

OCTOBER 2020



THE GER EXCHANGE

Promoting high-quality scholarly research in geoscience education.

Featured Article

A systematic review of the literature on situated learning in the geosciences: beyond the classroom

Situated learning theory offers a theoretical modality for promoting a knowledge, skilled, and ethically adept future geoscience workforce. Features of situated learning pedagogies include field-based instruction and situating students within a community of practice. While there is an assumed value of such approaches, there is limited research exploring why and how these situated approaches are beneficial for students. Situated learning theory is an underutilised framework applied among geoscience education researchers, which emphasises legitimate peripheral participation in communities of practice. In this paper, our research objective was to systematically explore the ways scholars have applied situated learning theory in post-secondary geoscience curricula. To address our research objective, we utilised systematic literature review procedures, wherein we collected and synthesised ten articles extracted from several prominent sources that featured peer-reviewed scholarship for geoscience education research. To analyse articles, we developed a coding framework both deductively from the core tenants of situated learning theory and inductively based on how articles had applied the framework. Thematically, using the codes as a guide, we identified 3 themes highlighting trends in scholars' application of situated learning theory to undergraduate geoscience curricula, (1) instructional practices, (2) student outcomes, and (3) assessment techniques. Using

[Donaldson, T., Fore, G. A., Filippelli, G. M., & Hess, J. L. \(2020\). A systematic review of the literature on situated learning in the geosciences: beyond the classroom. International Journal of Science Education, 1-22.](#)

NAGT Webinar: Wednesday October 7, 2020 at 6 pm CT

Navigating life as a GER Student (or interested in becoming one): Getting involved and networking in the community

Description: An essential component of graduate school is networking. Networking opportunities can include finding colleagues outside of your institution and through professional organizations. A great way to do this is by getting involved in NAGT and GSA. As more in-person networking events are canceled or moved online, it is essential to create new opportunities for graduate students to interact. This webinar will provide one of these opportunities. During this hour, we will discuss opportunities for students to become involved in both GSA and NAGT, including the path that we took to our current leadership positions. Attendees will also have time to participate in small groups to meet each other and learn about each other's interests/research. This webinar is for students who are conducting geoscience education research and those who are interested in this discipline. You do not have to be an NAGT-GER Division member to attend.

Webpage and registration

link: https://nagt.org/nagt/profdev/webinars/ger_student/index.html

GER Sponsored Sessions at 2020 Annual Geological Society of America Meeting

[Registration for Virtual Meeting in October](#)

T237. Supporting and Advancing Geoscience Education Beyond 2020: Individual, Department, Program, and Institutional-Level Approaches to Student Success

Description:

faculty have taken to improve the success of all students.

- Wednesday, 28 October 2020- 10:00 AM - 12:00 PM (GSA e-Attend Platform - Meeting Rooms)

T239. Integrating Active Learning Strategies into College-level Geoscience Classrooms: Implementation, Effects, and “Lessons Learned”.

Description:

The integration of active learning strategies into college-level STEM courses has been shown to improve student outcomes. This session will explore the evidence behind incorporating active learning into geoscience courses.

- Tuesday, 27 October 2020- 1:30 PM - 5:30 PM (GSA e-Attend Platform - Meeting Rooms)

T243. Making Sense of Methodologies and Theoretical Frameworks in Geoscience Education Research.

Description:

Methods and theoretical frameworks can come from within and outside of GER to shape the forefront of our field. Presenters are encouraged to highlight their decision-making process in research studies. New approaches and applications of established methods/frameworks are welcome.

- Friday, 30 October 2020- 10:00 AM - 2:00 PM (GSA e-Attend Platform - Meeting Rooms)

T245. Fluid Earth Science Education: Research and Practice.

Description:

This session explores education research and classroom practices that inform teaching oceanography, hydrogeology, and atmospheric science. We encourage work examining cognitive and affective dimensions of learning about fluid Earth and examples of successful teaching innovations.

- Thursday, 29 October 2020- 1:30 PM - 5:30 PM (GSA e-Attend Platform - Meeting Rooms)

T248. Showcasing Posters of Undergraduate Research by 2YC and 4YCU Geoscience Students I and II (Posters).

Description:

geoscience.

- I: Thursday, 29 October 2020- 10:00 AM - 12:00 PM (GSA e-Attend Platform - Meeting Rooms)
- II: Friday, 30 October 2020- 10:00 AM - 2:00 PM (GSA e-Attend Platform - Meeting Rooms)

Call for Submissions for NAGT GER Monthly Spotlights

The GER Division highlights the career and research of one professional in our field in the **GER Spotlight**, and asks that person to share articles to read and advice for new and early career researchers in geoscience education. **Do you or does someone you know have a researcher profile to share with the community?** Download the [template](#) and [upload](#) your profile to be featured in a future edition of the newsletter!

Check out our former Spotlights on our [webpage](#)!

Job and Internship Opportunities

● Assessment position - Michigan State University

Seeking a fixed-term specialist to assist academic technology leaders in achieving strategic goals in regard to online teaching, learning, research and technology. Your role will focus on three main areas: pedagogy, formative and summative assessment, and instructional design.

Details available: <https://careers.msu.edu/en-us/job/503993/specialist-curriculum-devfixed-term>

Grant and Scholarship Deadlines

● The American Educational Research Association (AERA) announces its 2020–2021 [AERA Minority Dissertation Fellowship in Education Research](#) competition for graduate students. This program provides mentoring and funding support to develop research skills and conduct studies in education related fields and

● NSF [Improving Undergraduate STEM Education: Education and Human Resources](#)

- Engaged Student Learning and Institutional and Community Transformation Level 2 and 3- Due December 1, 2020
- Institutional and Community Transformation Capacity-Building- Due February 2, 2021
- Engaged Student Learning and Institutional and Community Transformation Level 1- Due February 2, 2021
- Institutional and Community Transformation Capacity-Building- Due August 3, 2021
- Engaged Student Learning and Institutional and Community Transformation Level 1- Due August 3, 2021

● NaEd/Spencer [Dissertation Fellowship Program](#) (deadline **October 8, 2020**)

● NaEd/Spencer [Postdoctoral Fellowship Program](#) (deadline **November 18, 2020**)

● Spencer Foundation [Small Research Grants](#) (deadline **November 3, 2020**)

● NSF [ADVANCE: Organizational Change for Gender Equity in STEM Academic Professions \(ADVANCE\)](#) (letter of intent deadline **November 3, 2020** for January 2020 Adaptation and Partnership competition)

● NSF [Alliances for Graduate Education and the Professoriate \(AGEP\)](#) (full proposal deadline **December 11, 2020**)

Submit to the GER Exchange

NAGT-GER provides monthly updates on professional opportunities, funding, articles of note, researcher profiles, and other content of interest to our membership. Please consider [contributing items](#) of interest for inclusion in future editions of the Exchange!

For questions, or to join the GER Communications Committee, contact Media Director [Lauren Neitzke Adamo](#).



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