



CADRE Spotlight: Students with Learning Disabilities
Recent Publications & Presentations from Featured DRK-12 Projects

CAREER: Fraction Activities and Assessments for Conceptual Teaching (FAACT) for Students with Learning Disabilities (PI: Jessica Hunt)

Recent Publications:

- Hunt, J. H. & Silva, J. (Accepted for publication). Emma's negotiation of number: Implicit intensive intervention. *Journal for Research in Mathematics Education*.
- Hunt, J. H., MacDonald, B. L., & Silva, J. (Revisions). *Thinking, tricks, or teaching: Gina's mathematical reality*.
- Hunt, J. H., Silva, J., & Welch-Ptak, J. (2018). Changing the goal: Reasoning and sense making in children's small environments. Manuscript submitted for publication.
- Hunt, J. H., MacDonald, B., Lambert, R., Sugita, T., & Silva, J. (2018). Think, pair, show, share to increase classroom discourse. *Teaching Children Mathematics* (Focus Issue - Invited contribution), 25(2), 80–84.
- Lambert, R., Tan, P., Hunt, J. H., & Candella, A. (2018). Re-humanizing the mathematics education of students with disabilities: Critical perspectives on research and practice. *Investigations in Mathematics Learning*, 10(3), 129–132.
- Lynch, S., Hunt, J. H., & Lewis, K. (2018). Productive struggle for all: Differentiated instruction. *Mathematics Teaching in the Middle School*, 24(4), 194–201.
- Hunt, J. H. & Tzur, R. (2017). Where is difference? Processes of mathematical remediation through a constructivist lens. *Journal of Mathematical Behavior*, 48, 62–76.
- Hunt, J. H., *Welch-Ptak, J., & *Silva, J. (2016). Initial understandings of fraction concepts evidenced by students with learning disabilities and difficulties: A framework. *Learning Disabilities Quarterly*, 39(4), 213–225.

Recent Presentations:

- Hunt, J. H. & Silva, J. (2019, April). *Emma's numbers: Whose knowledge is valued? What knowledge is valued?* Paper presented at the American Educational Research Association, Toronto, Ontario, Canada.
- Hunt, J. & Wilson, J. (2019, April). *Marginalized within a marginalized community: Supporting meaning making*. Paper presented at the American Educational Research Association, Toronto, Ontario, Canada.
- Hunt, J., MacDonald, B., Lambert, R., & Silva, J. (2019, April). *Think-pair-show-share: UDL and talk moves*. Presented at the annual meeting of the National Council of Teachers of Mathematics, San Diego, CA.
- Hunt, J. H., et al. (November 2018). *Complex conceptions of fractions: Negotiating meaning in the small environment*. Presented at the Regional meeting of the National Council of Teachers of Mathematics, Kansas City, MO.



[Developing Preservice Teachers' Capacity to Teach Students with Learning Disabilities in Algebra I \(PI: Casey Hord\)](#)

Prior Research:

- DeJarnette, A. F., & González, G. (2015). Positioning during group work on a novel task in Algebra II. *Journal for Research in Mathematics Education*, 46(4), 378–422. Retrieved from <https://doi.org/10.5951/jresmetheduc.46.4.0378>
- González, G., & DeJarnette, A. F. (2015). Teachers' and students' negotiation moves when teachers scaffold group work during a problem-based lesson. *Cognition and Instruction*, 33(1), 1–45. <https://doi.org/10.1080/07370008.2014.987058>
- Hord, C., Marita, S., Ayaz, S., Tomaro, T., Gordon, K., Tunngley, J., & Haskins, S. (2018). Diverse needs of students with learning disabilities: A case study of tutoring two students in algebra. *Journal of Research in Special Educational Needs*. <https://doi.org/10.1111/1471-3802.12415>
- Hord, C., Marita, S., Walsh, J. B., Tomaro, T. M., & Gordon, K. (2016). Encouraging students with learning disabilities. *Mathematics Teacher*, 109, 612–617. <https://doi.org/10.5951/mathteacher.109.8.0612>
- Hord, C., Marita, S., Walsh, J. B., Tomaro, T. M., Gordon, K., & Saldanha, R. L. (2016). Teacher and student use of gesture and access to secondary mathematics for students with learning disabilities: An exploratory study. *Learning Disabilities: A Contemporary Journal*, 14(2), 189–206. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1118523.pdf>
- Marita, S., Hord, C., & Gamel, Z. (2018). Adapting instruction in response to academic and social situational tendencies: Supporting a student with a learning disability. *Learning Disabilities: A Contemporary Journal*, 16(2), 139–156. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1194565.pdf>

Presentations from Prior Research:

- DeJarnette, A. F., Hord, C., & Marita, S. (2016, November). *Using linguistics to examine a tutoring session about linear functions*. Presentation at the annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Tucson, AZ. Retrieved from <https://files.eric.ed.gov/fulltext/ED583733.pdf>
- Hord, C., DeJarnette, A. F., & Marita, S. (2015, November). Justification in the context of linear functions: Gesturing as support for students with learning disabilities. In T. G. Bartell, K. N. Bieda, K. Bradfield, & H. Dominguez (Eds.), *Proceedings of the 37th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (p. 587). East Lansing, MI: Michigan State University. Retrieved from <https://msu.edu/~brakoni1/PMENA-2015-PROCEEDINGS-2015-11-04.pdf>



[Perceptual and Implementation Strategies for Knowledge Acquisition of Digital Tactile Graphics for Blind and Visually Impaired Students \(PIs: \[Nicholas Giudice\]\(#\), \[Jenna Gorlewicz\]\(#\), \[Derrick Smith\]\(#\), and \[Andreas Stefik\]\(#\)\)](#)

Recent Publications:

- Tennison, J. L., Carril, Z. S., Giudice, N. A., & Gorlewicz, J. L. (2018, August). Comparing haptic pattern matching on tablets and phones: Large screens are not necessarily better. *Optometry and Vision Science*, 95(9), 720–726.
- Tennison, J. L., & Gorlewicz, J. L. (in press). Non-visual perception of lines on a multimodal touchscreen tablet. *ACM Transactions on Applied Perception*.
- Hahn, M., Mueller, C., & Gorlewicz, J. L. (in press). The comprehension of stem graphics via a multi-sensory tablet in students with visual impairment. *Journal of Visual Impairment and Blindness*.
- Gorlewicz, J. L., Tennison, J. L., Palani, H. P., & Giudice, N. A. (in press). *The graphical access challenge for people with visual impairments: Positions and pathways forward* [Interactive multimedia]. London, UK: IntechOpen Limited.
- Gorlewicz, J. L., Mueller, C. M., & Dahmm, H. (2018, October). Bringing digital graphics to life: The promise of multimodal touchscreens – Progress and future work. Presented at the National Federation of the Blind Tactile Graphics in Education and Careers Symposium, Baltimore, MD.
- Palani, H. P., Tennison, J. L., Giudice, G. B., & Giudice, N. A. (2018). Touchscreen-based haptic information access for assisting blind and visually-impaired users: Perceptual parameters and design guidelines. In T. Ahram & C. Falcão (Eds.), *Advances in Usability, User Experience and Assistive Technology: Part of the International Conference on Applied Human Factors and Ergonomics (AHFE'18)*. *Advances in Intelligent Systems and Computing* (798, 837-847). Cham, Switzerland: Springer International Publishing.
- Palani, H. P., Giudice, G.B., & Giudice, N.A. (2018, July). *Haptic information access on touchscreen devices: Guidelines for accurate perception and judgment of line orientation*. Presented at the 20th annual conference on Human-Computer Interaction (HCI International '18). Las Vegas, NV.
- Palani, H. P. & Giudice, N. A. (2017, October). *Principles for designing large-format refreshable haptic graphics using touchscreen devices: An evaluation of nonvisual panning methods*. Presented at the 19th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS'17), Baltimore, MD.