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LSE
CBE—LIFE SCIENCES EDUCATION

Themed issue: Cross-disciplinary research in biology education
CBE—Life Sciences Education

Psychology and neuroscience research on learning and instruction is often not directly connected to biology education research (BER). Collaborations between BER, psychology, and neuroscience researchers can benefit all three disciplines. For example, they can allow psychology and neuroscience researchers to test their theories in the field, as much of BER is most often conducted in classrooms. These collaborations can also help BER scholars incorporate research methods and data analysis techniques from psychology and neuroscience. However, BER scholars, psychologists, and neuroscientists often have different goals and use different research practices and terminology. Based on recent calls to promote research across disciplinary boundaries in STEM education (Coley & Tanner, 2012; McDaniel et al., 2017; Mestre, Cheville & Herman, 2018; Peffer & Renken, 2016), *CBE—Life Sciences Education* (LSE; <http://www.lifescied.org/>) will publish a special issue in 2020 aimed at facilitating cross-talk between BER scholars, psychologists, and neuroscientists. By highlighting research at the intersection of these different yet complementary disciplines, we hope to identify ways to increase collaboration in the future.

A broad range of topics will be considered, including but not limited to:

- Promoting BER/psychology/neuroscience collaborations
- Neural mechanisms of student-teacher interactions in biology classrooms
- Conceptual learning
- Numerical cognition
- Spatial thinking
- Causal reasoning
- Learning throughout development
- Psychology and neuroscience research in real-world learning environments
- Translating psychology research into classroom practices

To be publishable in this special issue of LSE, work must:

1. Draw from theoretical and empirical work in the social, educational, developmental, cognitive or other forms of psychology, neuroscience or the learning sciences AND
2. Have implications for biology education researchers and practitioners.

Articles reporting original research are prioritized, but reviews and perspectives will be considered as well.

Authors are strongly encouraged to submit a brief abstract (250 words or less) to the guest editors for this special issue, Ido Davidesco (ido.davidesco@nyu.edu) and Kimberly Tanner (kdtanner@sfsu.edu), **by July 15, 2019**. Abstracts will be reviewed by the editors in consultation with Erin Dolan, editor-in-chief of LSE (eldolan@uga.edu), to determine fit with the theme and to ensure that a range of topics and perspectives are represented in the issue. Manuscripts submitted **by November 15, 2019**, will be guaranteed full consideration. Manuscripts that are favorably reviewed but beyond the scope of this theme may be published in a different issue of the journal. If you have questions about this issue, please contact the guest editors or editor-in-chief.

About CBE – Life Sciences Education

CBE—Life Sciences Education (LSE; <http://www.lifescied.org/>) is an online, quarterly journal owned and published by the American Society for Cell Biology (ASCB) in editorial partnership with the Genetics Society of America and with partial support from the Howard Hughes Medical Institute. The journal publishes original, previously unpublished, peer-reviewed articles on research and evaluation related to life sciences education, as well as articles about evidence-based biology instruction at all levels. The ASCB believes that biology learning encompasses diverse fields, including math, chemistry, physics, engineering, and computer science, as well as the interdisciplinary intersections of biology with these fields.

One goal of the journal is to encourage teachers and instructors to view teaching and learning the way scientists view their research, as an intellectual undertaking that is informed by systematic collection, analysis, and interpretation of data related to student learning. Target audiences include those involved in education in K–12 schools, two-year colleges, four-year colleges, science centers and museums, universities, and professional schools, including graduate students and postdoctoral researchers. All published articles are open access, meaning that they are freely available online without subscription. *LSE* publishes under the Creative Commons 3.0 agreement. *LSE* articles are indexed in PubMed and available through PubMed Central.

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