



PURM

Perspectives on Undergraduate
Research & Mentoring

Letter from the Guest Editors

Issue 13.1: The Future of Undergraduate Research Mentoring

This issue of PURM, issue 13.1, highlights **The Future of Undergraduate Research Mentoring**. This topic is of great interest to us as we have been working together for over the past decade examining what it means to do high-quality mentoring of undergraduate research (UR). Maureen co-led the 2014-2016 on Excellence in Mentoring Undergraduate Research, hosted by Elon University's Center for Engaged Learning and with support from Jessie, the Center's Director, and Eric was a participant, with the seminar launching his collaborative inquiry on the salient practices of undergraduate research mentors. The multi-institutional research seminar resulted in special issues of *Mentoring & Tutoring: Partnership in Learning* and the *International Journal for Academic Development*, as well as the 2018 edited collection, *Excellence in Mentoring Undergraduate Research*, published by the Council on Undergraduate Research.

In the call for proposals for this issue, we invited authors to reflect on what the field has learned about UR mentoring over the last ten years and to imagine key next steps in UR mentoring research and practice. The ten articles responding to this theme and the one general submission provide excellent insight into the future of UR mentoring.

Student Voice and Student-Centric Mentoring

Three of the issue's articles highlight the value of centering student voices and experiences in UR mentoring. In "Centering Student Voices: A Case Study of an Evolving Culturally and Structurally Responsive Undergraduate STEM Mentorship and Skills Development Program," scholars at an urban, predominantly black institution (Chicago State University) and a primarily white, public, STEM-focused, land grant research-intensive institution (Purdue University) partnered on program development and evaluation of practices that sought to increase students' science identity and sense of belonging. The team highlights the value of providing professional development for both undergraduate researchers and their mentors, with explicit attention to student needs.

"Demystifying the Hidden Curriculum of Undergraduate Research: Insight from Students-as-Partners" features an ongoing partnership at Elon University's Center for Engaged Learning that pairs student researchers with multi-institutional research teams. The authors feature student reflections on the hidden curriculum of UR—the knowledge students need to be successful but that might not be explicitly taught—and they suggest ways that foundational students-as-partners strategies (Cook-Sather, Bahti, & Ntem, 2019; Mercer-Mapstone & Abbot, 2020) can help make the hidden curriculum both visible and navigable.

Finally, "Employing a Student-Centric Approach to Managing an Undergraduate Research Lab at a PUI" explores how moving from a project-centric research lab design to one that develops around the student researchers involved in the lab supports both student and mentor success.

Mentorship, Inclusion, and Belonging

Another set of articles discusses the importance of mentoring in UR as central to student gains in persistence, self-efficacy, belonging, and identity. These articles emphasize the value of intentional, multi-mentor models that may include faculty, peers, staff, and other partners. These articles highlight a shift from viewing mentorship as transactional toward one that is relational, culturally responsive, and equity centered.

In the article, “I have allowed myself to be bold’: Reflections on Relational Mentoring in Undergraduate Research,” the authors discuss different models and strategies of mentoring relationships and how they can be used to enhance the student experience. The authors and their undergraduate researchers illustrate how mentoring grounded in mutual authenticity, empathy, empowerment, and reciprocity supports both academic development and personal growth. The paper argues for moving beyond hierarchical mentoring models toward relational approaches that better support diverse students in UR contexts.

“Culturally Responsive Mentoring in Undergraduate Research: Enhancing Student Success at Minority-Serving Institutions” presents a framework for equity-minded student-centered UR programs. The framework relies on multilayer mentoring, holistic support, culturally responsive programs, and assessment and data collection to create a student-centered strategy. The article offers practical guidance for institutions seeking to scale UR while centering equity and student success utilizing culturally responsive mentoring.

The article “U-GROW Summer Institute: A Mentoring-Centric Introduction to a Year-Long Cancer Research Education Program for Underrepresented Students” also highlights structures put in place to help students build confidence, belonging, and scientific identity. Central to the program is a constellation mentoring model to help build social support, communication and research skills for future career readiness.

In “Cultivating Academic Self-Efficacy and Student Engagement for Undergraduate Students through Research Experiences and Student-Faculty Interaction,” the authors compare an R1 and R2 institution to explore how intentionally designed UR experiences foster academic self-efficacy and engagement through deepened student–faculty interaction. The article reinforces the importance of faculty mentorship and the developmental impact it can have.

A research article, “The Role of Self-Efficacy in the Relationship between Undergraduate Research and Graduation at a Hispanic-Serving Institution,” reports that students who participate in UR reported greater academic self-efficacy and sense of belonging. However, when put in the same model, academic self-efficacy was the strongest predictor of graduation. The authors hypothesize that it was the participation in UR and opportunities to interact with mentors that was important. In “I don’t know, but let’s talk about it together’: A Collaborative Model for Inclusive Mentorship in the Humanities and Social Sciences,” the authors describe a co-mentoring model that facilitated a shift from one-to-one UR to group-based UR aligned with the salient practices of UR mentors. The authors draw on their own experiences to offer examples of this model in action and to share strategies for designing and implementing collaborative UR projects.

The authors of “Psychological Safety as a Tool for Assessing the Effectiveness of Mentoring in Undergraduate Research,” describe the Psychological Safety (PS) framework in which mentoring is conceptualized as a form of teamwork. They propose suggestions for implementing a PS survey as a tool for self and team reflection and offer case study scenarios to illustrate barriers related to high-quality mentoring that may be improved by utilizing the PS framework and tools. The guided

discussion questions at the end are helpful prompts for individual mentors and mentoring groups to reflect on their practices.

Artificial Intelligence and Future Technologies

Of course, at this time, it is only fitting that an article on Artificial Intelligence would be a part of this collection. “Generative AI and Mentorship: Guidelines, Challenges, and Recommendations” examines the impact of generative AI on UR mentorship, focusing on examples from psychology before offering recommendations for UR mentors across the disciplines. Generative AI likely will continue to change the landscape of undergraduate research, and the authors’ thoughtful analysis also offers a model for navigating future technology advances.

Collectively, the contributions in this issue challenge us to reimagine undergraduate research mentoring as relational, equity-centered, student-informed, and responsive to emerging technologies. As the field continues to evolve, the future of undergraduate research mentoring will depend on our willingness to listen to students, invest in mentor development, build inclusive structures, and thoughtfully integrate new tools such as generative AI. We hope this collection not only reflects the progress of the past decade but also serves as a catalyst for continued inquiry, innovation, and collaboration in advancing high-quality mentoring for all undergraduate researchers.

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References

- Barraza, E. & Dong, W. (2025). Culturally Responsive Mentoring in Undergraduate Research: Enhancing Student Success at Minority-Serving Institutions. *Perspectives on Undergraduate Research and Mentoring*, 13(1).
<https://eloncdn.blob.core.windows.net/eu3/sites/923/2025/07/T2505.pdf>
- Behling, L. L. Johnson, W. B., Miller, P. & Vandermaas-Peeler, M. (2015). Guest editors' overview: Undergraduate research mentoring. *Mentoring & Tutoring: Partnership in Learning*, 23(5), 355-358. DOI: 10.1080/13611267.2015.1126167
- Cargill, T., Hutton, E., Acheson, K., Gana, J.A., Lhota, R., Mardis, K., Thomas-Miller, J. & Gardner, S.M. (2025). Centering Student Voices: A Case Study of an Evolving Culturally and Structurally Responsive Undergraduate STEM Mentorship and Skills Development Program. *Perspectives on Undergraduate Research and Mentoring*, 13(1).
<https://eloncdn.blob.core.windows.net/eu3/sites/923/2025/07/T2502.pdf>
- Cook-Sather, A., Bahti, M., & Ntem, A. (2019). *Pedagogical Partnerships: A How-To Guide for Faculty, Students, and Academic Developers in Higher Education*. Elon University Center for Engaged Learning. <https://doi.org/10.36284/celelon.oa1>
- Drickey, K.M., Figueroa, M.J.P., Sandoval, J. & VanWoerden, B. (2026). "I don't know, but let's talk about it together": A Collaborative Model for Inclusive Mentorship in the Humanities and Social Sciences. *Perspectives on Undergraduate Research and Mentoring*, 13(1).
- Johnson, W. B., Behling, L. L., Miller, P. & Vandermaas-Peeler, M. (2015). Undergraduate research mentoring: Obstacles and opportunities. *Mentoring & Tutoring: Partnership in Learning*, 23(5), 441 – 453. DOI: 10.1080/13611267.2015.1126167
- Lamb, K. & Dong, W. (2026). Psychological Safety as a Tool for Assessing the Effectiveness of Mentoring in Undergraduate Research. *Perspectives on Undergraduate Research and Mentoring*, 13(1).
- Matelski, M., Koletar, C., Mendelsohn, D.M., W., Eddy, R.M. & Barraza, E. (2025). The Role of Self-Efficacy in the Relationship between Undergraduate Research and Graduation at a Hispanic Serving Institution. *Perspectives on Undergraduate Research and Mentoring*, 13(1).
<https://eloncdn.blob.core.windows.net/eu3/sites/923/2025/09/T2511.pdf>
- Mercer-Mapstone, L., & Abbot, S. (2020). *The Power of Partnership: Students, Staff, and Faculty Revolutionizing Higher Education*. Elon University Center for Engaged Learning. <https://doi.org/10.36284/celelon.oa2>.
- Miller, S., Moore, J.L., Weaver, A., Grant, T., Campagna, K. & Bellot, A. (2025). Demystifying the Hidden Curriculum of Undergraduate Research: Insight from Students-as-partners. *Perspectives on Undergraduate Research and Mentoring*, 13(1).
<https://eloncdn.blob.core.windows.net/eu3/sites/923/2025/09/T2504.pdf>
- Moore, J. L., & Felten, P. Guest Editors. (2018). *International Journal for Academic Development* 23 (1). Special issue on Academic Development Towards High-Impact Undergraduate Research and Inquiry.

Perkins, S.L. & Vandermaas-Peeler, M. (2025). "I have allowed myself to be bold": Reflections on Relational Mentoring in Undergraduate Research. *Perspectives on Undergraduate Research and Mentoring*, 13(1). <https://eloncdn.blob.core.windows.net/eu3/sites/923/2025/07/T2503.pdf>

Rossi, V.M. (2025). Employing a Student-Centric Approach to Managing an Undergraduate Research Lab at a PUI. *Perspectives on Undergraduate Research and Mentoring*, 13(1). <https://eloncdn.blob.core.windows.net/eu3/sites/923/2025/07/T2507.pdf>

Schreiber, W.B. & Waagen, L. (2025). Generative AI and Mentorship: Guidelines, Challenges, and Recommendations. *Perspectives on Undergraduate Research and Mentoring*, 13(1). <https://eloncdn.blob.core.windows.net/eu3/sites/923/2025/07/T2509.pdf>

Sterrett, W.L., Sriram, R., Stocker, J., Grove, N., Allison, P.G., Jordon, J.B., Cooper, S., Tucker, G.J., Fleck, T.J. & Boersma, J. (2025). Cultivating academic self-efficacy and student engagement for undergraduate students through research experiences and student-faculty interaction. *Perspectives on Undergraduate Research and Mentoring*, 13(1). <https://eloncdn.blob.core.windows.net/eu3/sites/923/2025/06/T2501.pdf>

Valdez-Dadia, A., Kuratani, D.G., Isokawa, K., Patterson, P.D. & Thompson, P. (2025). U-GROW Summer Institute: A Mentoring-Centric Introduction to a Year-Long Cancer Research Education Program for Underrepresented Students. *Perspectives on Undergraduate Research and Mentoring*, 13(1). <https://eloncdn.blob.core.windows.net/eu3/sites/923/2025/09/T2510.pdf>

Vandermaas-Peeler, M., Miller, P. C., & Moore, J. L. (2018). *Excellence in Mentoring Undergraduate Research*. Council on Undergraduate Research.