The Neuroscience Behind Learning

Julie Fiez
Professor, Psychology

CURRENT RESEARCH

Understanding how we learn to improve learning

The brain: that complex organ each of us relies upon each day for unconscious tasks like breathing and for complex thinking and behavior. What causes this three pound soft convoluted mass of gray and white matter to give rise to our mind? Dr. Julie Fiez, of the University of Pittsburgh, researches how complex thoughts and behaviors are related to underlying brain functions. "I want to unpack that black box," Dr. Fiez explains, as she describes the hope of explaining the ways in which experience can transform our brains. Her research, although basic, sits in an experimental space where it can potentially impact our knowledge of how we learn, how to improve learning, and when learning goes wrong.

Dr. Fiez's research uses a combination of behavioral and brain imaging methods to study research volunteers with normal brain function and with impaired brain function due to a developmental or acquired brain disorder. Nestled under the broad category of "educational neuroscience," Dr. Fiez's work has a goal of translating basic research into an improved understanding of effective educational practices and interventions. Studying primarily college age students and patients with brain damage, Dr. Fiez's team is able to shed light upon the process of learning and thus understand important regions of the brain that will affect the population at-large. With a collaborative team including experts in communication science and disorders, cognitive science, neurobiology, neurology, and neurosurgery, Dr. Fiez and her team provide an academically rigorous context for the science of learning.

Current research includes:

- Brain Literacy: Scientists know that skilled reading hinges upon a particular...

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AFFILIATION

University of Pittsburgh

EDUCATION

- Ph.D., in Neuroscience, 1992 , Washington University in St. Louis

AWARDS

- Fellow of the Association for Psychological Science
- University of Pittsburgh Chancellor's Distinguished Research Award
- Wiley Young Investigator Award in Human Brain Mapping
- American Psychological Association Distinguished Scientific Award for Early Career Contribution to Psychology
- Chair of the National Institutes of Health Center for Scientific Review Study Section on Language and Communication

RESEARCH AREAS

Education, Neuroscience

FUNDING REQUEST

Your contributions will support the continued research of Dr. Julie Fiez at the University of Pittsburgh as she tries to understand how the human mind works and how it is shaped by learning. Donations will fund the necessary $500K/year required to sustain progress on different lines of research including the costs of personnel, acquiring brain imaging data, recruiting study participants, and compensation for research volunteers. In choosing to donate, you will play a role in translating basic research into effective educational practices and interventions.