.**, Dieker, L., & Delisio, L. (2018). Exhibiting what is learned: Using exhibition assignments and universal design for learning in college teaching. *Innovative Practice in Higher Education*, *3*(2), 32-47. Retrieved from: http://journals.staffs.ac.uk/index.php/ipihe/article/view/130
- 2. **Taylor, M. S.**, Vasquez, E., & Donehower, C. (2017). Computer programming with early elementary students with Down syndrome. *Journal of Special Education Technology* 32(3), 149–159. https://doi.org/10.1177/0162643417704439

1. **Taylor, M. S.**, Tucker, J., Donehower, C., Pabian, P., Dieker, L. A., Hynes, M. C., & Hughes, C. (2016). Impact of virtual simulation on the interprofessional communication skills of physical therapy students: A pilot study. *Journal of Physical Therapy Education*, 31(3), 81-90. http://dx.doi.org.ezproxy.net.ucf.edu/10.1097/00001416-201731030-00015

Peer Reviewed- Submitted

- * denotes written with graduate student
- 2. Paul, C. D., **Taylor, M. S.**, Vasquez, E., Dieker, L. A., Hynes, M. C., & Hughes, C. (submitted 2021). A peer-avatar-mediated social skills intervention for adolescents with autism spectrum disorder: A case study. *Journal of Developmental and Physical Disabilities*.
- 1. Paul, C. D., **Taylor, M. S.**, Vasquez, E., Dieker, L. A., Hynes, M. C., & Hughes, C. (submitted 2021). A peer-avatar-mediated social skills intervention for adolescents with autism spectrum disorder: A pilot study. *Journal of Autism and Developmental Disabilities*.

Manuscripts in Preparation

- 2. Kappel, A., **Taylor, M. S.**, & Lohmann, M. J. (2021). Graphic organizers as low-tech assistive technology tool for mathematics word problems in the early elementary inclusive classroom. *Mathematics Teacher Learning and Teaching PK-12*.
- 1. **Taylor, M. S.**, Ezekiel-Wilder, F., Abassian, A. (2021). Constructionist vs. explicit instruction: How do young students learn to code? *Computer Science Education*.

Invited Non-Peer Reviewed

- 3. Nickels, M., Dieker, L., Vasquez, E., & **Taylor, M. S.** (2016). *Tips for teaching computer science to students with special needs*. Retrieved from https://blog.makewonder.com/tips-for-teaching-computer-science-to-students-with-special-needs-b447fe7e3ae5#.tv2fsrm46
- 2. **Taylor, M. S.**, Stone, S., Dieker, L., & Straub, C. (2014). *Microcredential: Co-planning*. Digital Promise. Retrieved from https://bloomboard.com/microcredential/view/916b2d80-0c4c-459b-ae99-ccf7f81da4c7
- 1. Stone, S., **Taylor, M. S.**, Straub, C., & Dieker, L. *Microcredential: Using the 4:1 technique to decrease off-task behavior*. (2014). Digital Promise. Retrieved from https://bloomboard.com/microcredential/view/6376e5ae-8c35-4eb4-85cb-8a57b92e4612

Dissertation

Title Computer Programming with Early Elementary Students with and

without Intellectual Disabilities

Abstract In this study, a group of early elementary students with intellectual

disabilities (ID) and a group of students without ID were taught to program a robot to move in a square through explicit instruction and

generalize their learning using the iPad application, Blockly.

Award University of Central Florida Outstanding Dissertation Award

Committee Members Drs. Lisa A. Dieker (chair), Eleazar Vasquez, Rebecca Hines, Megan

Nickels

GRANTS AND OTHER FUNDED PROJECTS

Funded Projects

- 4. **Taylor, M. S.** & Anthony, H. (2020). AACTE Video Observation Technology Implementation Grant. American Association of Colleges for Teacher Education and Edthena, \$25,000 funded.
- 3. Wilkins, I., & Hawkins-Scott, K. (2020). (**Taylor, M. S.-** Co-lead of grant writing team, consulting robotics expert). PROJECT RAISE: Robots and Artificial Intelligence to Improve Social Skills for Elementary Students, (*CFDA 84.327S*), U.S. Department of Education, \$2 million funded.
- 2. Nickels, M. (2017). (**Co-PI Taylor, M. S.**). CREATE and the Urban Robotics Project: Elizabeth Morse Genius Foundation. \$100,000 funded.
- 1. Dieker, L. A., Hynes, M., Straub, C., Stone, S., & **Taylor, M. S.** (2015). Micro-credentialing Project. Charles and Lynn Schusterman Family Foundation, \$5,000 funded.

Submitted Projects

1. Madden, L., **Taylor, M. S.**, & Zrada, M. (2021). Building Capacity for K-8 Sustainable STEM Teacher Leaders in New Jersey, (*NSF Noyce Teacher Scholarship Program Track 3 21-578*), National Science Foundation, \$75,000. (submitted).

Other Grant Activity

- 2. **Taylor, M. S.**, & Figueroa, M. (2020). STEM BASE-C (<u>Background And Structures in Early Childhood</u>), (*NSF IUSE 19601*), National Science Foundation, \$300,000. Not funded.
- 1. Hines, R., & Dieker, L (2018). (**Taylor, M. S.** Member of Grant Team). Preparing Scholars to Lead Inclusion and Transition, (*CFDA 84.325D*), U.S. Department of Education, \$1.25 million funded.

PRESENTATIONS

National

*Denotes Awards

- 15. **Taylor, M. S.,** & Glavey, M. (November 2021). *Project RAISE: Elementary Students with Autism Learning Social Emotional Learning through Robotics and Avatars*. Council for Exceptional Children, Teacher Education Division, Fort Worth, TX.
- 14. **Taylor, M. S.**, Lohmann, M., & Kappel, A. (March 2021). *Using assistive technology in the inclusive elementary classroom*. Council for Exceptional Children, Online Conference.
- 13. **Taylor, M. S.**, & Nickels, M. (November 2019). *PedsAcademy: Broadening horizons for children with chronic illness*. Council for Exceptional Children, Teacher Educator Division, New Orleans, LA.
- 12. **Taylor, M. S.** (November 2018). *The STEM of the matter: Access for all.* Council for Exceptional Children, Teacher Education Division, Las Vegas, NV.
- 11. **Taylor, M. S.**, & Towson, J. (May 2018). *The impact of virtual simulation & coaching on the interprofessional communication skills of speech-language pathology students*. 6th Annual TLE TeachLivE Conference, Orlando, FL.
- 10. Dieker, L. A., **Taylor, M. S.**, & Rinaldi, C. (2018). *Program chair featured: Getting to the STEM of co-teaching*. Council for Exceptional Children, Invited Session, Tampa, FL.
- 9. **Taylor, M. S.** (November 2017). Computer programming with early elementary students with intellectual disabilities. Council for Exceptional Children, Teacher Education Division, Savannah, GA.
- 8. Hynes, M., & **Taylor**, **M. S.** (June 2017). *Sharing iPad screens to rehearse instructional conversations with TeachLivE avatars*. 5th Annual TLE TeachLivE Conference, Orlando, FL.
- 7. **Taylor, M. S.**, & Holbrook, J. (November 2016). *Interdisciplinary collaboration: iCan Learn Program elementary students with Down syndrome*. Council for Exceptional Children, Teacher Education Division, Lexington, KY.
- 6. *Taylor, M. S., & Hopkins, R. (November 2016). *Pre-service teacher perceptions working with children with Down syndrome*. Kaleidoscope, Council for Exceptional Children, Teacher Education Division, Lexington, KY.
- 5. Tucker, J., Pabian, P., **Taylor, M. S.**, Donehower, C., & Dieker, L. (October 2016). *Utilizing virtual simulation to develop communication skills of physical therapy students*. Pursuit of Excellence in Physical Therapy Education Conference, Phoenix, AZ.

- 4. Coy, K., Marino, M., & **Taylor**, **M. S.** (April 2016). *Applying UDL in digital learning environments*. Council for Exceptional Education, St. Louis, MO.
- 3. **Taylor, M. S.** (April 2016). A literature review of technology interventions in STEM content areas for secondary and post-secondary students with disabilities. Kaleidoscope, Council for Exceptional Education, St. Louis, MO.
- 2. *Taylor, M. S., & Donehower, C. (April 2016). *Using simulation to improve interprofessional communication skills*. Kaleidoscope, Council for Exceptional Education, St. Louis, MO.
- 1. **Taylor, M. S.**, & Stone, S. (June 2015). *4:1 Microcredential*. 3rd Annual TLE TeachLivE Conference, Orlando, FL.

Regional

- 4. McCotter, S., Petroff, J., & **Taylor, M. S.** (May 2021). Supporting new special education teachers: The pandemic and its impact and beyond. The New Jersey Special Education Annual (NJSEA) Summit. Invited presentation.
- 3. **Taylor, M. S.** (April 2018). *STEM, robotics, & engineering workshop*. UCF Faculty Advocates for Gifted Education (ADAGE), University of Central Florida, Orlando, FL.
- 2. **Taylor, M. S.** & Holbrook, J. (June 2017). *Collaboration in education for students with Down syndrome*. University of Central Florida, Orlando, FL.
- 1. Donehower, C., & **Taylor, M. S.** (February 2016). *Organizing the disorganized child.* Parents United with Leaders, Students, and Educators (PULSE) Conference, Orlando, FL.

Professional Development, Institutes, and Seminars

- 14. **Taylor, M. S.** (May 2021). *An introduction to assistive technology*. Invited presentation. Instructor: Dr. Ruby Owiny. Trinity International University.
- 13. **Taylor, M. S.** (April 2021). *An introduction to assistive technology*. Invited presentation. Instructor: Dr. Kathleen Boothe. Southeastern Oklahoma State University.
- 12. **Taylor, M. S.** (June 2020). *Remote learning and technology*. Invited presentation, the College of Staten Island.
- 11. **Taylor, M. S.** (March, 2020). *Equality and equity in STEM*. TCNJ Best Buddies, Invited Speech, The College of New Jersey, Ewing, NJ.
- 10. **Taylor, M. S.** (November, 2019). *STEM, robots, and the whole crazy thing*. SPE 322-01: Inclusive Practices. Instructor: Dr. Jerry Petroff. The College of New Jersey.

- 9. **Taylor, M. S.** (October 2018). *STEM and early education for students with intellectual disabilities*. [Audio podcast]. Leading Equity, Eakins, S. L. (Producer). Retrieved from https://itunes.apple.com/us/podcast/leading-equity/id1419821427?mt=2 (available January 2019).
- 8. **Taylor, M. S.** (October 2017). *Intellectual disabilities*. EEX 4070: Teaching Exceptional Students. Instructor: Jaime Best. University of Central Florida, Orlando, FL.
- 7. **Taylor, M. S.**, & Mrstik, S. (March 2017). *How do you ESE?* Intern Seminar, University of Central Florida, Orlando, FL.
- 6. **Taylor, M. S.**, & Donehower, C. (September 2016). *Interdisciplinary collaboration:*Education and physical therapy. PHT 7329: Advanced Pediatrics Physical Therapy. Instructor: Dr. Jennifer Tucker. University of Central Florida, Orlando, FL.
- 5. **Taylor, M. S.** (September 2016). *Dash and Dot robots*. Social and Emotional Development of Young Children. EEC 3700. Instructor: Dr. Judith Levin. University of Central Florida, Orlando, FL.
- 4. **Taylor, M. S.**, Ezekiel-Wilder, F., & Becker, J. (September 2016). *Embracing diversity*. Knight Ed Talks, University of Central Florida, Orlando, FL.
- 3. **Taylor, M. S.** (March 2016). *Engaging students in STEM using robots*. UDL and Technology Conference. River Springs Middle School, Volusia County, FL.
- 2. **Taylor, M. S.** (February 2016). *Sounds, letters, and phonology (Pre-K/Level 1)*. Down Syndrome Foundation of Central Florida, University of Central Florida, Orlando, FL.
- 1. **Taylor, M. S.**, & Holbrook, J. (October 2015). *Universal design for learning*. Down Syndrome Foundation of Central Florida, Citrus Club, Orlando, FL.

TEACHING

The College of New Jersey

SPED 695 Fall 2021	Graduate Internship Special Education Supervision of student teachers	Graduate
CCS4 Fall 2021	Computer Literacy 1 Face to Face	Community and Career Services
SPED 597 Fall 2021	Special Topics in Special Education Face to Face	Graduate
SPED 521 Fall 2021	Assistive Technology (Section 01) Face to Face	Graduate
SPED 322 Fall 2021	Inclusive Practices (Sections 01 and 03) Co-taught with Dr. Jerry Petroff, Face to Face	Undergraduate
SPED 521 Summer 2021	Assistive Technology Global Studies Online	Graduate
SPED 521 Summer 2021	Assistive Technology (Section 01) Online	Graduate
SPED 521 Spring 2021	Assistive Technology (Sections 01 and 02) Face to Face/online	Graduate
SPED 521 Fall 2020	Assistive Technology (Section 01) Online	Graduate
SPE 322 Fall 2020	Inclusive Practices (Sections 01 and 03) Co-taught with Dr. Jerry Petroff, online	Undergraduate
SPED 597 Fall 2020	Special Topics in Special Education <i>Online</i>	Graduate
SPED 695 Fall 2020	Undergraduate/Graduate Internship in Special Education/General Education Supervised graduate level interns	Graduate
SPED 521 Summer 2020	Assistive Technology (Section 01) Online	Graduate
SPED 521 Spring 2020	Assistive Technology (Sections 01 and 02) Face to Face/Online	Graduate

SPED 324 Spring 2020	Severe Disabilities (Section 03) Face to Face/Online	Undergraduate
SPED 521 Fall 2019	Assistive Technology (Section 01) Face to Face	Graduate
SPE 322 Fall 2019	Inclusive Practices (Section 03) Face to Face	Undergraduate
SPED 695 Fall 2019	Undergraduate Internship in Special Education/General Education Supervised graduate level interns	Graduate

University of Central Florida

EEX 6342 2019	Critical Issues in Special Education Online	Graduate
MAE 4326 2018	How Children Learn Mathematics Co-taught with Dr. Megan Nickels, Face to Face	Undergraduate
SCE 5836 2018	Space and Physical Science for Educators Co-taught with Dr. Megan Nickels, Face to Face	Graduate
EMR 6235 2018	Nature of Severe or Profound Disabilities: Theory and Educational Practice <i>Online</i>	Graduate
EDG 6329 2018	Quality Teaching Practices Co-taught with Dr. Sarah Bush, Face to Face	Graduate
EEX 6945 2017	Graduate Internship in Exceptional Education Supervised graduate level interns in course work and student teaching internship	Graduate
IDS 1690 2017	Research in Mathematics and Science Education Co-taught with Dr. Megan Nickels in a face-to-face class.	Graduate
EEX 4070 2014	Teaching Exceptional Students Co-taught with Dr. Maria Reyes, Face to Face	Undergraduate
EEX 6342 2014	Critical Issues in Special Education Co-taught with Dr. Lisa Dieker, Face to Face	Graduate

Committee Member Graduate and Undergraduate Theses

Abarca, D. (2018). *Dialogic reading with adolescent mothers*. Undergraduate Thesis, University of Central Florida, College of Health and Public Affairs.

PROFESSIONAL SERVICE

2020-Present Lab Safety Committee

School of Education representative,

The College of New Jersey

2021-Present Equity Audit Committee

Special Education, Language, and Literacy Department

The College of New Jersey

2020-2021 Policies and Procedures Committee

Special Education, Language, and Literacy Department

The College of New Jersey

2020-Present Editorial Board

Journal of Special Education Technology

2019 Search Committee: Associate Director Grant Development

The College of New Jersey

2019 National Science Foundation Grant Reviewer

2019-2020 Curriculum Committee

Special Education, Language, and Literacy Department

The College of New Jersey

2016-Present Publication Reviewer

Journal of Special Education Technology

Journal of Special Education Apprenticeship (Special Issue)

Informatics

2015-Present Council for Exceptional Children, Teacher Education Division

Technology Committee

2016-2019 Council for Exceptional Children, Teacher Education Division

Research Committee Early Career Sig

2015-2019 College and Career Preparation Program

Down Syndrome Foundation of Central Florida, Orlando, FL.

2015 Florida Down Syndrome Conference

Coordinator for adults with Down syndrome sessions, Down Syndrome

Association of Central Florida, Nemours Hospital, Orlando, FL.

2014-2017 Association for Doctoral Students in Exceptional Education

Treasurer (2015-2016)

Member, University of Central Florida, Orlando, FL.

PROFESSIONAL MEMBERSHIPS AND AFFILIATIONS

2015-present Association of Teacher Educators (ATE) 2014-present Council for Exceptional Children (CEC)

Teacher Education Division (TED) Division of Early Childhood (DEC)

Division of Autism and Developmental Disabilities (DADD)