

Final Grant Report Draft

Woodcock Institute for the Advancement of Neurocognitive Research and Applied Practice

Award information	Details
Principal Investigator	Scott L. Decker, PhD
Institution	University of South Carolina
Project number	10011580
Project title	Integrating Instructional Diagnostic
Project period	March 1, 2022 to December 31, 2025
Total award	\$15,000

Executive Summary

The Woodcock Institute grant supported a school-based program of research focused on integrating cognitive and neurocognitive assessment with multi-tiered systems of support (MTSS) to improve early identification of children at risk for reading difficulties. The project was implemented through data collection at PACE Academy, where the research team collected cognitive, academic, and reading-related data from more than 200 children. The resulting database supported longitudinal research, graduate-student training, dissertation work, peer-reviewed publications, and related scholarly dissemination.

The project was completed following COVID-related disruption and university administrative delays that affected the original schedule. The Institute approved a one-year extension in 2023, permitting continued data analysis, programming, and project completion. Although the final field implementation differed from the original projection of repeated multi-school data collection, the completed PACE Academy sample provided a substantial and clinically meaningful longitudinal dataset that continues to support scholarship on reading fluency, neurocognitive processes, and assessment practice.

Total award funds were \$15,000. The University preliminary closeout report records \$12,323 in expenditures and an available balance of \$2,677. Following final institutional reconciliation, the remaining balance will be returned to the Woodcock Institute.

Original Project Goals

The funded proposal, Predicting at-risk reading outcomes in multi-tiered models using diagnostic cognitive and neuro-cognitive tests, was designed to investigate whether selected cognitive measures could strengthen early prediction of reading outcomes when integrated into MTSS. The proposed work was grounded in an integrated neurocognitive framework linking specific cognitive processes to reading development and instructional decision making.

Funded goal	Final project accomplishment
Integrate cognitive testing within Tier 1 and Tier 2 MTSS	Implemented school-based cognitive, academic, and reading-related data collection at PACE Academy. Data were collected from more than 200 children and organized for longitudinal analysis.
Evaluate the predictive validity of cognitive measures for later reading outcomes	Generated a longitudinal research database that supported empirical analyses of reading fluency and neurocognitive predictors, including a completed doctoral dissertation.

Funded goal	Final project accomplishment
Develop and pilot web-based data management and assessment guidance infrastructure	Completed project-related data-management and programming work needed to support data collection, organization, analysis, and subsequent research activity. Published research projects were a direct result of the data analytic system developed during this research study.

Project Implementation and Adaptation

The original proposal anticipated repeated data collection in two elementary schools and a larger validation sample. The project timeline was materially affected by COVID-related disruption and by university processes for disbursing funds to personnel involved in school-based testing. A no-cost extension was requested and approved to permit completion of research goals; the revised period supported data analysis, computer programming, and additional data-collection preparation.

The final implementation concentrated resources at PACE Academy. This produced a well-characterized dataset of more than 200 children rather than the originally projected large multi-school sample. The narrower field implementation was nonetheless productive: it created an ongoing research resource, supported graduate-student participation in assessment and analysis, and resulted in multiple scholarly outputs.

Research Outcomes

PACE Academy Longitudinal Research

The PACE Academy data collection provided the direct empirical basis for Jody Samuels's 2024 doctoral dissertation, *Neurocognitive Processes as Longitudinal Predictors of Reading Fluency*. The dissertation examined whether baseline reading and neurocognitive measures predicted later reading-fluency outcomes among at-risk children. It evaluated working memory, phonological processing, processing speed, rapid automatic naming, orthographic processing, and reading-error patterns in relation to later word-reading accuracy, word-reading fluency, and text-reading fluency.

This work advanced the project's central aim by testing the added value and measurement-specific role of neurocognitive constructs in early reading-risk assessment. The findings underscore the importance of careful task selection and of considering orthographic processing, alongside standard reading measures, in understanding later reading-fluency outcomes.

Scholarly Products and Dissemination

Grant-supported work resulted in direct empirical products from the PACE longitudinal research and in a broader set of scholarly publications and manuscripts supported by the grant-funded research environment, student training, and assessment infrastructure. Publication status is reported as of the closeout draft.

Status	Scholarly product
Direct project outcome	Samuels, J. (2024). <i>Neurocognitive processes as longitudinal predictors of reading fluency</i> (Doctoral dissertation, University of South Carolina). Scott L. Decker, first advisor.
Published	Foster, L. B., Perazzo, D., & Decker, S. (2025). Test review: Woodcock-Johnson V Tests of Cognitive Abilities. <i>Journal of Psychoeducational Assessment</i> . https://doi.org/10.1177/07342829251395781
Published	Samuels, J., & Decker, S. L. (2023). Neurocognitive constructs as longitudinal predictors of reading fluency. <i>Psychology in the Schools</i> , 60(10), 3920-3946. https://doi.org/10.1002/pits.22980
Published; 2025 Best Paper Award	McGrew, K. S., Schneider, W. J., Decker, S. L., & Bulut, O. (2023). A psychometric network analysis of CHC intelligence measures: Implications for research, theory, and interpretation of broad CHC scores beyond g. <i>Journal of Intelligence</i> , 11(1), 19. https://doi.org/10.3390/jintelligence11010019

Status	Scholarly product
Published	Decker, S. L., & Foster, L. (2024). Brain-based research in dyslexia: What school psychologists need to know. <i>Communique</i> .
In press	Foster, L. B., Perazzo, D., & Decker, S. Relating objective and subjective assessment of working memory in school-age children: A systematic review and meta-analysis. <i>Psychological Assessment</i> .
Published	Smith, S., Foster, L. B., Luedke, J., Ornelas Saldivar, R., & Decker, S. L. Comparative analysis of dyslexia laws by state. <i>Learning Disabilities: A Multidisciplinary Journal</i> .
Under review	Foster, L. B., Decker, S., & Samuels, J. Predicting reading fluency with specific cognitive abilities in elementary students with reading difficulties. <i>Learning Disabilities: A Multidisciplinary Journal</i> .

Student Training and Practice Relevance

The project directly supported graduate and undergraduate research participation in school-based assessment, data collection, project coordination, data management, and analytic work. Graduate students contributed to test administration and research preparation, while the project generated a dissertation and collaborative publications. These activities extended the Institute's investment beyond a single dataset by developing research capacity in assessment, cognition, and school psychology.

The work is relevant to practice because it addresses a persistent problem in school-based identification of reading difficulties: how to integrate cognitive and neurocognitive information with universal screening, progress monitoring, and intervention data. The project's research products support a more nuanced approach to early reading-risk assessment, emphasizing that the value of cognitive measures depends on the specific construct measured, the task used, and the instructional question being addressed.

Financial Closeout

The preliminary University of South Carolina closeout report dated June 30, 2026 records the following award activity. The report is marked year-end closeout incomplete; therefore, the final returned balance remains subject to institutional reconciliation.

Category	Budget	Recorded expenses	Available balance
Salaries	\$7,000	\$6,600	\$400
Fringe benefits	\$0	\$1,723	(\$1,723)
Services	\$5,000	\$4,000	\$1,000
Fixed charges	\$3,000	\$0	\$3,000
Total direct costs	\$15,000	\$12,323	\$2,677

Recorded expenditures consisted of \$6,600 in salaries, \$1,723 in fringe benefits, and \$4,000 in contractual services. No indirect costs were charged to the award. Following final closeout, the remaining available balance is \$2,677; **thus the project goals were completed under the projected budget.**

Conclusion

The Woodcock Institute award enabled a sustained school-based research effort integrating cognitive and neurocognitive assessment with reading-risk research. Despite significant disruptions to the original schedule and field implementation, the project produced a substantial PACE Academy dataset, trained student researchers, supported a completed doctoral dissertation, and contributed to a growing body of scholarship on reading, dyslexia, assessment, and cognitive theory. The work provides a durable foundation for continued research and translation of neurocognitive findings into school practice.