Eye-Tracking Technology Applications in Educational Research

Part of the Advances in Business Information Systems and Analytics Book Series

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Description:
Since its inception, eye-tracking technology has evolved into a critical device in psychological and sociological settings. By tracking eye movement, one can conduct lie detection, learn about neuropsychology, and measure reading response. Recently, these technologies have been implemented in Educational and School Psychology as a way to assess how students interact with content.

Eye-Tracking Technology Applications in Educational Research enriches the current pool of educational research with cutting-edge applications of eye tracking in education. Seeks to advance this emergent, interdisciplinary field.

Readers:
This publication collects a diverse group of researchers exploring all aspects of this technology as an essential reference for educators, researchers, administrators, and advanced graduate students.


Topics Covered:
- Attentional Anchors
- Computer-Based Early Literacy Media
- Graphic Organizers
- Language Comprehension
- Mathematical Visuals
- Multimedia Learning
- Physiological Measurement
- Spatial Thinking
- Word Identification

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Christopher Was is an Associate Professor in the Department of Psychological Sciences at Kent State University. He began his career working in a residential treatment facility for adjudicated youth as a teacher and research coordinator for the Odyssey Project, sponsored by the Child Welfare League of America. He received his Ph.D. from the University of Utah in Educational Psychology, with an emphasis in learning, memory and cognition. His research interests are in the areas of models of working memory, complex cognitive processes, and metacognition. More recently his research has focused on implicit learning processes and their relationship to intelligence. Dr. Was uses eye-tracking technology in his research to investigate the connection between implicit cognitive processing and the explicit learning that results from these processes. He has published over 50 peer-reviewed papers, chapters, and refereed conference proceedings in the areas of learning, educational psychology, and cognitive psychology.
Frank J. Sansosti, Ph.D., NCSP is an Associate Professor in the School Psychology at Kent State University. He has extensive experience working with individuals with developmental disabilities in both school and clinic settings. As a practitioner he provided coaching and technical assistance for early intervention and best practice approaches for students with low-incidence disabilities in inclusive settings, and coordinated efforts between parents, teachers, administrators, and district level personnel. Currently, Dr. Sansosti’s primary research and professional interests focus on the development and implementation of behavioral and social skills interventions for individuals with developmental delays, as well as the use of eye-tracking technologies as a tool for investigating the academic and social difficulties of students with disabilities. Dr. Sansosti is an active researcher, as evidenced by over 40 publications and more than 75 professional workshops at local, regional, national, and international venues.

Bradley J. Morris is a Developmental Cognitive Scientist whose research program includes basic research in cognitive development and its application in designing and assessing effective STEM instruction in formal and informal settings. His research focuses on the development of Scientific and Mathematical reasoning and Motivation. The goal of his research program is to identify mechanisms underlying children’s reasoning (e.g., strategy acquisition) and motivation (e.g., praise type) using a variety of experimental methods (e.g., eye tracking), technological implementations (e.g., apps that measure informal STEM engagement), and computational models.