

Robert B. Cavanaugh PhD, CCC-SLP

Curriculum Vitae

Speech-language pathologist turned clinical researcher and health research data analyst. Passionate about improving outcomes for individuals with neurogenic communication disorders.

Contact

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🌐 rbcavanaugh.github.io

🐙 Github

🎓 Google Scholar

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Key Interests

🌐 Real-world evidence generation for healthcare decision making in neurorehabilitation

👤 Improving treatment effectiveness, population-level outcomes, and quality of life for individuals with post-stroke aphasia

📊 Quantitative methods, Open-source software development, Open science, & Science communication

🏠 Technology for aphasia rehabilitation

📁 Academic & Clinical Positions

- 2023 — ● Health Research Data Analyst
Product Owner, OHDSI Lab
Office of the Dean, Bouvé College of Health Sciences
Observational Health Data Science and Informatics Center, Roux Institute
Northeastern University, Portland, ME.
- 2018 — 2023 ● Graduate Student Researcher
Language Rehab and Cognition Lab, University of Pittsburgh
PI: William S. Evans PhD, CCC-SLP
Speech Pathology and Audiology, VA Pittsburgh Healthcare System
PI: William D. Hula PhD, CCC-SLP & Michael Walsh Dickey PhD
- 2015 — 2018 ● Speech-Language Pathologist
Carolinas Rehabilitation, Atrium Health, Charlotte, NC
Carolinas Neurosciences Institute, Atrium Health, Charlotte, NC
- 2013 — 2015 ● Graduate Research Assistant
Center for Aphasia and Related Disorders, UNC - Chapel Hill
PI: Katarina Haley PhD, CCC-SLP
- 2010 — 2013 ● Undergraduate Research Assistant
Eye and Ear Institute, University of Pittsburgh Medical Center
PI: Patrick Sparto, PhD, PT

🎓 Education

- 2023 ● University of Pittsburgh, Pittsburgh, PA
Dissertation: Determinants of Multilevel Discourse Outcomes in Anomia Treatment for Aphasia
Ph.D. Communication Science and Disorders
- 2015 ● University of North Carolina at Chapel Hill, Chapel Hill, NC
Thesis: Working Memory Capacity and Subjective Communication Difficulties in High Level Aphasia
M.S. Speech and Hearing Sciences
- 2013 ● University of Pittsburgh, Pittsburgh, PA
B.A. Communication Science and Disorders

✍ Grant Support

- 2024 — 2025 ● LeaRRN: Learning Health Systems Rehabilitation Research Network
Learning Health Systems (LHS) Scholar Program
Characterizing usual-care rehabilitation dose in intensive care and acute care settings
Role: PI; Direct Costs: \$12,539
- 2021 — 2023 ● NIH-NIDCD F31 DC019853 Ruth L. Kirschstein NRSA
Determinants of multilevel discourse outcomes in anomia treatment for aphasia
Role: PI; Impact Score: 25; Direct Costs: \$68,482
Sponsors: Michael Walsh Dickey & William S. Evans

Last updated on 2024-07-10.

- 2021 — ● Audrey Holland Endowed Award
2023
Determinants of multilevel discourse outcomes in anomia treatment for aphasia
Role: PI; Direct Costs: \$2000
- 2019 — ● NIH-NCATS NRSA TL1 University of Pittsburgh
2021
Comparing Treatment Intensity between Research and Clinical Practice in Post-Stroke Aphasia
Role: Predoctoral Fellow; PI: Kraemer (TL1TR001858)
Mentors: Michael Walsh Dickey, William S. Evans, & Catherine Palmer
- 2019 ● School of Health and Rehabilitation Sciences Research Development Fund
Role: PI; Direct Costs: \$1000
Faculty Sponsor: William S. Evans



Publications

- 2024 ● **Cavanaugh, R.**, Dickey, M. W., Hula, W. D., Fromm, D., Golovin, J., Wambaugh, J., Fergadiotis, G., & Evans, W. S. (In Press). Determinants of Multilevel Discourse Outcomes in Anomia Treatment for Aphasia.
- Smith, L. H., & **Cavanaugh, R.** (In Press). allofus: An R package to facilitate use of the All of Us Researcher Workbench.
- Pierce, J. E., **Cavanaugh, R.**, Harvey, S., Dickey, M. W., Nickels, L., Copland, D., Togher, L., Godecke, E., Meinzer, M., Rai, T., Cadilhac, D. A., Kim, J., Hurley, M., Foster, A. M., Carragher, M., Wilcox, C., & Rose, M. (In Press). High Intensity Aphasia Intervention is Minimally Fatiguing in Chronic Aphasia – An Analysis of Participant Self-Ratings from a Large Randomized Controlled Trial. *Stroke*
- Kurland, J., Liu, A., Varadharaju, V., Stokes, P., & **Cavanaugh, R.** (2024). Reliability of the Brief Assessment of Transactional Success in Communication in Aphasia. *Aphasiology*, 1–22. <https://doi.org/10.1080/02687038.2024.2351029>
- Robinson, K., **Cavanaugh, R.**, Dias, R., Peary, A., Johnson, R., Rao, V., ... & Olivieri-Mui, B. (2024). An Analysis of Orientation and Preceptorship Influence on Nurse Job Satisfaction Across Two States. *Journal for Nurses in Professional Development*, 40(3), 149-155.
- Akers, C. M., Boyle, M., Swiderski, A. M., Hula, W. D., **Cavanaugh, R.**, & Elman, R. J. (2024). Changes in complete utterances following communication-based group treatment for chronic aphasia. *Aphasiology*, 1-24.
- Robinaugh, G., Henry, M. L., **Cavanaugh, R.**, & Grasso, S. M. (2024). Computer-Based Naming Treatment for Semantic Variant Primary Progressive Aphasia With History of Traumatic Brain Injury: A Single-Case Experimental Design. *Journal of Speech, Language, and Hearing Research*, 1-21.
- 2023 ● Wong, C.N., Wilczek, M.P., Smith, L.H., Bosse, J.D., Richard, E.L., **Cavanaugh, R.**, Manjourides, J., Orkaby, A.R. and Olivieri-Mui, B. (2023). Frailty Among Sexual and Gender Minority Older Adults: The All of Us Database. *The Journals of Gerontology: Series A*, glad149.
- **Cavanaugh, R.**, Quique, Y.M., Swiderski, A.M., Kallhoff, L., Terhorst, L., Wambaugh J., Hula, W.D., Evans, William S (2023). Reproducibility in small-N treatment research: a tutorial using examples from aphasiology. *Journal of Speech, Language, and Hearing Research*.

- 2022
- Quique, Y. M., **Cavanaugh, R.**, Lescht, E., & Evans, W. S. (2022). Applying adaptive distributed practice to self-managed computer-based anomia treatment: A single-case experimental design. *Journal of Communication Disorders*, 99, 106249. <https://doi.org/10.1016/j.jcomdis.2022.106249>
 - Boyle, M., Akers, C. M., **Cavanaugh, R.**, Hula, W. D., Swiderski, A. M., & Elman, R. J. (2022). Changes in discourse informativeness and efficiency following communication-based group treatment for chronic aphasia. *Aphasiology*, 1-35.
 - Nguy, B., Quique, Y.M., **Cavanaugh, R.**, Evans, William S. (2022) Representation in aphasia research: an examination of US treatment studies published between 2009 and 2019. *American Journal of Speech-Language Pathology*
 - **Cavanaugh R**, Quique YM, Dickey MW, Hula WD, Boss E, & Evans WS (2022). Practice-Related Predictors of Semantic Feature Verification Treatment for Aphasia. *American Journal of Speech-Language Pathology*. https://doi.org/10.1044/2021_AJSLP-21-00296
- 2021
- **Cavanaugh, R.**, Kravetz C., Jarold L., Quique Y., Turner R., & Evans, W.S. (2021). Is There a Research–Practice Dosage Gap in Aphasia Rehabilitation? *American Journal of Speech-Language Pathology*, 30(5), 2115–2129. [10.1044/2021_AJSLP-20-00257](https://doi.org/10.1044/2021_AJSLP-20-00257).
 - Evans W.S., **Cavanaugh R.**, Quique Y, Boss E, Starns J.J., & Hula W.D. (2021). Playing With BEARS: Balancing Effort, Accuracy, and Response Speed in a Semantic Feature Verification Anomia Treatment Game. *Journal of Speech, Language, and Hearing Research*. https://doi.org/10.1044/2021_JSLHR-20-00543
 - Kersey, J., Evans, W. S., Mullen, K., Askren, A., **Cavanaugh, R.**, Wallace, S. E., Hula, W. D., Walsh Dickey, M., Terhorst, L., & Skidmore, E. (2021). Metacognitive Strategy Training Is Feasible for People With Aphasia. *OTJR: Occupation, Participation and Health*. <https://doi.org/10.1177/15394492211023196>
 - Evans, W. S., **Cavanaugh, R.**, Gravier, M. L., Autenreith, A. S., Doyle, P. J., Hula, W. D., Dickey Michael, W., & Dickey, M. W. (2021). Effects of Semantic Feature Type, Diversity, and Quantity on Semantic Feature Analysis Treatment Outcomes in Aphasia. *American Journal of Speech-Language Pathology*. https://doi.org/10.1044/2020_AJSLP-19-00112
- 2020
- **Cavanaugh, R.B.**, Haley, K.L. (2020). Subjective communication difficulties in very mild aphasia. *American Journal of Speech-Language Pathology*, 29(1S), 437–448. https://doi.org/10.1044/2019_AJSLP-CAC48-18-0222



Presentations

- 2024
- Bennett CR, Cavanaugh R, Smith LH. Social and structural determinants of diabetes technology use: A descriptive analysis. Annual Symposium on Risks and Opportunities of AI in Pharmaceutical Medicine (AIPM). Boston, MA, June 2024
 - Bennett CR, Cavanaugh R, Smith LH. Using a target trial to estimate the causal effect of health technology on racial disparities. Society for Epidemiological Research (SER). Austin, TX, June 2024
 - Bennett CR, Cavanaugh R, Smith LH. Social and structural determinants of diabetes technology use: A descriptive analysis. Society for Epidemiological Research (SER). Austin, TX, June 2024
 - Aneeka Ratnayake*, Robert Cavanaugh, Mark Brennan-Ing, Brianne Olivieri-Mui. (Poster) “Durable Viral Suppression Among Transgender and Cisgender Individuals Enrolled in a Medicaid Special Needs Plan”. International Workshop on HIV and Hepatitis in Observational Data 2024. March 21-23, 2024.

2023

- **Cavanaugh, R.**, Olivieri-Mui, B., & Smith, L. (2023). Treatment Dosage in Aphasia Rehabilitation: From Research Efficacy to Real-World Evidence. Seminar accepted at the American Speech-Language Hearing Association Convention, Thursday, November 16, 2023, Boston, MA.
- Wong, C. N., Smith, L. H., **Cavanaugh, R.**, & Olivieri-Mui, B. (2023). Unraveling the Mediating Role of Frailty: Understanding Health Care Utilization among Older Sexual and Gender Minority Adults in the All of Us Research Program. Poster presented at the 2023 OHDSI Symposium, East Brunswick, NJ.
- Yanover, C., Smith, L., ElHay, T., Olivieri-Mui, B., Bivas-Benita, M., **Cavanaugh, R.**, Akiva, P., Wong, C. N., & Orkaby, A. (2023). Validation and Comparison of Frailty Indexes: An OHDSI Network Study. Poster presented at the 2023 OHDSI Symposium, East Brunswick, NJ.
- **Cavanaugh, R.**, Are there research - practice dosage gaps in neurorehabilitation? Invited talk presented at the Monthly Brain Injury Team Meeting, Carolinas Rehabilitation, September 12, 2023, Charlotte, NC

2022

- **Cavanaugh, R.**, Dalton, S., & Richardson, J. (2022). Novel Web Applications to Facilitate Discourse Analysis in Everyday Clinical Practice. Paper presented at the American Speech-Language-Hearing Association Annual Convention. Friday, November 18, 2022, New Orleans, Louisiana.
- **Cavanaugh, R.**, & Swiderski, A., Steel, S., Fergadiotis, G., Hula, W.D. (2022). Computer Adaptive Naming Assessment for Aphasia: A New Tool for SLPs. Paper presented at the American Speech-Language-Hearing Association Annual Convention. November 18, 2022, New Orleans, Louisiana.
- Goldberg, E., Dickey, M., Hula, W., **Cavanaugh, R.**, Swiderski, A., & Autenreith, A. (2022). Cognitive Functions Supporting Learning Over Time in Naming Treatment for Aphasia. Paper presented at the American Speech-Language-Hearing Association Annual Convention. Friday, November 18, 2022, New Orleans, Louisiana.
- Smith, A., Williams, C., Hambridge, T., Harmon, T., Wallace, S., Brancamp, T., Biel, M., Evans, W., & **Cavanaugh, R.** (2022). Basic Psychological Need Satisfaction and Frustration in Aphasia: Correlations With Aphasia Severity and Mood. Poster presented at the American Speech-Language-Hearing Association Annual Convention, Friday, November 18, 2022, New Orleans, Louisiana.
- **Cavanaugh R.**, Swiderski, A., Goldberg, E., Hula, W.D., Evans, W.S., Dickey, M.W., (2022) Within-trial evidence for the Importance of Feature Generation during Semantic Feature Analysis. Platform accepted at Academy of Aphasia (October 2022).
Note: Awarded Best Student Presentation
- **Cavanaugh R.**, Swiderski, A., Hula, W.D., Fergadiotis, G., Steel, S., (2022) The PNT-CAT: A Computer Adaptive Test Version of the Philadelphia Naming Test. Poster presented at the International Aphasia Rehabilitation Conference (June 2022).
- **Cavanaugh, R.**, Brancamp, T, Harmon, T, Wallace, S, Biel, M, Hambridge, T, Caputo, M, Evans, WS (2022). Measuring Post-traumatic Growth in People with Aphasia. Abstract for poster presentation, annual Clinical Aphasiology Conference (May 2022). Wrightsville Beach, NC
- Brancamp, T, **Cavanaugh, R.**, Harmon, T, Wallace, S, Biel, M, Hambridge, T, Caputo, M, Evans, WS (2022). Individual-level predictors of post-traumatic growth and depreciation in aphasia. Abstract for platform presentation, annual Clinical Aphasiology Conference (May 2022). Wrightsville Beach, NC

- Goldberg, E, Dickey, M.W., Hula, W.D., **Cavanaugh, R.** Swiderski, A., Autenreith, Alyssa. (2022). Cognitive functions supporting learning over time in naming treatment for aphasia. Abstract for platform presentation, annual Clinical Aphasiology Conference (May 2022). Wrightsville Beach, NC
- Schliep, M., **Cavanaugh, R.**, , Tierney-Hendricks, C., Schnek, S., Douglas, N., (2022). Leveraging Implementation Science to Advance the Reach of Aphasia Best Practices. Abstract for roundtable presentation, annual Clinical Aphasiology Conference (May 2022). Wrightsville Beach, NC
- Evans, WS, Kelly, A, Meyer, E, Skidmore, E, Pompon, R, Flowers, R, Cavanaugh, R (2022). Adapting acceptance and commitment therapy for stroke survivors with aphasia. Abstract for platform presentation, annual Clinical Aphasiology Conference (May 2022). Wrightsville Beach, NC.
- Steel, S., **Cavanaugh R.**, Fergadiotis, G., Hula, W.D., (2022) Bridging the gap: Measuring perceived barriers and facilitators of a novel anomia assessment tool. Lightning talk, Implementation Science is for All: A CSD Practice-Research Exchange (April 2022).
- 2021 ● Evans, W.S., Quique, Y.M., **Cavanaugh, R.**, Lescht, E. (2021). Effects of adaptive distributed practice and stimuli variability in flashcard-based anomia treatment. Abstract for poster presentation, 59th Academy of Aphasia, Online
- **Cavanaugh, R.** Quique, Y, Boss, E, Hula, W.D., and Evans, W.S. (2021). Practicing with BEARS: Active Ingredients in Semantic Feature Analysis. Abstract for poster presentation, 51st annual Clinical Aphasiology Conference, Online
- Evans, W.S., **Cavanaugh, R.**, Quique, Y., Boss,E., Dickey, M.W., Doyle , P, Starns,J.J.,and Hula, W.D., (2021). BEARS-Balancing Effort, Accuracy, and Response Speed in semantic feature verification anomia treatment. Abstract for platform presentation, 50th annual Clinical Aphasiology Conference, Online..
- Quique,Y., **Cavanaugh, R.**, Starns, J.J., Boss, E., Hula, W.D., and Evans, W.S. (2021). Estimating the speed-accuracy tradeoff “Sweet Spot” in language performance for people with aphasia: replication and extension of a diffusion-model based approach. Abstract for poster presentation, 50th annual Clinical Aphasiology Conference, Online.
- Boyle M, Akers C, **Cavanaugh R.**, Hula WD, Swiderski A, Elman R. (2021) Changes in informativeness following communication-based group treatment for chronic aphasia . Abstract for platform presentation, 50th annual Clinical Aphasiology Conference, Online.
- Akers, C, Boyle M, Swiderski A, Hula WD, **Cavanaugh R.**, Elman R. (2021) Using complete utterances to measure change in conversational discourse following communication- based group treatment. Abstract for poster presentation, 51st annual Clinical Aphasiology Conference, Online
- **Cavanaugh, R.**, Kravetz, C., Jarold, L., Quique, Y., Turner, R., Evans, W.S. (2021). Is there a research-practice dosage gap in aphasia rehabilitation? Abstract for poster presentation, Aphasia Access Leadership Summit, online.
- Nguy, B, **Cavanaugh, R.**, Quique, Y, Evans, WS. (2021). Are Aphasia Research Participants Representative of the Post-Stroke Aphasia Population in the US? Abstract for poster presentation, Aphasia Access Leadership Summit. Online conference.
- 2020 ● **Cavanaugh, R.**, Kravetz, C., Jarold, L., Quique, Y., Turner, R., Evans, W.S. (2020). Is there a research-practice dosage gap in aphasia rehabilitation? Abstract for poster presentation, 16th Annual Rehabilitation Institute Research Day. Pittsburgh, PA
- **Cavanaugh, R.**, Terhorst, L., Swiderski, A.W., Hula, W.D., Evans, W.S. (2020). A Systematic Appraisal of Individual Effect Sizes in Aphasia Single-Case Designs via Simulation. Abstract for poster presentation, 58th Academy of Aphasia, Philadelphia PA.

- Evans, WS, **Cavanaugh, R.**, Quique, Y, Boss, E, Dickey, MW, Doyle, P, Starns, J, and Hula, W (2020). BEARS- Balancing Effort, Accuracy, and Response Speed in semantic feature verification anomia treatment. Abstract for platform presentation, annual Academy of Aphasia Conference (virtual online conference).
- **Cavanaugh, R.**, Kravetz, C., Evans, W.S. Utilization and Disparities in Outpatient Aphasia Rehabilitation in Western Pennsylvania. Abstract for poster presentation, Pennsylvania Speech-Language Hearing Association Annual Conference, Pittsburgh, PA (Conference Canceled).
- 2019 ● **Cavanaugh, R.**, Evans, W.S., Gravier, M., Autenreith, A., Ashmore, E., Doyle, P., Hula, W., Dickey, M.W., (2019). Do the kinds of features that patients generate during Semantic Feature Analysis affect treatment outcomes? Poster presented at the 2019 Clinical Aphasiology Conference in Whitefish, MT.
- 2018 ● **Cavanaugh, R.B.**, Haley, K.L. (2018) Subjective communication difficulties in very mild aphasia. Abstract for poster presentation, 48th annual Clinical Aphasiology Conference, Austin, TX.
- 2014 ● **Cavanaugh, R.B.**, & Haley, K. (2014, April) Accounting for Aphasia-Related Language Deficits in Verbal Working Memory Assessments: A Literature Review. Poster presented at the 2014 SPHS Student Research Day in Chapel Hill, NC.



Technology

- 2023 ● Smith, L.H., **Cavanaugh, R.** (2023). allofus: An R package to streamline use of the AllofUs Research Workbench. Version 0.1.0. Available from <https://cran.r-project.org/web/packages/allofus>
- 2022 ● **Cavanaugh, R.**, Smith, L.H. (2023). ohdsilab: Tools for using Roux OHDSI Lab at Northeastern University Version 0.0.0.9. Available from <https://github.com/roux-ohdsi/ohdsilab>
- 2022 ● **Cavanaugh, R.**, Aphasia Rehabilitation Research Technology Mapping Project <https://robcavanaugh.com/aphasia-tech-map/>
- 2022 ● **Cavanaugh, R.**, Dalton, S.G., Richardson, J, (2022). mainConcept. Available from: <https://rb-cavanaugh.shinyapps.io/mainConcept>
- 2022 ● **Cavanaugh, R.**, Dalton, S.G., Richardson, J, (2022). coreLexicon. Available from: <https://rb-cavanaugh.shinyapps.io/coreLexicon>
- **Cavanaugh, R.**, Swiderski, A.M., Hula, W.D. (2022). acom: The Aphasia Communication Outcome Measure. Version 0.4.0.2 Available from <https://github.com/rbcavanaugh/acom>.
- 2022 ● **Cavanaugh, R.**, Aphasia Research Finder. <https://aphasiaresearch.org>
- **Cavanaugh, R.**, Swiderski, A.M., Fergadiotis, G. & Hula, W.D. (2022). pnt: Computer adaptive forms of the Philadelphia Naming Test. Version 0.1.1 Available from <https://github.com/rbcavanaugh/pnt>.
- 2021 ● Kowalski, J., and **Cavanaugh R.** (2021). TBDBr: Easy Access To TalkBankDB via R API. <https://github.com/TalkBank/TalkBankDB-R>



Media

- 2023 ● Determinants of Multilevel Disource Outcomes in Anomia Treatment for Aphasia. The Language Neuroscience Podcast (Dr. Stephen Wilson) episode #28, October 14, 2023

- 2021 ● Voltage Drop and Aphasia Treatment: Thinking About the Research-Practice Dosage Gap in Aphasia Rehabilitation: A Conversation with Rob Cavanaugh" Aphasia Access Conversations podcast, episode #77, October 28, 2021.



Scholarships and Awards

- 2022 ● NIH-NIDCD Academy of Aphasia conference grant (R13 DC017375-01)
● Plural Publishing Research Scholarship
- 2020 ● ANCDs Conference Student Fellowship
● NIH-NIDCD Academy of Aphasia conference grant (R13 DC017375-01)
- 2019 ● NIH-NIDCD Fellowship: Research Symposium in Clinical Aphasiology
- 2014 ● Adult Communication Disorders Annual Scholarship, UNC-Chapel Hill
● Robert W. Peters Award for excellence in research, UNC-Chapel Hill



Professional Memberships

- 2021 — ● Member, Collaboration of Aphasia Trialists: Effectiveness of Aphasia Interventions, Implementation Science
- 2016 — ● CCC-SLP: American Speech-Language and Hearing Association (ASHA)
- 2015 — ● SLP: Board of Examiners in Speech-Language Pathology, North Carolina
- 2015 — 2023 ● Member, ASHA SIG 2: Neurogenic Communication Disorders



Teaching

- 2023 ● Mentor, The All of Us Research Scholar Program
- 2022 ● Introduction to R: Workshop for incoming PhD students in CSD - University of Pittsburgh
• Led, organized, and co-designed 3-day hybrid-remote workshop
- Introduction to R: Workshop for faculty, staff, and students in CSD - University of Pittsburgh
• Led, organized, and co-designed 3-day hybrid-remote workshop
- CSD M.S. Clinical Integration Project
• Review and feedback for M.S. - SLP students 1st year projects
- 2021 ● SPHS-S 685: Research and Ethics in Speech, Language, and Hearing Sciences (University of Indiana Bloomington; Dr. Brielle Stark)
• Guest Lecture: Writing an NIH NRSA F31 Fellowship Application
- CSD M.S. Summative Assessment Project
• Review and feedback for M.S. - SLP students comprehensive exams
- 2020 ● CSD 2230: Neurogenic Language and Cognitive Communication Disorders
• Guest Lecture 1: TBI: Pathophysiology and Medical Considerations
• Guest Lecture 2: Case studies in adult neurological communication disorders
- SPHS 742: Aphasia (University of North Carolina at Chapel Hill; Dr. Katarina Haley)
• Guest Lecture: Applying treatment research in clinical practice settings

2019

- CSD M.S. Summative Assessment Project
 - Review and feedback for M.S. - SLP students comprehensive exams
- CSD 2230: Neurogenic Language and Cognitive Communication Disorders
 - Guest Lecture 1: TBI: Pathophysiology and Medical Considerations
 - Guest Lecture 2: Case studies in adult neurological communication disorders
- CSD M.S. Summative Assessment Project
 - Review and feedback for SLP students comprehensive exams