# CURRICULUM VITAE

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**Associate Professor, Anita Zucker Center for Excellence in Early Childhood Studies**
**University of Florida**
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## EDUCATION AND TRAINING

*Graduate*

| | | |
|---|---|---|
| 2012 | University of North Carolina<br>Chapel Hill, NC<br>Department/Discipline: Education | Ph.D. |
| 2004 | University of Amsterdam<br>Amsterdam, the Netherlands<br>Department/Discipline: Social Science | M.A. |

*Undergraduate*

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|---|---|---|
| 2002 | University of Florida<br>Gainesville, FL<br>Department/Discipline: Political Science | B.A. |

## EMPLOYMENT HISTORY

2023-present   Associate Prof; College of Education; affiliate in the Anita Zucker Center for Excellence in Early Childhood Studies
University of Florida

2023-present   Adjunct Researcher Affiliate; Juniper Gardens Children's Project
University of Kansas

2022-2023   Associate Research Prof; Juniper Gardens Children's Project
University of Kansas

2016-2022   Assistant Research Prof; Juniper Gardens Children's Project
University of Kansas

2016-2017   Research Advisor; Dept. of Occupational Therapy Education
University of Kansas

| 2015-2016 | Postdoc Scholar; Dept. of Educational Leadership Studies & Human Development Institute University of Kentucky |
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| 2012-2015 | Postdoc Fellow; Juniper Gardens Children's Project University of Kentucky |
| 2010-2012 | Research Asst; Frank Porter Graham Child Development Institute UNC-Chapel Hill |
| 2011 | READS Specialist Communities in Schools |
| 2010 | Research Asst; Dept. of Speech and Hearing Sciences UNC-Chapel Hill |
| 2009 | Research Asst; Dept. of Speech and Hearing Sciences UNC-Chapel Hill |
| 2008 | Research Asst; Dept. of Early Childhood, Special Ed. and Literacy UNC-Chapel Hill |
| 2007 | Research Asst; Dept. of Early Childhood, Special Ed. and Literacy UNC-Chapel Hill |

## RESEARCH PUBLICATIONS

*Major Publications (Refereed)*

*Note:* **\*** = student or trainee-led papers; **Key for contributions** = <u>**C**</u>, conceptual/idea generation and development; <u>**A**</u>, analytic/methodological; <u>**WP**</u>, writing/Primary first draft generation/direction; <u>**WS**</u> writing/Substantive contribution to writing, edits and revisions

1.  Nowell, S., Steinbrenner, J. R., Wallisch, A., Salley, B., McGovern, J., McGauley, S., Watson, L. R., **Irvin, D.**, Buzhardt, J., & Boyd, B. (2024). Adapting the early communication indicator as a social-communication outcome measure for young autistic children: A pilot study. *American Journal of Speech-Language Pathology, 33*(5), 2610-2617. https://doi.org/10.1044/2024_AJSLP-24-00004 (Contributions = WS)

2.  \*Kothalkar, P. V., Hansen, J. H. L, **Irvin, D.**, & Buzhardt, J. (2024). Child-adult speech diarization in naturalistic conditions of preschool classrooms using room-independent ResNet model and automatic speech recognition-based re-segmentation. *The Journal of the Acoustical Society of America, 155*(2), 1198-1215. https://doi.org/10.1121/10.0024353 (Contributions = C)

3.      Foster, T. J., Justice, L., Villasanti, H. G., **Irvin, D.**, & Messinger, D. (2024). Classroom sensing tools: Revolutionizing classroom-based research in the 21st century. *Topics in Early Childhood Special Education*. Advance online publication. https://doi.org/10.1177/02711214231220800 (Contributions = WS)

4.      Seven, Y., **Irvin, D. W.**, Kothalkar, P. V., Dutta, S., Buzhardt, J. F., Rous, B., & Hansen, J. H. L. (2024). Capturing the quantity and location of adult wh-words in the preschool classroom using a sensing tool system. *Early Childhood Research Quarterly, 66*, 168-177. https://doi.org/10.1016/j.ecresq.2023.10.008 (Contributions = C, WS)

5.      Greenwood, C. R., **Irvin, D. W.**, Schnitz, A. G., & Buzhardt, J. (2023). Children's exposure to STEM instruction in preschool and how they respond to it. *Science Education, 108*(2), 524-545. https://doi.org/10.1002/sce.21846 (Contributions = C, WP)

6.      Walker, D., Buzhardt, J., Jia, F., Schnitz, A., **Irvin, D. W.**, & Greenwood, C. R. (2023). Advances in the technical adequacy of the early Problem-Solving Indicator progress monitoring measure for infants and toddlers. *Topics in Early Childhood Special Education*, 42(4), 289-301. https://doi.org/10.1177/02711214221129237 (Contributions = WS)

7.      Greenwood, C. R., Higgins, S., McKenna, M., Buzhardt, J., Walker, D., Jun, A., **Irvin, D. W.**, & Grasley-Boy, N. (2022). Remote use of *Individual Growth and Development Indicators* (IGDIs) for infants and toddlers. *Journal of Early Intervention, 44*(2), 168-189. https://doi.org/10.1177/10538151211057552 (Contributions = WS)

8.      *Lileikyte, R., **Irvin, D. W.**, & Hansen, J. H. L. (2022). Assessing child communication engagement and statistical speech patterns for American English via speech recognition in naturalistic active learning spaces. *Speech Communication,140*, 98-108. https://doi.org/10.1016/j.specom.2022.01.006 (Contributions = WS)

9.      *Wallisch, A., **Irvin, D.**, Kearns, W. D., Luo, Y., Boyd, B., & Rous, B. (2022). Exploring a novel tool to measure wandering behavior in the early childhood classroom. *OTJR: Occupation, Participation and Health*, 42(2), 137-145. https://doi.org/10.1177/15394492211065705 (Contributions = C, WS)

10.    Buzhardt, J., Wallisch, A., **Irvin, D.**, Boyd, B., Salley, B., & Jia, F. (2022) Exploring growth in expressive communication for infants and toddlers with autism spectrum disorder. *Journal of Early Intervention, 44*(1), 3-22. https://doi.org/10.1177/1053815121995578 (Contributions = C, A, WS)

11.    Greenwood, C. R., Carta, J. J., **Irvin, D. W.**, & Schnitz, A. G. (2021). Advancing children's learning through innovations in the measurement of literacy engagement. *Topics in Early Childhood Special Education*, 41(3), 191-206. https://doi.org/10.1177/02711214211030010 (Contributions = WS)

12. Greenwood, C. R., Carta, J. J., Schnitz, A. G., Higgins, S., Buzhardt, J., Walker, D., Jia, F., & **Irvin, D.** (2021). Progress toward an Early Social Indicator for infants and toddlers. *Journal of Early Intervention, 43*(2), 176-195. http://dx.doi.org/10.1177/1053815120945021 (Contributions = WS)

13. **Irvin, D. W.**, Luo, Y., Huffman, J. M, Grassley-Boy, N., Rous, B., & Hansen, J. (2021). Capturing talk and proximity in the classroom: Advances in measuring features of young children's friendships. *Early Childhood Research Quarterly, 57,* 102-109. https://doi.org/10.1016/j.ecresq.2021.05.003 (Contributions = C, A, WP)

14. Mason, R. A., Gunersel, A. B., **Irvin, D. W.**, Wills, H. P., Gregori, E., An, Z. G., & Ingram, P. B. (2021). From the frontlines: Perceptions of paraeducators' roles and responsibilities. *Teacher Education and Special Education, 44*(2), 97-116. https://doi.org/10.1177/0888406419896627 (Contributions = C, A, WS)

15. Bigelow, K. M., Walker, D., Jia, F., **Irvin, D.**, & Turcotte, A. (2020). Text messaging as an enhancement to home visiting: Building parents' capacity to improve child language-learning environments. *Early Childhood Research Quarterly, 51,* 416-429. https://doi.org/10.1016/j.ecresq.2019.12.010 (Contributions = A, WS)

16. Greenwood, C. R., Schnitz, A. G., Carta, J. J., Wallisch, A., & **Irvin, D. W.** (2020) A systematic review of language intervention research with low-income families: A word gap prevention perspective. *Early Childhood Research Quarterly Special Issue, 50,* 230-245. https://doi.org/10.1016/j.ecresq.2019.04.001 (Contributions = WS)

17. **Irvin, D. W.**, Bigelow, K. M., Turcotte, A., Eastwood-Tallmon, N., & Wallisch, A. (2020). Talk Around Town: A mobile phone application to support parent–child talk in the community. *Families in Society, 101*(1), 21-33. https://doi.org/10.1177/1044389419867008 (Contributions = C, A, WP)

18. Mason, R. A., Wills, H., **Irvin, D.**, Jia, F., & Kamps, D. M. (2020). Ecobehavioral assessment of paraeducator behaviors that support engagement of students with disabilities. *Exceptional Children, 86*(4), 413-429. https://doi.org/10.1177/0014402919893693 (Contributions = C, A, WS)

19. Greenwood, C. R., Carta, J. J., Schnitz, A. G., **Irvin, D. W.**, Jia, F., & Atwater, J. (2019). Filling an information gap in preschool MTSS and RTI decision making. *Exceptional Children, 85*(3), 271-290. https://doi.org/10.1177/0014402918812473 (Contributions = WS)

20. Hansen, J. H., Najafian, M., Lileikyte, R., **Irvin, D.**, & Rous, B. (2019). Speech and language processing for assessing child–adult interaction based on diarization and location. *International Journal of Speech Technology, 22*(3), 697-709. https://doi.org/10.1007/s10772-019-09590-0 (Contributions = WS)

21.    Little, L. M., Rojas, J. P., Bard, A., Luo, Y., **Irvin, D.**, & Rous, B. (2019). Automated measures to understand communication opportunities for young children with autism in the community: A pilot study. *OTJR: Occupation, Participation and Health, 39(2),* 124-130. https://doi.org/10.1177/1539449219834911 (Contributions = C, A, WP)

22.    Greenwood, C. R., Beecher, C., Atwater J., Petersen, S., Schiefelbusch, J., & **Irvin, D.** (2018). An ecobehavioral analysis of child academic engagement: Implications for preschool children not responding to intervention. *Topics in Early Childhood Special Education, 37*(4), 219-233. https://doi.org/10.1177/0271121417741968 (Contributions = WS)

23.    Greenwood, C. R., Schnitz, A. G., **Irvin, D.**, Tsai, S. F., Carta, J., & the Bridging the Word Gap National Research Network (2018). Automated Language Environment Analysis: A research synthesis. *American Journal of Speech-Language Pathology*, *27*(2), 853-867. https://doi.org/10.1044/2017_AJSLP-17-0033 (Contributions = A, WS)

24.    Greenwood, C. R., Walker, D., Buzhardt, J. **Irvin, D.**, Schnitz, A. G., & Jia, F. (2018) Update on the EMI for Infants and Toddlers. *Topics in Early Childhood Special Education, 38*(2), 105-117. https://doi.org/10.1177/0271121418777290 (Contributions = WS)

25.    **Irvin, D. W.**, Bard, A., Wallisch, A., & Little, L. M. (2018). Measuring social communication in the community: Novel tools for advancing family participation. *American Journal of Occupational Therapy, 72*(6), 1-10. https://doi.org/10.5014/ajot.2018.026310 (Contributions = C, A, WP)

26.    **Irvin, D. W.**, Crutchfield, S. A., Greenwood, C. R., Kearns, W. D., & Buzhardt, J. (2018). An automated approach to measuring child movement and location in the early childhood classroom. *Behavior Research Methods, 50*(3), 890-901. https://doi.org/10.3758/s13428-017-0912-8 (Contributions = C, A, WP)

27.    **Irvin, D. W.**, Ingram, P., Huffman, J., Mason, R., & Wills, H. (2018). Exploring paraprofessional and classroom factors affecting teacher supervision. *Research in Developmental Disabilities, 73,* 106-114. https://doi.org/10.1016/j.ridd.2017.12.013 (Contributions = C, A, WP)

28.    **Irvin, D. W.**, Crutchfield, S. A., Greenwood, C. R., Simpson, R. L., Sangwan, A., & Hansen, J. H. L. (2017). Exploring classroom behavioral imaging: Moving closer to effective and data-based early childhood inclusion planning. *Advances in*

*Neurodevelopmental Disorders, 1*(2), 95-104. https://doi.org/10.1007/s41252-017-0014-8 (Contributions = C, A, WP)

29.  Lefever, J. E. B., Bigleow, K. M., Carta, J. J., Borkowshi, J. G., Grandfield, E., McCune, L., **Irvin, D. W.**, & Warren, S. F. (2017). Long-term impact of a cell phone enhanced parenting intervention. *Child Maltreatment, 22*(4), 305-314. https://doi.org/10.1177/1077559517723125 (Contributions = WS)

30.  Sanders, E. J., **Irvin, D. W.**, Belardi, K., McCune, L. Boyd, B. A., & Odom, S. L. (2016). The questions verbal children with autism spectrum disorder encounter in the inclusive preschool classroom. *Autism, 20*(1), 96-105. https://doi.org/10.1177/1362361315569744 (Contributions = C, A, WS)

31.  **Irvin, D. W.**, Boyd, B. A., & Odom, S. L. (2015a). Adult talk in the inclusive classroom and the socially competent behavior of preschoolers with autism spectrum disorder. *Focus on Autism and Other Developmental Disabilities, 30*(3), 131-142. https://doi.org/10.1177/1088357614547890 (Contributions = C, A, WP)

32.  **Irvin, D. W.**, Boyd, B. A., & Odom, S. L. (2015b). Child and setting characteristics affecting the adult talk directed at preschoolers with autism spectrum disorder in the inclusive classroom. *Autism*, *19*(2), 223-234. https://doi.org/10.1177/1362361313517398 (Contributions = C, A, WP)

33.  **Irvin, D. W.**, Hume, K., Boyd, B. A., McBee, M. T., & Odom, S. L. (2013). Child and classroom characteristics associated with the adult language provided to preschoolers with autism spectrum disorder. *Research in Autism Spectrum Disorders, 7*(8)*, 947-955. https://doi.org/10.1016/j.rasd.2013.04.004 (Contributions = C, WP)

34.  Dykstra, J. R., Sabatos-DeVito, M. G., **Irvin, D. W.**, Boyd, B. A., Hume, K. A., & Odom, S. L. (2012). Using the Language Environment Analysis (LENA) system in preschool classrooms with children with autism spectrum disorders. *Autism, 17*(5), 582-594. https://doi.org/10.1177/1362361312446206 (Contributions = C, A, WS)

35.  **Irvin, D. W.**, McBee, M., Boyd, B. A., Hume, K., & Odom, S. L. (2012). Child and family factors associated with the use of services for preschoolers with autism spectrum disorder. *Research in Autism Spectrum Disorders*, *6*(1), 565-572. https://doi.org/10.1016/j.rasd.2011.07.018 (Contributions = C, WP)

## Works Submitted

1.  *Kothalkar, P., Hansen, J. H. L., **Irvin, D. W.**, & Buzhardt, J. (under review). Teacher-student learning based acoustic models for robust speech recognition in naturalistic childhood classroom settings. *Speech Communication.* (Contributions = C)

2.  **Irvin, D. W.**, Rous, B., Luo, Y., Lane, J., Wallisch, A., Rojas, J., Irvin, A. E., Bergstrom, H., & Grassley-Boy, N. (under review). Advances in measuring talk on the early childhood playground. *Topics in Early Childhood Special Education.* *(Contributions = C, A, WP)*

3.  Dutta, S. **Irvin, D. W.**, & Hansen, J. H. L (under review). Exploring discrete speech units for privacy-preserving and efficient speech recognition for school-aged children and early childhood. *International Journal of Human - Computer Studies with the Article Type VSI: Child-Centered AI.* (Contributions = A)

4.  Drye, M., Banarjee, C., Viaggiano, A., Perry, L., **Irvin, D. W.**, & Messinger, D. (under review). Children's social preference for teachers versus peers in ASD inclusion classrooms: An objective perspective. *Autism.*


## Prepping for Submission

1.  Greenwood, C. R., Duran, L., Guerrero, G., **Irvin, D. W.**, & Schnitz, A.G. (in preparation). Do Preschool Teachers Use Dual Language Proficiency to Differentiate Literacy Instruction? *Early Childhood Education Journal*. (Contributions = C, WS)

## Minor Publications – Invited

1.  Little, L. M., Wallisch, A., & **Irvin, D. W.** (2016). Interdisciplinary assessment of social-emotional development for young children with developmental disabilities. *SIS Quarterly Practice Connections, 1*(3), 2-4. (Contributions = C, WS)

## Manuals & Book Chapters

1.  Ai., J., Bigelow, K. M., Eddy, M. M., & **Irvin, D. W.** (in press). Creating and maintaining predictable and responsive schedules and routines. In A. Hunter, M. L. Hemmeter, K. M. Bigelow, & N. M. Horen (Eds.), *Unpacking the infant-toddler pyramid model: A practical guide for teachers and providers*. Brookes Publishing. (Contributions = C, WS)

2.  Bigelow, K. M., **Irvin, D. W.**, Schnitz, A. G., & Carta, J. (in press). Putting it all together : Using data to monitor pyramid model practice implementation and effect. In

A. Hunter, M. L. Hemmeter, K. M. Bigelow, & N. M. Horen (Eds.), *Unpacking the infant-toddler pyramid model: A practical guide for teachers and providers*. Brookes Publishing. (Contributions = C, WS)

3.    Bigelow, K., Carta, J., **Irvin, D. W.**, & Hemmeter, M. L. (2019). *Teaching Pyramid Infant-Toddler Observation Scale (TPITOS)*. Brookes Publishing. (Contributions = C, WS)

4.    **Irvin, D. W.**, Patten, E., & Boyd, B. A. (2014). Service use among young children with autism spectrum disorder. In V. Preedy (Ed.), *The Comprehensive Guide to Autism*. Springer. (Contributions = C, WP)

*Conference Papers*

1.    Dutta, S., Reyna, J., Buzhardt, J., **Irvin, D. W.**, & Hansen, J. H. L. (2022, September). *Can Smartphones be a cost-effective alternative to LENA for Early Childhood Language Intervention?* 2022 Speech for Social Good Workshop. (Contributions = C).

2.    Dutta, S., Tao, S. A., Reyna, J., Hacker, R. E., **Irvin, D. W.**, Buzhardt, J., & Hansen, J. H. L. (2022, September) *Challenges remain in building ASR for spontaneous preschool children speech in naturalistic educational environments.* Proc. Interspeech, 4322-4326. (Contributions = C)

3.    Dutta, S., **Irvin, D. W.**, Buzhardt, J., & Hansen, J. H. L. (2022, July) *Activity focused speech recognition of preschool children in early childhood classrooms.* Proceedings of the 17th Workshop on Innovative Use of NLP for Building Educational Applications, pp. 92-100. 2022. (Contributions = C)

4.    Datla, S., Kothalkar, P., Hansen, J. H. L., **Irvin, D. W.**, & Buzhardt J. (2022, March). *Visualizing child-adult engagement in preschool classrooms using Chord Diagrams.* ASEE-GSW--2022: American Soc. of Engineering Education - Gulf-SouthWest Section Conf., Prairie View, TX, United States. (Contributions = C)

5.    Kothalkar, P., **Irvin, D. W.**, Buzhardt, J., & Hansen, J. H. L. (2022, March). *Improving WH-question word detection in naturalistic audio from preschool classroom using self-attention embeddings.* ASEE-GSW--2022: American Soc. of Engineering Education - Gulf-SouthWest Section Conf., Prairie View, TX, United States. (Contributions = A, C, WS)

6.    Tao, S. A., Dutta, S., Seven, Y., Kothalkar, P., **Irvin, D. W.**, Buzhardt, J., & Hansen J. H. L. (2022, March). *Quantifying engagement in preschool classrooms: Conversational*

*turn-taking & topic initiations*. ASEE-GSW--2022: American Soc. of Engineering Education - Gulf-SouthWest Section Conf., Prairie View, TX, United States. (Contributions = C)

7.   Kothalkar, P., Dutta, S., Seven, Y., **Irvin, D. W.**, Buzhardt, J., & Hansen, J. H. L. (2021, July). *Measuring frequency of child-directed WH-words for alternate preschool locations using speech recognition and location tracking technologies.* ACM ICMI: Workshop on Bridging Social Sciences and AI for Understanding Child Behavior. (Contributions = A, C, WS)

8.   Luo, Y., **Irvin, D. W.**, Buss, N., Gutierrez, A., & Rous. B. (2020, December). *Outdoor Playground Localization system for tracking young children using Ubisense sensor network.* The Third International Workshop on Smart Living with IoT, Cloud, and Edge Computing (SLICE), Delhi, India. (Contributions = A, C, WS)

9.   Lileikyte, R., **Irvin, D. W.**, Hansen, J. H. L. (2020, November). *Assessing child communication engagement via speech recognition in naturalistic active learning spaces.* Odyssey workshop, Shanghai, China. (Contributions = A, WS)

10.  Kothalkar, P., **Irvin, D. W.**, Luo, Y., Rojas, J., Nash, J. Rous, B., & Hansen, J. H. L. (2019, September). *Tagging child-adult interactions in naturalistic, noisy, daylong school environments using i-vector based diarization system.* Speech and Language Technology in Education (SLaTE) Workshop, Graz, Austria. (Contributions = A, WS)

11.  Najafian, M., **Irvin, D. W.**, Luo, Y., Rous, B., & Hansen, J. H. L. (2016, September). *Automatic measurement and analysis of the child verbal communication using classroom acoustics within a child care center.* Workshop on Child Computer Interaction, San Francisco, CA, United States. (Contributions = A, WS)

12.  Najafian, M., **Irvin, D. W.**, Luo, Y., Rous, B., & Hansen, J. H. L. (2016, July). *Employing speech and location information for automatic assessment of child language environments.* Sensing, Processing and Learning for Intelligent Machines (SPLINE), Aalborg, Denmark. (Contributions = A, WS)

13.  Sangwan, A., Hansen, J. H. L., **Irvin, D. W.**, Crutchfield, S. A., & Greenwood, C. R. (2015, August). *Studying the relationship between physical and language environments of children: Who's speaking to whom and where?* IEEE Signal Processing & SP Education Workshop, Salt Lake City, Utah, United States. (Contributions = A, C, WS)

# SCHOLARLY PRESENTATIONS

*Major Presentations (\*\* = invited)*

1.  Buzhardt, J., Wallisch, A., Boyd, B., **Irvin, D.**, Dykstra-Steinbrenner, J., Nowell, S., Salley, B., Howard, W., Brunson, L., Higgins, S., & Keller, M. (2024, April). *Variation in Latino autistic infants and toddlers' expressive communication compared to non-Latino autistic children* [Presentation]. Gatlinburg Conference, Kansas City, MO, United States.

2.  **Irvin, D.W.**, Wallisch, A., Brunson, L., Keller, M., McGauley, S., Steinbrenner, J., Nowell, S., Jay Buzhardt, J., & Boyd, B. (2024, April). *Capturing young autistic children's language environments* [Presentation]. Gatlinburg Conference, Kansas City, MO, United States.

3.  Schnitz, A. G., Greenwood, C. R., & **Irvin, D. W.** (2024, February). *Coaching and teacher outcomes in Literacy 3D: A tier professional development intervention* [Presentation]. Conference on Research Innovations in Early Intervention, San Diego, CA, United States.

4.  Buzhardt ,J., Dutta, S., Murali, A., **Irvin, D.W.**, & Hansen, J. H. L. (2024, February). *Measuring parent-child interactions in a science museum using open-source speech processing technology* [Presentation]. Conference on Research Innovations in Early Intervention, San Diego, CA, United States.

5.  Hadley, E. B., Seven, Y., Gonzalez Villasanti, H., **Irvin, D. W.**, Hacker, R. E., Foster, T. J., Pelfrey, G. L., & Justice, L. M. (2023, November). *Gaining new perspectives on the pre-k classroom language environment through the use of sensing technology: A proof-of-concept study* [Presentation]. Annual Conference of the Literacy Research Association, Atlanta, GA, United States.

6.  **\*\*Irvin, D.W.** (2023, October [virtual]). *Using sensing tools to capture talk in early childhood classrooms and communities* [Presentation]. Crane Center for Early Childhood Research and Policy at The Ohio State University, Columbus, OH, United States.

7.  Hacker, R. E., Dutta, S., **Irvin, D. W.**, Buzhardt, J., & Hansen, J. (2023, March) *Child talk: Measuring the growth in communication and classroom movement for individuals with and without language delays* [Presentation]. Gatlinburg Conference, Kansas City, MO, United States.

8.      Steinbrenner, J., Wallisch, A., Nowell, S., Buzhardt, J., Watson, L., **Irvin, D. W.**, & Boyd, B. (2023, March). *Adapting and piloting the early communication indicator for young children with autism* [Presentation]. Gatlinburg Conference, Kansas City, MO, United States.

9.      Wallisch, A., **Irvin, D. W.**, Buzhardt, J., Grassely-Boy, N, Greenwood, C. R., & Boyd, B. (2023, March). *Exploring the early gross motor developmental trajectories of children with autism* [Presentation]. Gatlinburg Conference, Kansas City, MO, United States.

10.     Foster, T., Fasano, R., & **Irvin, D. W.** (2023, March). *Using sensing technologies to understand children's experiences in early childhood education classrooms* [Presentation]. Society for Research on Child Development, Salt Lake City, UT, United States.

11.     Elbaum, B., Messinger, D., Justice, L., Villasanti, H. G., **Irvin, D. W.**, L., Perry, Foster, T., & Pelfrey, L. (2023, March). *Technology, data, and development in preschool* [Pre-conference presentation]. Society for Research on Child Development, Salt Lake City, UT, United States.

12.     Tao, S. A., Dutta, S. Hacker, R. E., **Irvin, D. W.**, Buzhardt, J., & Hansen, J. H. L. (2022, December) *Curating feedback for parents based on interactions during parent-child book reading activities*. The 183rd Meeting of the Acoustical Society of America. (Contributions = C)

13.     Murali, A., Dutta, S., Shekar, M. M. C., **Irvin, D. W.**, Buzhardt, J., & Hansen, J. H. L. (2022, December). *Towards developing Speaker Diarization for parent-child interactions*. The 183rd Meeting of the Acoustical Society of America. (Contributions = C)

14.     Datla, S., Dutta, S., Reyna, J., Buzhardt, J., **Irvin, D. W.**, & Hansen, J. H. L. (2022, December). *Analyzing field audio of parent-child book reading activities across various audio capture devices*. The 183rd Meeting of the Acoustical Society of America. (Contributions = C)

15.     Kim, G. Y., Eddy, M. M., Behrens, S. A., **Irvin, D. W.**, Bigelow, K. M., Grasley-Boy, N. M., & Schnitz, A. G. (2022, September). *Validating Teaching Pyramid Infant-Toddler Observation Scale (TPITOS)* [Presentation]. Joint Conference from the International Society on Early Intervention (ISEI) and the 38th Division for the Early Childhood (DEC).

16. Dutta, S., **Irvin, D. W.**, & Hansen, J. H. L. (2022, July). *Preschool children speech recognition for early childhood intervention: Motivation and challenges*. NAACL Student Research Workshop (SRW). (Contributions = C)

17. **\*\*Irvin, D. W.** (2022, April). *Novel tools for measuring and enriching young children's language environments*. Crane Center For Early Childhood Research and Policy at The Ohio State University, Columbus, OH, United States.

18. Buzhardt, J., **Irvin, D. W.**, Kothalkar, P., Datla, S., Hansen, J. H. L., & Consolver, K. (2022, February). *Automatic speech recognition during parent reading activities: Smartphones vs. LENA* [Presentation]. Conference on Research Innovations in Early Intervention, San Diego, CA, United States.

19. **Irvin, D. W.**, Justice, L., & Messinger D. (2022, January). *Using sensing technologies in the classroom to better understand children's experiences and development* [Presentation]. Annual IES Principal Investigators Meeting, Washington, DC.

20. **Irvin, D. W.**, Justice, L., & Messinger D. (2022, February). *Using sensing technologies in early childhood settings to better understand children's experiences and development* [Presentation]. Conference on Research Innovations in Early Intervention, San Diego, CA, United States.

21. **Irvin, D. W.**, Schnitz, A. G., Guerrero, G., Colaco, K. J., Grasley-Boy, N., & Greenwood, C. R. (2022, February). *Establishing benchmarks of teacher literacy instruction and child response* [Presentation]. Conference on Research Innovations in Early Intervention, San Diego, CA, United States.

22. Kothalkar, P., Datla, S., Hansen, J. H. L., **Irvin, D. W.**, Buzhardt J., & Consolver, K. (2022, February). *Visualizing child-adult speech engagement using chord diagrams for audio recorded in preschool classroom* [Presentation]. Conference on Research Innovations in Early Intervention, San Diego, CA, United States.

23. Bigelow, K. M., Schnitz, A. G., **Irvin, D. W.**, Feldmiller, S., Behrens, S., & Eddy, M. (2021, September). *Practice-based coaching to support teachers' Pyramid Model practices*. The 37th Annual Convention of the Division of Early Childhood.

24. Kothalkar, P., **Irvin, D. W.**, Buzhardt, J., Rous, B., & Hansen, J. H. L. (2021, April). *Detecting WH keywords spoken by preschool teachers during science activities using automatic speech recognition technologies* [Poster presentation]. Society for Research on Child Development, Online.

25.     Schnitz, A., Greenwood, C. R., & **Irvin, D. W.** (2021, January). *Literacy 3D: A professional development intervention to increase Tier 1* [Presentation]. The Division for Early Childhood's 36th Annual International Conference, Online.

26.     **Irvin, D. W.**, Schnitz, A. G., Guerrero, G., Colaco, K. J., Grasley-Boy, N., & Greenwood, C. R. (2021, September). *New benchmarks of teacher literacy instruction and child response* [Virtual presentation]. The Division for Early Childhood International Conference.

27.     Bigelow, K., Carta, J., Schnitz, A., **Irvin, D. W.**, Jun, A., & Hemmeter, M. L. (2020, February). *The pyramid model in infant-toddler child care: Challenges in research and implementation* [Presentation]. Conference on Research Innovations in Early Intervention, San Diego, CA, United States.

28.     **Irvin, D. W.**, Schnitz, A. G., & Greenwood, C. R. (2020, February). *Improving data-based decision making for preschoolers who are unresponsive to literacy instruction* [Presentation]. Conference on Research Innovations in Early Intervention, San Diego, CA, United States.

29.     Buzhardt, J., **Irvin, D. W.**, Hansen, J. H. L., Kothalkar, P., Consolver, K., Luo, Y., & Rous, B. (2020, August). *Automatic measurement of teachers' talk: Indicators of location and quality in science activities* [Presentation]. Conference on Research Innovations in Early Intervention, San Diego, CA, United States.

30.     Rous, B., **Irvin, D. W.**, & Buzhardt, J. (2020, February). *Using technological advances to enhance EI/ECSE research* [Presentation]. Conference on Research Innovations in Early Intervention, San Diego, CA, United States.

31.     Schnitz, A., Wallisch, A., Carta, J., Messerly, A., & **Irvin D. W.** (2020, February). *Enhancing the language environments in early child care: A pilot study of a LENA grow intervention* [Presentation]. Conference on Research Innovations in Early Intervention, San Diego, CA, United States.

32.     Wallisch, A., **Irvin, D. W.**, Kearns, W., Luo, Y., Boyd, B. A., & Rous, B. (2020, February). *Advancements in measuring wandering in the early childhood classroom* [Presentation]. Conference on Research Innovations in Early Intervention, San Diego, CA, United States.

33.     Buzhardt, J., **Irvin, D. W.**, Walker, D., Consolver, K., Cisler, B., & Greenwood, C. R. (2020, January). *Development of a web application to individualize data-driven*

*decision-making for diverse family needs and service delivery models* [Presentation]. Annual IES Principal Investigators Meeting, Washington, DC.

34.   **Irvin, D. W.**, Schnitz, A. G., & Greenwood, C. R. (2020, January). *Adding precision to data-based, intervention-decision making for individual children who are not responsive to preschool literacy instruction* [Presentation]. Annual IES Principal Investigators Meeting, Washington, DC.

35.   **Irvin, D. W.**, Schnitz, A. G., Guerrero, G., & Greenwood, C. R. (2019, October). *Improving data-based decision making for children who are not responsive to preschool literacy instruction or intervention* [Presentation]. The Division for Early Childhood International Conference, Dallas, TX, United States.

36.   Schnitz, A. G., **Irvin, D. W.**, Greenwood, C. R., & Carta, J. J. (2019, October). *Literacy 3D: A tier 1 professional development intervention to increase literacy instruction* [Presentation]. The Division for Early Childhood International Conference, Dallas, TX, United States.

37.   Bigelow, K. M., Carta, J. J., **Irvin, D. W.**, & Hemmeter, M. L. (2019, June). *Supporting the Implementation of the pyramid model in early education settings for infants and toddlers* [Presentation]. International Society on Early Intervention, Sydney, Australia.

38.   Carta, J. J., Wallisch, A., Schnitz, A. G., Messerly, A., **Irvin, D. W.**, & Greenwood, C. R. (2019, June). *First look at a language coaching intervention based on LENA data feedback to promote child care providers' interactions with infants and toddlers* [Presentation]. International Society on Early Intervention Conference, Sydney, Australia.

39.   Schnitz, A., Greenwood, C. R., & **Irvin, D. W.** (2019, March). Increasing preschool children's opportunities to learn language and literacy. In K.H. Qi (Chair), *Relationships between early language and behavior problems* [Symposium]. Society for Research in Child Development, Baltimore, MD, United States.

40.   Bigelow, K., Walker, D., Jia, F., & **Irvin, D. W.** (2019, January). *Using text messages to build parents' capacity to improve child language-learning opportunities* [Presentation]. Summit on Quality in Home Visiting Programs, Washington, DC.

41.   Greenwood, C. R., Schnitz, A. G., & **Irvin, D. W.** (2019, January). *The effects of Literacy 3D: Preschool cohort 1 preliminary outcomes* [Presentation]. Annual IES Principal Investigators Meeting, Washington, DC.

42. Bigelow, K., **Irvin, D. W.**, Carta, J., & Hemmeter, M. L. (2018, October). *Teaching Pyramid Infant-Toddler Observation Scale: A tool for measuring social-emotional teaching practices* [Presentation]. The Division for Early Childhood International Conference, Orlando, FL, United States.

43. Little, L. M., **Irvin D. W.**, Rojas, J., Bard, A., Luo, Y., & Rous, B. (2018, April*). Community participation and language opportunities for children with and without autism spectrum disorder* [Presentation]. The American Occupational Therapy Association Conference, Salt Lake City, UT, United States.

44. Little, L. M., Rojas, J., Bard, A., & **Irvin D. W.** (2018, April). *Advances in measuring the community language environment children with autism spectrum disorder experience* [Presentation]. Gatlinburg Conference on Research and Theory of Intellectual and Developmental Disabilities, San Diego, CA, United States.

45. Bigelow K., **Irvin, D. W.**, Turcotte, A., Wallisch, A., & Eastwood-Tallmon, N. (2018, March). *Talk Around Town: A mobile app to bridge the word gap* [Presentation]. Conference on Research Innovations in Early Intervention, San Diego, CA, United States.

46. Buzhardt, J., Cary, M. S., & **Irvin, D. W.** (2018, March). *So, you want to develop an app for that? Adventures in translating ideas into usable applications* [Presentation]. Conference on Research Innovations in Early Intervention, San Diego, CA, United States.

47. Buzhardt, J., **Irvin, D. W.**, Schnitz, A. Jia, F. Walker, D., & Greenwood, C. R. (2018, March). *Long-term implementation of progress monitoring practices in infant-toddler programs and its relationship to child outcomes* [Presentation]. Conference on Research Innovations in Early Intervention, San Diego, CA, United States.

48. **Irvin. D. W.**, Little, L. M., Rojas, J. P., Bard, A. L. E., Luo, Y., & Rous, B. (2018, March). *Understanding language environments in the community among children with autism spectrum disorder* [Presentation]. Conference on Research Innovations in Early Intervention. San Diego, CA, United States.

49. Buzhardt, J., **Irvin. D. W.**, & Bigelow, K. (2017, June). *Technology to support individualization of intervention strategies in early childhood education settings* [Presentation]. The International Society for Technology in Education, San Antonio, TX, United States.

50.   **Bigelow K., **Irvin, D. W.**, Turcotte, A., & Eastwood-Tallmon, N. (2017, April). *Talk Around Town: A mobile app to bridge word gap* [Presentation]. Society for Research in Child Development, Austin, TX, United States.

51.   **Bigelow K., Walker, D., Turcotte, A., Jia, F., & **Irvin, D. W.** (2017, April). *Using text messaging to build parents' capacity to improve child language-learning opportunities* [Presentation]. Society for Research in Child Development, Austin, TX, United States.

52.   Greenwood, C. R., Schnitz, A., & **Irvin, D. W.** (2017, April). *Systematic review of research using the LENA* [Presentation]. Society for Research in Child Development, Austin, TX, United States.

53.   ****Irvin, D. W.**, Crutchfield, S., Greenwood, C., & Buzhardt, J. (2017, April). *Technology for mapping child location in the early childhood classroom: Moving toward capturing real-time interactions across the school day* [Presentation]. Society for Research in Child Development. Austin, TX, United States.

54.   Rojas, J. P., Bard, A. L. E., Luo, Y., **Irvin, D. W.**, Little, L. M., & Rous, B. (2016, October). *Understanding language environments that children with autism spectrum disorder experience in the community* [Presentation]. The Division for Early Childhood International Conference, Louisville, KY, United States.

55.   Mason, R. A., Wills, H. P., Bast, D., Colvin, M., **Irvin, D. W.**, Kamps, D., & Veatch, M. (2016, April). *Increasing the capacity of instructional personnel: Collaborative exploration and idea generation through the framework of a research-practice partnership* [Presentation]. The American Educational Research Association Annual Meeting, Washington, DC.

56.   **Irvin, D. W.**, Crutchfield, S., & Greenwood, C. R. (2016, February). *Advances in measuring the location and movement of children with disabilities in the early childhood inclusive classroom* [Presentation]. The Conference on Research Innovations in Early Intervention, San Diego, CA, United States.

57.   Crutchfield, S., **Irvin, D. W.**, Greenwood, C. R., Warren, S., Hansen, J. H. L., & Sangwan, A. (2015, October). *Validating a real-time location system for use in the preschool classroom* [Presentation]. The Division for Early Childhood International Conference, Atlanta, GA, United States.

58.   **Irvin, D. W.**, Crutchfield, S., Greenwood, C. R., Warren, S., Hansen, J. H. L., & Sangwan, A. (2015, October). *Examining the language environment of the inclusive*

*preschool classroom through location analysis* [Presentation]. The Division for Early Childhood International Conference, Atlanta, GA, United States.

59.  **Irvin, D. W.**, Bigelow, K., Carta, J., & Baggett, K. (2014, February). *The Pyramid Infant-Toddler Observation Scale (TPITOS): The way forward in creating a healthy social-emotional classroom environment for infants and toddlers* [Presentation]. The Conference on Research Innovations in Early Intervention, San Diego, CA, United States.

60.  Sanders, E., **Irvin, D. W.**, Belardi, K., McCune, L., Boyd, B. A., & Odom, S. L. (2013, October). *Questions in inclusive classrooms for children with autism spectrum disorders: Educational implications* [Presentation]. The Division for Early Childhood International Conference, San Francisco, CA, United States.

61.  Sanders, E., **Irvin, D. W.**, Belardi, K., McCune, L., Boyd, B. A., & Odom, S. L. (2013, March). *The questions preschoolers with autism spectrum disorder experience in the inclusive classroom* [Presentation]. Gatlinburg Conference on Research and Theory of Intellectual and Developmental Disabilities, San Antonio, TX, United States.

62.  Harper, H., **Irvin, D. W.**, & Pierce, P. (2012, October). *Cross cultural perceptions of disability* [Presentation]. The Division for Early Childhood International Conference. Minneapolis, MN, United States.

63.  **Irvin, D. W.**, Boyd, B. A., Common, E., Morris, K., & Odom, S. L. (2012, March). *Child characteristics affecting adult talk in the inclusive classroom and the resulting socially competent behavior of preschoolers with autism spectrum disorder* [Presentation]. Gatlinburg Conference on Research and Theory of Intellectual and Developmental Disabilities, Annapolis, MD, United States.

64.  **Irvin, D. W.**, Boyd, B. A., Morris, K., Common, E., & Odom, S. L. (2012, March). *Factors affecting adult talk in the inclusive classroom and the resulting social competent behavior of preschoolers with autism spectrum disorder* [Presentation]. Conference on Research Innovations in Early Intervention, San Diego, CA, United States.

65.  Boyd, B. A., Odom, S. L., McBee, M. T., & **Irvin, D. W.** (2011, November). *Measuring the social symptoms and social behaviors of children with autism spectrum disorder* [Presentation]. The Division for Early Childhood International Conference, National Harbor, MD, United States.

66.     Hume, K., Boyd, B. A., Sabatos-DeVito, M., Dykstra, J., **Irvin, D. W.**, & Odom, S. L. (2011, May). *Using natural language samples (LENA) as a treatment outcome measure for preschool children with autism* [Presentation]. The International Society on Early Intervention, New York, NY, United States.

67.     **Irvin, D. W.**, Boyd B. A., McBee, M. T., Hume K., & Odom, S. L. (2011, May). *State differences and comprehensive treatment model characteristics affecting the receipt of educational and therapeutic services for school-aged children with autism spectrum disorder* [Presentation]. The International Meeting for Autism Research, San Diego, CA, United States.

68.     Hume, K., Boyd, B. A., Sabatos-DeVito, M., Dykstra, J., **Irvin, D. W.**, & Odom, S. L. (2011, April). *An analysis of adult language in classrooms serving young children with autism spectrum disorders* [Presentation]. LENA Users Conference, Denver, CO, United States.

69.     **Irvin, D. W.**, Boyd, B. A., McBee, M. T., Hume, K., & Odom, S. L. (2011, March). *Factors affecting the receipt of educational and therapeutic services for school-aged children with autism spectrum disorder* [Presentation]. Gatlinburg Conference on Research and Theory of Intellectual and Developmental Disabilities, San Antonio, TX, United States.

70.     Harper, H., **Irvin, D. W.**, & Pierce. P. (2010, July). *Including children with disabilities: Discussing hopes, practices and needs* [Presentation]. The International Step-by-Step Association Conference, Riga, Latvia.

71.     **Irvin, D. W.** (2010, July). *Social communication strategies for young children with and without disabilities* [Presentation]. The International Step-by-Step Association Conference, Riga, Latvia.

72.     Dykstra, J., Sabatos-DeVito, M., **Irvin, D. W.**, Boyd, B. A., Hume, K., & Odom. S. L. (2010, May). *Exploring the use of the Language Environment Analysis (LENA) system in preschool classrooms of children with autism spectrum disorders* [Presentation]. The International Meeting for Autism Research, Philadelphia, PA, United States.

73.     Boyd, B. A., Hume, K., Dykstra, J., **Irvin, D. W.**, Sabatos-DeVito, M., & Odom, S. L. (2010, March). *Using LENA as a treatment outcome measure for preschool children with autism: Initial findings and limitations* [Presentation]. The Gatlinburg Conference on Research and Theory of Intellectual and Developmental Disabilities, Annapolis, MD, United States.

74.     Able, H., **Irvin, D. W.**, & Glazer, J. (2009, October). *Impact of service learning of early educators' dispositions toward diversity and inclusion* [Presentation]. The Division for Early Childhood International Conference, Albuquerque, NM, United States.

75.     **Irvin, D. W.**, & Job, J. (2009, April). *Hostetler's well-being in the globalization of higher education* [Presentation]. The Southeastern Association of Educational Studies Conference, Chapel Hill, NC, United States.

76.     Glazier, J., Able, H., Charpentier, A., **Irvin, D. W.**, Coffey, H., Moore, K., & Ewell, S. (2009, April). *A transformational journey: A framework for pre-service learning about diversity through service learning* [Presentation]. The American Educational Research Association Conference, San Diego, CA, United States.

*Minor Presentations*

1.     **Irvin, D. W.**, & Bigelow, K., (2021, May). *Teaching Pyramid Infant-Toddler Observation Scale (TPITOS): Reliability online training.* Pennsylvania Office of Child Development and Early Learning.

2.     Schnitz, A., & **Irvin, D. W.** (2021, April). *Teaching Pyramid Infant-Toddler Observation Scale (TPITOS): Reliability online training.* Iowa Department of Education.

3.     Bigelow, K., **Irvin, D. W.**, & Schnitz, A. (2018, April). *Teaching Pyramid Infant-Toddler Observation Scale (TPITOS): Reliability training* [Presentation]. 15th National Training Institute on Effective Practices, St. Petersburg, FL, United States.

4.     **Irvin, D. W.**, Bigelow K., Turcotte, A., Wallisch, A., & Eastwood-Tallmon, N. (2018, April). *Talk Around Town* [Presentation]. 15th National Training Institute on Effective Practices, St. Petersburg, FL, United States.

5.     Carta, J., Bigelow, K., Schnitz, A., & **Irvin, D. W.** (2017, April). *Teaching Pyramid Infant-Toddler Observation Scale (TPITOS): Reliability training* [Presentation]. 14th National Training Institute on Effective Practices, St. Petersburg, FL, United States.

6.     Carta, J., Bigelow, K., **Irvin, D. W.**, & Schnitz, A. (2016, April). *Teaching Pyramid Infant-Toddler Observation Scale (TPITOS): Reliability training* [Presentation]. 13th National Training Institute on Effective Practices, St. Petersburg, FL, United States.

7.     Carta, J., Bigelow, K., **Irvin, D. W.**, Amilivia, J., Tsai, S-F., & Crutchfield, S. (2015, April). *Teaching Pyramid Infant-Toddler Observation Scale (TPITOS): Reliability*

*training* [Presentation]. 12th National Training Institute on Effective Practices, St. Petersburg, FL, United States.

8.    **Irvin, D. W.**, Patten, E., & Flippin, M. (2009). *Social communication for young children with autism.* Greensboro & Durham, NC, United States.

## GRANTS AND/OR OTHER FUNDED PROJECTS

*Ongoing*

### Site Principal Investigator
Collaborative Research: Using Sensing Technology and Automated Speech Recognition to Capture Teacher Language Interactions in Diverse Pre-K Classrooms. National Science Foundation, Developmental Sciences. (PIs: Elizabeth Hadley and John Hansen) ($650,000; $109,799 to UF). Submitted 07/31/23.

06/15/2023-06/14/2024                **Site Principal Investigator**
Collaborative Research: Social-Emotional Analysis of the Language Environment (SEAL): Key Word & Phrase Spotting in Early Childhood Care Settings. National Science Foundation, Developmental Sciences. (PIs: Kathryn Bigelow and John Hansen) ($246,182 to complete Y1 activities; $42,000 to UF). Submitted 07/15/22.

04/01/2021-06/30/2024                **Site Principal Investigator**
Longitudinal Peer Social Networks and Early Language Development: Transforming Understanding of Critical Features of Young Children's Classroom Experiences. Spencer Foundation, Lyle Spencer Research Award. (PI: Laura Justice; PI at UM site: Daniel Messinger; Co-PIs at KU site: Brian Boyd and Jay Buzhardt) ($1,000,000; $318,009 to KU). Submitted 07/22/20.

08/01/2020-06/30/2025                **Co-Investigator**
Validation of an Outcome Measure of Early Social-communication for Young Children with ASD. National Institutes of Health, National Institute of Child Health and Human Development. (PI: Brian Boyd, Linda Watson; Co-Is: Brenda Salley, Jay Buzhardt) ($2,783,114). Submitted 11/22/2019.

09/01/2020-08/31/2025                **Mentor**
Postdoctoral Research Training in Special Education: A Research to Practice Model. US Department of Education, Institute for Educational Sciences. (PI: Howard Wills; Co-PI: Brian Boyd; Mentors: Kandace Fleming and Karrie Shogren) ($760,000). Submitted 08/29/2019.

09/01/2019-08/30/2024 **Site Principal Investigator**
Collaborative Research: CSL-MultiAD: Assessing Collaborative STEM Learning through Rich Information Flow based on Multi-Sensor Audio Diarization. National Science Foundation, Information & Intelligent Systems. (PI: John Hansen; Co- PI: Buzhardt) ($750,000: $300,000 to KU and $450,000 to UT-Dallas). Submitted 01/14/2019.
> Research Experiences for Undergraduates (REU) supplement. (PI: Hansen; Co-PIs: Irvin & Buzhardt) ($16,000). Submitted 06/24/20.

07/01/2017-06/30/2024 **Co-Principal Investigator**
The Effects of Promoting Engaging Early Literacy Interactions in Preschool Environments: Literacy 3D). US Department of Education, Institute of Education Sciences. (PI: Alana Schnitz; Co-PI: Charles Greenwood) ($3,300,000). Submitted 08/04/2016.

*Completed*

04/04/2022-04/03/2023 **Principal Investigator**
Using Data to Build the Capacity of Teachers to Support Preschool Children Not Making Progress in Learning Literacy. KU Research Go, University of Kansas. (Co-PI: Charles Greenwood) ($29,965). Submitted 01/19/2022.

2019 **Co-Principal Investigator**
Developing a Measurement model for Capturing Speech, Location and Physical Activity on the Early Childhood Playground. NIH Kansas Intellectual and Developmental Disabilities Research Center and University of Kentucky Early Childhood Research and Development Initiative. (Co-PI: Beth Rous) ($20,000). Submitted 05/29/2019.

07/01/2019-06/30/2024 **Co-Principal Investigator**
Professional Development to Support Intervention Implementation of the Promoting Communication Tools for Advancing Language in Kids (PC TALK) for Infants and Toddlers at Risk for or with Disabilities. US Department of Education, Institute of Education Sciences. (PI: Kathryn Bigelow; Co-PI: Dale Walker) ($1,400,000). Submitted 08/23/2018.

08/15/2018-01/11/2023 **Principal Investigator**
Validity Studies of the Classroom Code for Interactive Recording of Children's Learning Environments (CIRCLE) (Version 2.0). US Department of Education, Institute of Education Sciences. (Co-PIs: Charles Greenwood and Alana Schnitz) ($1,400,000). Submitted 08/04/2016. Transferred to PI on 1/17/2020, and then transferred to Alana Schnitz.

08/15/2018-08/14/2023 **Co-Principal Investigator**
Development of a Multi-Component Professional Development Package for Paraprofessionals (MCPD-Para) of Students with Severe Disabilities including Autism. US Department of Education, Institute of Education Sciences. (PI: Rose Mason; Co-PIs: Howard Wills and Alana Schnitz) ($1,400,000; $474,997 to KU). Submitted 08/17/2017.

07/01/2018-08/31/2020                    **Mentor**
Post-Doctoral Research Training Program in Special Education: Evidence-Based Practice in Early Intervention and Early Learning. US Department of Education, Institute of Education Sciences. (PI: Carta, J.; Co-PI: Greenwood; Mentors: Lisa Hoffman, Kathryn Bigelow, Jay Buzhardt, Alana Schnitz, and Dale Walker) ($744,000). Submitted 08/17/2017.

2018                                      **Co-Investigator**
Pre-pilot of LENA Grow in Educare. State of Kansas Children's Cabinet. (PI: Judith Carta; Co-I: Anna Wallisch) ($19,000). Submitted 11/17/2017.

07/01/2018-06/30/2019                     **Co-Investigator**
Start Young. Communities Aligned in Early Development and Education (a public-private collaborative) through the Family Conservancy and the State of Kansas Children's Cabinet and Trust Fund. (PI: Judith Carta; Co-Is: Alana Schnitz and Anna Wallisch) ($123,000). Submitted 04/30/2018.

07/01/2017-                               **Co-Principal Investigator**
Technology to Support Data-based Decision Making for Infant-Toddler Educators: Development and Pilot Testing of the Making Online Decisions – Problem Solving Tool. US Department of Education, Institute of Education Sciences. (PI: Jay Buzhardt; Co-PI: Dale Walker) ($1,400,000). Submitted 08/04/2016.

07/01/2017-                               **Co-Investigator**
Professional Development to Support Teachers' Implementation of a Tiered Model for Promoting Social-Emotional Development of Infants and Toddlers. US Department of Education, Institute of Education Sciences. (PI: Kathryn Bigelow; Co-PIs: Judith Carta and Mary Louise Hemmeter) ($1,400,000). Submitted 08/04/2017.

2017                                      **Co-Principal Investigator**
Talk Around Town. Bridging the Word Gap Challenge – Phase II. Health Resources and Services Administration. (PI: Kathryn Bigelow; Co-I: Nick Eastwood-Tallmon) ($25,000). Submitted 09/22/2016.

2016                                      **Co-Principal Investigator**
Talk Around Town. Bridging the Word Gap Challenge – Phase I. Health Resources and Services Administration. (PI: Kathryn Bigelow; Co-I: Nick Eastwood-Tallmon) ($10,000). Submitted 12/31/2015.

09/22/2016-05/31/2022                     **Research Scientist**
Clinical Outcomes/Bio-behavioral Technology Core of Kansas Intellectual and Developmental Disabilities Research Center. National Institutes of Health, National Institute of Child Health and Human Development. (Director: John Colombo; Co-Director: Peter Smith) ($5,400,000). Submitted 02/17/2016.

07/01/2015-06/30/2021                    **Co-Investigator**
Validation of Cognitive Problem-Solving and Movement Infant-Toddler IGDIs for Screening
and General Outcome Progress Monitoring. Institute of Education Sciences. US Department of
Education, Institute of Education Sciences. (PI: Dale Walker; Co-PIs: Charles Greenwood and
Jay Buzhardt) ($1,600,000). Submitted 08/07/2014.

07/01/2015-04/08/2016                    **Co-Investigator**
Tiered Quality Rating and Improvement System Pilot. Race to the Top Fund. (PI: Beth Rous;
Co-I: John Nash) ($500,000). Submitted 05/15/2015.

2015                                     **Principal Investigator**
Understanding Language Environments in Community Settings in Families of Children with
Autism Spectrum Disorder. Human Development Institute Fund for Excellence Endowment.
(Co-Is: Joanne Rojas and Ying Luo) ($10,000). Submitted 10/15/2015.

09/01/2014-08/31/2021                    **Workgroup Member**
Bridging the Word Gap Research Network. Health Resources and Services Administration. (PI:
Judith Carta; Co-PIs: Charles Greenwood and Dale Walker) ($2,100,000). Submitted
07/07/2014.

07/01/2014-06/30/2017                    **Statistical and Data Analyst**
Improving Paraprofessionals' Instructional and Behavioral Support in Urban Elementary School
Settings: A Research Practitioner Partnership. US Department of Education, Institute of
Education Sciences. (PI: Debra Kamps; Co-Is: Howard Wills, Rose Mason, Michelle Covin and
Kimberly Shaw) ($399,883). Submitted 09/04/2013.

2010                                     **Co-Principal Investigator**
Including Children with Disabilities: Cross-cultural Perceptions of Practices, Hopes, and Needs.
The European Union Center of the University of North Carolina at Chapel Hill Faculty and
Graduate Student Joint Project Award. (PI: Hillary Harper; Co-PIs: Patsy Pierce and Brian Boyd)
($5,000). Submitted 1/28/2010.

*Pending*

**Principal Investigator**
Using Innovative Technology to Uncover the Impact of Teacher Stress on Talk and Outcomes of
Racially & Ethnically Diverse Preschoolers. US Department of Education, Institute of Education
Sciences. (PI: Dwight Irvin, Co-PI: Ximena Franco-Jenkins, John Hansen) ($1,700,000).
Submitted 09/05/24. Under Review.

**Site Principal Investigator**
Read It Again – Social Emotional Learning (RIA-SEL). US Department of Education, Institute
of Education Sciences. (PI: Laura Justice, Co-PI: Dwight Irvin) ($4,000,000 and 1,106,005 to
UF). Submitted 09/05/24. Under Review.

*Currently Revising*

**Principal Investigator**

Teachers Asking Science WH & How Questions (TASQ): Key Word Spotting in Preschool Classrooms. National Science Foundation, Research on Innovative Technologies for Enhanced Learning. (Co-PIs: Brian Boyd, Jay Buzhardt, PI: John Hansen) ($850,000). Submitted 10/18/21.

**Principal Investigator**

Collaborative Research: Collaborative Research: Capturing Parent-child Interactions and Talk in Museums. National Science Foundation, Research on Innovative Technologies for Enhanced Learning (RITEL). (PIs: Dwight Irvin and John Hansen) ($540,000 to UF; $360,000 to UTD). Submitted 01/24/24. Under Review.

**Site Principal Investigator**

Collaborative Research: Understanding Pre-K Classroom Language Resources: A Sensing Technology Approach. US Department of Education, Institute of Education Sciences. (PI: Elizabeth Hadley, site PI UT-Dallas: John Hansen) ($1,700,000). Submitted 09/20/23. Under Review.

**Site Principal Investigator**

Leveraging Peers to Improve Outcomes of Children with Developmental Language Disorder: An Impact Study. US Department of Education, Institute of Education Sciences. (PI: Laura Justice, Co-PI: Matthew Brock) ($4,000,000). Submitted 09/21/23. Under Review.

*Unfunded*

**Principal Investigator**

SCC-IRG Track 1 Enhancing Parent-child Interactions in the Community (EPIC): Improving Language Outcomes for Infant-Toddlers with Language Lags. National Science Foundation, Smart and Connected Communities. (Site PIs: Kathryn Bigalow [KU], John Hansen [UTD], & Laura Justice [OSU]). ($2,500,000). Submitted 08/25/23. Under Review.

**Consultant**

Dual-process Explorations in How an Infant's Ability to Move Helps or Hinders Their Learning Language Skills. US Department of Education, Institute of Education Sciences. (PI: Jay Buzhardt) ($1,700,000). Submitted 09/06/22. Under Review.

**Principal Investigator**

Enhancing Parent-child Interactions in the Community (EPIC): Using State-of-the-Art Technology to Support Young Children's Language and Literacy Learning. UF Strategic Funding. $2,500,000. Submitted 10/11/23.

Rev. 9/2024

**Site Principal Investigator**

Technology to Strengthen Caregiver-Practitioner Collaboration: Increasing Implementation of Individualized Services to Improve Outcomes for Infants and Toddlers with Disabilities. US Department of Education, Office of Special Education Programs. (PI: Jay Buzhardt, Co-PI: Dale Walker) ($2,500,000; $432,700 to UF). Submitted 04/14/23.

**Site Principal Investigator**

From Data to Decisions: Supporting Preschool Teachers in Promoting the Literacy Learning of Children with Disabilities. US Department of Education, Institute of Education Sciences. (PI: Dwight Irvin, Co-PIs: Laura Justice, Jay Buzhardt, and John Hansen) ($2,000,000). Submitted 09/08/22.

**Co-Principal Investigator**

Hybrid Professional Development to Address Pandemic-Related Social-Emotional Learning Loss in Toddlers. US Department of Education, Institute of Education Sciences. (PI: Kathryn Bigelow, Co-PI: Alana Schnitz,) ($1,999,970). Submitted 09/09/2021.

**Co-Principal Investigator**

Accelerating Infant-toddler Language Growth by Increasing Parents' Implementation of Individualized Evidence-based Practices. US Department of Education, Institute of Education Sciences. (PI: Jay Buzhardt, Co-PI: Dale Walker) ($1,291,316). Submitted 09/09/2021.

**Co-Principal Investigator**

Systematic Replication of Web-based Data-driven Decision Making to Improve Infant-Toddler Language Growth: Efficacy with Parents as Teachers Home Visiting Model. US Department of Education, Institute of Education Sciences. (PI: Jay Buzhardt, Co-PI: Dale Walker) ($4,000,000). Submitted 08/20/2020.

**Co-Principal Investigator**

AI Institute for Pedagogy and Assessment using World Simulators (AI-PAWS). National Science Foundation, National Artificial Intelligence (AI) Research Institutes. (PI: Golden at UT-Dallas; PI at KU site: Jay Buzhardt) ($20,000,000; $789,866 to KU). Submitted 12/10/2020.

**Principal Investigator**

Using Speech and Location Sensors to Examine and Enhance the Language Environments of Young with Autism Spectrum Disorder. National Institutes of Health Loan Repayment Program. (Primary Mentor: Brian Boyd). Submitted 11/15/2018 and resubmitted 1 time.

**Principal Investigator**

Understanding the Link Between Random Movement and Elopement in Young Children with ASD. National Institutes of Health, National Institute of Child Health and Human Development. (Co-Is: Brian Boyd, Brenda Salley, & Claudia Dozier) ($275,000). Submitted 02/16/20.

**Co-Principal Investigator**

Developing a Sensing Systems Network in Early Education. AERA Planning Grant. (PI: Laura Justice; Co-PI: Daniel Messinger and Sidney D'mello) ($25,000). Submitted 03/04/20.

**Co-Principal Investigator**

Applying State-of-the-Art Tech Tools to Early-Learning Settings: Developing and Testing the Tech in Early Ed (TED) Sensing System. US Department of Education, Institute for Education Sciences Unsolicited Funds. (PI: Laura Justice; Co-PI: Daniel Messinger; Co-Is: Brian Boyd and Jay Buzhardt) ($468,000). Submitted 03/02/20.

**Co-Principal Investigator**

SCC-PG: The Impact of Data-Driven Architecture on Population Health Initiatives. National Science Foundation, Smart and Connected Communities. (PI: Joe Colistra; Co-PI: Jay Buzhardt) ($150,000). Submitted 09/06/2019.

**Co-Principal Investigator**

KC Talks: Helping Early Educators Enhance Children's Early Language Environments to Improve Children's School Readiness. Greater Kansas City Community Foundation. (PI: Judith Carta) ($500,000). Submitted 04/03/2018.

**Principal Investigator**

Promoting Physical Activity in Low-income Young Children in the Home and Community via a Wayfinding App. National Institutes of Health, National Institute of Nursing Research. (Co-Is: Kathryn Bigelow and Christopher Cushing) ($275,000). Submitted 02/16/2018.

**Co-Principal Investigator**

Measuring Interactions in ClassroomS (MICS): Automated Measurement of Elementary Students' Engagement in Science Learning Activities. National Science Foundation Discovery Research PreK-12. (PI: Jay Buzhardt; Co-PIs: Doug Huffman and John Hansen) ($3,000,000). 1st submission 11/14/2017 and resubmitted 2 times.

**Principal Investigator**

Measuring Interactions in ClassroomS (MICS): An Automated System to Monitor Inclusion and Social Engagement of Young Children with Intellectual and Developmental Disabilities and Delays. US Department of Education, Institute of Education Sciences. (Co-PIs: Jay Buzhardt, John Hansen and Charles Greenwood) ($1,400,000). 1st submission 08/17/2017 and resubmitted 1 time.

**Co-Principal Investigator**

Talk Around Town: Identifying Benchmarks and Supporting Parent-Child Conversational Turns in Community Settings for Young Children with Autism Spectrum Disorder Using a Mobile App. National Institutes of Health, National Institute on Deafness and Other Communication Disorders. (Co-PI: Kathryn Bigelow) ($275,000). 1st submission 02/16/2017 and resubmitted 2 times.

**Co-Principal Investigator**

Talk Around Town. Bridging the Word Gap Challenge – Phase III. Health Resources and Services Administration. (PI: Kathryn Bigelow; Co-I: Nick Tallmon) ($75,000). Submitted 03/27/17.

## Co-Principal Investigator

Teachers and Parents Together: Improving Preschoolers' Language Outcomes to Promote Kindergarten Readiness. Greater Kansas City Community Foundation. (PI: Kathryn Bigelow). ($500,000). Submitted 03/17/2017.

## Consultant

Early Head Start University Partnership: Building the Evidence Base for Social-communication Interventions for Infant/toddler Center-based Programs. US Department of Health Resources and Services, Administration for Children and Families. (PI: Judith Carta; Co-PIs: Kathleen Baggett, Kathryn Bigelow and Dale Walker) ($2,500,000). Submitted 07/06/2015.

## Principal Investigator

Examining the Language Environment of Preschoolers with Autism Spectrum Disorder in the Inclusive Classroom with Location and Movement Analysis. National Institutes of Health, National Institute on Deafness and Other Communication Disorders. (Co-Is: Stephen Crutchfield, Kathy Thiemann-Bourque, and Pascal Deboeck) ($275,000). Submitted 10/14/2014 and resubmitted 2 times.

## Co-Principal Investigator

Understanding Language Environments in Community Settings in Families of Children with Autism. Organization for Autism Research. (Co-PI: Lauren Little) ($30,000). 1st submission 08/10/2014 and resubmitted 1 time.

## Early Childhood Content Advisor

Development of Preschool Professional Development Program that Sticks: STICKS-P (Sustainable Training and Instructional Coaching of Knowledge and Skills for Preschool). US Department of Education, Institute of Education Sciences. (PI: Jay Buzhardt; Co-PIs: Howard Wills and Maura Linas) ($1,500,000). Submitted 09/04/2013.

## HONORS AND AWARDS FOR RESEARCH

2012-2015    IES Post-Doctoral Training Program in Special Education: Response to Intervention (RTI) in Early Childhood

2012    UNC Graduate and Professional Student Federation Travel Award

2011-2012    UNC Graduate Student Association Conference Participation Award

2007-2011    U.S. Department of Education Doctoral Leadership Grant Participant

2010    UNC European Union Center Graduate Student Research Travel Award

2010    UNC School of Education One-Time Graduate Travel Award

# TEACHING

Fall 2025     Instructor
EEC 6615: Early Childhood Education: Background and Concepts (hybrid)

Spring 2024     Instructor
EEC 6933: Assessment and Evaluation in Early Childhood Settings (online)
University of Florida, Gainesville, FL

Fall 2023     Instructor
EEC 7666: Theory and Research in Early Childhood Intervention
University of Florida, Gainesville, FL

Spring 2023     Instructor
EEC 6326: Social and Pre-Academic Instructional Methods for Young Children
University of Florida, Gainesville, FL

Spring 2017     Co-Instructor
OCTH 790: Research Practicum and Professional Writing
University of Kansas Medical Center, Kansas City, KS

Spring 2016     Co-Instructor
HDI 602-001: Interdisciplinary Supports
Human Development Institute, Lexington, KY

Summer 2014 Co-Instructor
SPED 854: Family and Interprofessional Collaboration in Special Education
University of Kansas, Overland Park, KS

Spring 2014     Guest Lecturer
SPED 860: Education of Children and Youth with Disabilities: II
University of Kansas, Overland Park, KS

Spring 2012     Teaching Assistant
OCCT 992: Research Seminar in Occupational Science
University of North Carolina, Chapel Hill, NC

Fall 2009     Co-Instructor
EDUC 412: Learning and Development
University of North Carolina, Chapel Hill, NC

Fall 2008     Teaching Assistant
EDUC 501: Preschool-Kindergarten Assessment and Teaching Strategies
University of North Carolina, Chapel Hill, NC

Spring 2008    Teaching Assistant
                EDUC 662: Emergent Literacy
                University of North Carolina, Chapel Hill, NC

2006-2007      Mentor/Instructor
                Child Development Associate (CDA) program
                Episcopal Children's Services, Jacksonville, FL

## DISSERTATION COMMITTEES

Prasanna Kothalkar – Electrical Engineering at UT-Dallas
Dissertation title: Knowledge Distillation-based Approaches for Adult-child Communication
Assessment Based on Speech Recognition and Speaker-type Diarization in Naturalistic
Preschool Classroom Settings
Graduated in 2024

Midia Yousefi – Electrical Engineering at UT-Dallas
Dissertation title: Deep Learning Based Methods for Detection, Separation, and Recognition of
Overlapping Speech
Graduated 2021

Anna Wallisch – Occupational Therapy at KUMC
Dissertation title: Early Identification in Autism: Subtypes Based on Child, Family, and
Community Characteristics.
Graduated 2018

## RELATED EXPERIENCE

2011-2012      Graduate Assistant
                Office of Student Affairs at UNC School of Education
                Chapel Hill, NC

2010-2011      America Reads Coach Mentor
                Student Coalition for Action Literacy Education
                Carrboro, NC

2005-2006      Screening/Inclusion Specialist
                Episcopal Children's Services
                Jacksonville, FL

2004-2005      Family Services Specialist
                Episcopal Children's Services
                Jacksonville, FL

**SERVICE**

2023-present   MAE Program Development committee

2023-present   MAE Admissions committee

2023-present   Special Education PhD Admissions committee

2023-present   Faculty Policy Council Research Advisory committee

2023-present   Episcopal Children's Services board member

2022-2024   Guest Editor, Early Childhood Research Quarterly Special Issue

2021   Guest Reviewer, Dutch Research Council

2019-present   Editorial Board Member, Journal of Early Intervention

2017-2023   KU Lawrence IRB board committee member

2016-present   Editorial Board Member, Topics in Early Childhood Special Education

2016-present   Guest Reviewer, Journal for Autism and Developmental Disorders

2014-present   Guest Reviewer, Journal of Speech, Language, and Hearing Research

2012-2016   Guest Reviewer, Journal of Early Intervention

2010-2011   UNC Graduate Student Association Co-Social Chair