TR2 The Virtuous Cycle Between Academic Research and Education Technology

Chair: Jason Yeatman, Ph.D.

Decades of research has led to a deep understanding of the mechanisms underlying children's struggles in learning to read. However, evidence-based intervention programs remain costly and, in many areas of the country (and world), are not widely available to children with dyslexia. There is great promise that education technology can fill this void by providing broad access to tools for assessment and intervention. This symposium highlights efforts to develop technologies that are grounded in extensive scientific literature on what works for children with dyslexia.

Overview

Speakers spanning academia and the nonprofit and industry sectors discuss how the science of dyslexia is translated into technologies aimed at supporting literacy and how these technologies, in turn, inform a new understanding of the mechanisms of learning. Thus, we hope to promote a virtuous cycle between academia and industry in developing effective interventions for dyslexia.

Personalized Research-based Supports for Reading

Jason D. Yeatman, Ph.D.
Kevin Larson, Ph.D.

There is growing evidence that multiple risk factors contribute to reading difficulties in people with dyslexia. Research in the Yeatman Lab aims to understand how individual differences in visual processing, auditory processing, and phonological awareness interact to produce reading difficulties. We have found subtypes of dyslexia, characterized by different underlying impairments. In collaboration with Microsoft's Learning Tools team, this research is being used to develop research-based reading supports to help each individual read at his or her best.

Designing Apps for Literacy Intervention

Stephanie Gottwald, Ph.D.
Tinsley Galyean, Ph.D.

Our approach is to create sets of apps that represent what is known about how the young brain learns to read, collect data on usage patterns and outcomes, and evaluate the efficacy of the design. Emergent readers benefit from apps that provide direct and systematic instruction in the principles of sound-grapheme correspondence and oral language knowledge in their mother tongue. The result is an

environment with theoretically designed apps, along with sophisticated data collection that allows research, design, and implementation to work together in a virtuous cycle of improvement.

Building a Platform for Early Literacy and Language Screening and Evidence-based Response to Screening

Nadine Gaab, Ph.D.

The Gaab Lab and the Innovation & Digital Health Accelerator at Boston Children's Hospital are developing a digital, comprehensive ,and gamified early literacy screening app along with an evidence-based response-to-screening platform. The app will be a mobile platform, accessible by parents, teachers, reading specialists, and pediatricians and capable of screening for early indicators of literacy challenges in children as young as four years of age. During the discussion, the presenter describes the stages of the development process, the need for interdisciplinary teams, deployment, and scaling strategies.

Track: Research
Level: Beginner, Intermediate, Advanced
Family

Clock Hours: 2.75
ASHA CEUs: 0.25

Disclosure Statement: Jason Yeatman and Nadine Gaab have no relevant financial relationshiops to disclose. Kevin Larson, Stephanie Gottwald, and Tinsley Galyean receives salaries from companies that have products or services that may be discussed during part of this session. No nonfinancial relationships exist.

RESEARCH COLLOQUIA

Thursday, October 25, 2018 · 10:00 a.m. - 1:00 p.m.

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