R305C120001

https://ies.ed.gov/funding/grantsearch/details.asp?ID=1343

**Topic:** Adult Literacy

**CSAL Fact Sheet:** [View, Download, and Print PDF version of the CSAL Fact Sheet](https://ies.ed.gov/ncer/pdf/CSAL_2015.pdf) (927 KB).

**Purpose:** The Center for the Study of Adult Literacy (CSAL) seeks to improve our understanding of ways to advance the reading skills of struggling adult learners reading at the 3rd to 8th grade levels. The Center will both conduct exploratory work on underlying cognitive and motivational processes that contribute to or impede reading development and develop and evaluate a multi-component reading intervention for this population. In addition, CSAL will examine the adequacy of measurement instruments and assessments for this population.

CSAL is a collaborative effort across four research sites: Atlanta, Georgia; Memphis, Tennessee; and Toronto and St. Catharines, Canada. Struggling adult readers in both the United States and Canada will participate.

CSAL is staffed by researchers with expertise in adult and child literacy, education technology, statistics, and psychometrics.

**Projects**

**Exploration of Underlying Cognitive and Motivational Factors**

During the first phase of its research, the Center will gather information on the quality of measurement tools used with struggling adult readers and about the cognitive and motivational functioning of this population.

Many of the tests commonly used to assess struggling adult learners’ reading performance were developed for use with students at different grade levels or ages. Some studies raise doubts about whether these assessments measure the same constructs with struggling adult readers as they do with skill-matched children. At the same time, much work needs to be done to clarify the co-occurrence and interdependence of difficulties struggling adult readers face in terms of the cognitive and motivational underpinnings of literacy. Through a series of exploratory studies using a wide array of reading, motivation, and cognition assessments, CSAL will collect data to clarify the appropriateness of commonly used assessments and the underlying cognitive and motivational profiles of the target population.

**Development and Pilot of Web-based Reading Instruction for Struggling Adult Readers**

Throughout the lifespan of the grant, CSAL will design and pilot a reading intervention for use with adult struggling readers. This new intervention will build off of an instructional framework first developed and evaluated with adolescents reading at the same level as the adults in the current sample and will incorporate the insights gleaned from CSAL’s exploratory work. Using a modular framework, this intervention will be flexible and able to be tailored to the differing needs of students (e.g., to allow for greater focus on decoding skills, word identification, reading fluency, or vocabulary). Included with this intervention will be a web-based component that includes an animated tutor designed to promote engagement and allow for greater individualization for students.

After developing a fully designed intervention, CSAL will conduct a pilot study with close to 300 adults in authentic adult education settings in both Georgia and Toronto. The students will receive approximately 100 hours of instruction along with a series of assessments. These pilot studies will test the intervention’s promise and feasibility of use in these settings with the intended population. In addition, these pilot tests will help CSAL determine which measures effectively identify students appropriate for the intervention and which measures effectively assess student learning.

**Leadership and Dissemination Activities**

The Center will host a website with information and resources for researchers, practitioners, policymakers, and other stakeholders interested in adult education and adult literacy. The Center will also conduct national webinars on its activities and provide training opportunities for current and future education researchers through venues such as workshops at national conferences and doctoral and postdoctoral training opportunities.

**Key Personnel:** Maureen Lovett (University of Toronto and The Hospital For Sick Children), Art Graesser (University of Memphis), Jan Frijters (Brock University), Lee Branum-Martin (Georgia State University), Chris Oshima (Georgia State University), Robin Morris (Georgia State University), Xiangen Hu (University of Memphis), Mark Conley (University of Memphis), Andrew Olney (University of Memphis)

**Project Website:** [http://csal.gsu.edu/](https://ies.ed.gov/transfer.asp?location=csal.gsu.edu/)

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**Related IES Projects:** [Coh-Metrix: Automated Cohesion and Coherence Scores to Predict Text Readability and Facilitate Comprehension](http://ies.ed.gov/funding/grantsearch/details.asp?ID=206) (R305G020018), [An Implementation of Vicarious Learning with Deep-Level Reasoning Questions in Middle School and High School Classrooms](http://ies.ed.gov/funding/grantsearch/details.asp?ID=67) (R305H050169), [Acquiring Research Investigative and Evaluative Skills (ARIES) for Scientific Inquiry](http://ies.ed.gov/funding/grantsearch/details.asp?ID=478) (R305B070349), [DeepTutor: An Intelligent Tutoring System Based on Deep Language and Discourse Processing and Advanced Tutoring Strategies](http://ies.ed.gov/funding/grantsearch/details.asp?ID=1039) (R305A100875), [The Writing Pal: An Intelligent Tutoring System that Provides Interactive Writing Strategy Training](http://ies.ed.gov/funding/grantsearch/details.asp?ID=666) (R305A080589), [Guru: A Computer Tutor that Models Expert Human Tutors](http://ies.ed.gov/funding/grantsearch/details.asp?ID=669) (R305A080594), [Applications of Intelligent Tutoring Systems (ITS) to Improve the Skill Levels of Students with Deficiencies in Mathematics](http://ies.ed.gov/funding/grantsearch/details.asp?ID=827) (R305A090528), and [Multiple-Component Remediation for Struggling Middle School Readers](http://ies.ed.gov/funding/grantsearch/details.asp?ID=385) (R324G060005)

**Publications**

**Book**

McNamara, D.S., Graesser, A.C., McCarthy, P.M., and Cai, Z. (2014). Automated Evaluation of Text and Discourse With Coh-Metrix.Cambridge, MA: Cambridge University Press.

Sottilare, R., Graesser, A.C., Hu, X., and Brawner, K. (2015). Design Recommendations for Intelligent Tutoring Systems: Authoring Tools, Volume 3.Orlando, FL: Army Research Laboratory.

Sottilare, R., Graesser, A.C., Hu, X., and Goldberg, B. (2014). Design Recommendations for Intelligent Tutoring Systems: Adaptive Instructional Strategies.Orlando, FL: Army Research Laboratory.

**Book chapter**

Brawner, K., and Graesser, A. (2014). Natural Language, Discourse, and Conversational Dialogues Within Intelligent Tutoring Systems: A Review. In R. Sottilare, A.C. Graesser, X. Hu, and B. Goldberg (Eds.), Design Recommendations for Intelligent Tutoring Systems: Instructional Management, Volume 2 (pp. 189–204). Orlando, FL: Army Research Laboratory.

Cai, Z., Feng, S., Baer, W., and Graesser, A. (2014). Instructional Strategies in Trialogue-Based Intelligent Tutoring Systems. In R. Sottilare, A.C. Graesser, X. Hu, and B. Goldberg (Eds.), Design Recommendations for Intelligent Tutoring Systems: Instructional Management, Volume 2 (pp. 225–235). Orlando, FL: Army Research Laboratory.

D'Mello, S.K., and Graesser, A.C. (2015). Feeling, Thinking, and Computing With Affect-Aware Learning Technologies. In R. Calvo, S. D'Mello, J. Gratch, and A. Kappas (Eds.), The Oxford Handbook of Affective Computing (pp. 419–434). New York: Oxford University Press.

Graesser, A.C. (2014). Guided Instruction and Scaffolding. In R.A. Sottilare, A.C. Graesser, X. Hu, and B.S. Goldberg (Eds.), Design Recommendations for Intelligent Tutoring Systems, Volume 2: Instructional Management (pp. 261–264). Orlando, FL: Army Research Laboratory.

Graesser, A.C., and Li, H. (2013). How Might Comprehension Deficits be Explained by the Constraints of Text and Multilevel Discourse Processes?. In B. Miller, L.E. Cutting, and P. McCardle (Eds.), Unraveling Reading Comprehension: Behavioral, Neurobiological, and Genetic Components(pp. 33–42). Baltimore: Paul Brookes Publishing.

Graesser, A.C., Dowell, N., and Clewley, D (2017). Assessing Collaborative Problem Solving Through Conversational Agents. Innovative Assessment of Collaboration (pp. 65–80).

Graesser, A.C., Hu, X., Nye, B., and Sottilare, R. (2016). Intelligent Tutoring Systems, Serious Games, and the Generalized Intelligent Framework for Tutoring (GIFT). In H.F. O'Neil, E.L. Baker, and R.S. Perez (Eds.), Using Games and Simulation for Teaching and Assessment (pp. 58–79). New York: Routledge.

Graesser, A.C., Keshtkar, F., and Li, H. (2014). The Role of Natural Language and Discourse Processing in Advanced Tutoring Systems. In T. Holtgraves (Ed.), The Oxford Handbook of Language and Social Psychology (pp. 491–509). New York: Oxford Handbooks Online.

Graesser, A.C., Li, H., and Feng, S. (2015). Constructing Inferences in Naturalistic Reading Contexts. In E. O'Brien, A. Cook, and R. Lorch (Eds.), Inferences During Reading (pp. 290–321). New York: Cambridge University Press.

Graesser, A.C., Millis, K., D'Mello, S.K., and Hu, X. (2014). Conversational Agents can Help Humans Identify Flaws in the Science Reported in Digital Media. In D. Rapp, and J. Braasch (Eds.), Processing Inaccurate Information: Theoretical and Applied Perspectives From Applied Perspectives From Cognitive Science and the Educational Sciences (pp. 139–159). Cambridge, MA: MIT Press.

Nye, B.D., Graesser, A.C., and Hu, X. (2014). Multimedia Learning With Intelligent Tutoring Systems. In R.E. Mayer (Ed.), The Cambridge Handbook of Multimedia Learning (2nd ed., pp. 705–728). West Nyack, NY: Cambridge University Press.

Olney, A., D'Mello, S.K., Risko, E.F., and Graesser, A.C. (in press). Attention and Engagement in Educational Contexts: The Role of Task Demands in Structuring Goals That Guide Attention. In J. Fawcett, E.F. Risko, and A. Kingstone (Eds.), Handbook of Attention. Cambridge, MA: MIT Press.

**Book chapter, edition specified**

**Journal article, monograph, or newsletter**

Graesser, A.C. (2016). [Conversations With AutoTutor Help Students Learn](https://eric.ed.gov/?id=EJ1091170). International Journal of Artificial Intelligence in Education, 26(1): 124–132.

Graesser, A.C., Li, H., and Forsyth, C. (2014). [Learning by Communicating in Natural Language With Conversational Agents](https://eric.ed.gov/?id=ED566388). Current Directions in Psychological Science, 23(5): 374–380.

Graesser, A.C., McNamara, D.S., Cai, Z., Conley, M., Li, H., and Pennebaker, J. (2014). [Coh-Metrix Measures Text Characteristics at Multiple Levels of Language and Discourse](https://eric.ed.gov/?id=EJ1047713). Elementary School Journal, 115(2): 210–229.

Medimorecc, M.A., Pavlik, P., Olney, A., Graesser, A.C., and Risko, E.F. (2017). [The Language of Instruction: Compensating for Challenge in Lectures](https://eric.ed.gov/?id=EJ1082660). Journal of Educational Psychology, 107(4): 971–990.

Nye, B.D., Graesser, A.C., and Hu, X. (2014). [AutoTutor and Family: A Review of 17 Years of Natural Language Tutoring](https://eric.ed.gov/?id=EJ1042132). International Journal of Artificial Intelligence in Education, 24(4): 427–469.