PURM
Perspectives on Undergraduate Research & Mentoring

Letter from the Guest Editor: Developing Career Readiness through Undergraduate Research Participation

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Undergraduate research has long been recognized as one of the most impactful educational experiences available to students. Across disciplines, institutions, and research settings, faculty mentors have witnessed the transformative effects of engaging students in authentic scholarly inquiry. Students who participate in undergraduate research consistently report gains in disciplinary knowledge, confidence, critical thinking, communication, collaboration, and professional identity, while institutions increasingly recognize undergraduate research as a high-impact practice that promotes student success, persistence, and post-graduate achievement (Campbell, 2022; Laursen et al., 2010; Osborn and Karukstis, 2009; Lopatto, 2003).

As the landscape of higher education continues to evolve, so too do the questions we ask about the outcomes of undergraduate research. While decades of scholarship have documented the educational benefits of research experiences, there is growing interest in understanding how these experiences prepare students for success beyond graduation. Employers consistently emphasize the importance of transferable skills—including communication, problem solving, teamwork, professionalism, leadership, and adaptability—that enable graduates to navigate an increasingly complex workforce. This raises an important question for undergraduate research educators: To what extent are the competencies cultivated through undergraduate research aligned with those most valued in today's workplace?

Recent work by the Council on Undergraduate Research has helped advance this conversation by examining undergraduate research through the lens of career readiness. The National Association of Colleges and Employers' (NACE) Career Readiness Competencies (National Association of Colleges and Employers, 2021) provide a common framework for understanding the knowledge, skills, and dispositions that contribute to career success. These eight competencies—Career and Self-Development, Communication, Critical Thinking, Equity and Inclusion, Leadership, Professionalism, Teamwork, and Technology—have become increasingly influential in conversations about undergraduate education and workforce preparation.

Encouragingly, emerging scholarship suggests that undergraduate research naturally supports the development of many of these competencies. Mekolichick (2021, 2023), for example, has demonstrated that the benefits of undergraduate research extend well beyond disciplinary expertise and map closely onto the competencies identified by employers. Likewise, foundational work by Laursen and colleagues (2010) described broad categories of student gains that include professional development, scientific thinking, technical skills, and greater clarity regarding educational and career goals. These outcomes resonate strongly with contemporary understandings of career readiness.

At the same time, the evidence base remains incomplete. As McDonald and colleagues (2024) observe in their recent scoping review, relatively few studies have intentionally evaluated undergraduate research using the NACE Career Readiness Competencies as an assessment framework. Many investigations continue to rely on measures of learning gains and subsequently infer connections to career readiness. While such approaches have substantially advanced our understanding of undergraduate research, they also reveal important opportunities to more directly examine how research experiences cultivate the transferable competencies that students carry into graduate education, professional schools, and the workforce.

Several competencies, including leadership, technology, and equity and inclusion, remain particularly understudied despite their growing importance in professional settings. Similarly, while critical thinking, communication, teamwork, and professionalism frequently emerge as strengths of undergraduate research experiences, additional scholarship is needed to understand how these competencies develop across disciplines, institutional contexts, and different models of undergraduate research. Such work will not only strengthen our assessment practices but also help faculty mentors intentionally design research experiences that foster students' holistic development.

The contributions assembled in this special issue reflect the field's growing commitment to this work. Collectively, the authors explore how undergraduate research contributes to career readiness through innovative assessment strategies, intentional mentoring, structured professional development, and thoughtfully designed research programs. Although the contexts represented are diverse, several common themes emerge. Among them is the importance of intentionality—not only in mentoring students as researchers, but also in helping them recognize, articulate, and translate the competencies they develop through research into language that resonates with employers, graduate programs, and professional organizations.

This emphasis on intentionality is especially timely. McDonald and colleagues identify professional development programming and intentional career mentoring as two promising approaches for strengthening career readiness within undergraduate research experiences. Many of the contributions in this issue build upon these recommendations, demonstrating that career preparation need not be viewed as an addition to undergraduate research but rather as an integrated component of effective mentoring and student development. When students are encouraged to reflect on their experiences, connect their research to broader professional competencies, and communicate those experiences effectively, they are better positioned to recognize the full value of their scholarly work.

This special issue also highlights an important evolution within the undergraduate research community. Increasingly, our conversations extend beyond whether undergraduate research is beneficial—a question that decades of scholarship have answered convincingly—to understanding how, why, and under what conditions particular outcomes emerge. This shift reflects the maturation of undergraduate research as a field of inquiry and underscores the importance of rigorous assessment, evidence-informed practice, and cross-disciplinary collaboration.

We hope the scholarship presented here encourages faculty mentors, program directors, career services professionals, institutional leaders, and researchers to continue exploring the intersection of undergraduate research and career readiness. As institutions seek to prepare graduates who are both intellectually agile and professionally prepared, undergraduate research remains uniquely positioned to bridge academic learning with the competencies required for lifelong success.

Finally, we extend our sincere appreciation to the authors, reviewers, and editorial team whose expertise and thoughtful contributions made this special issue possible. Their work advances an important conversation within the undergraduate research community and reflects the collaborative spirit that has long defined the Council on Undergraduate Research.

We invite readers to engage with the articles that follow and to consider how undergraduate research can continue to evolve as a powerful vehicle for developing not only scholars, but also thoughtful professionals, engaged citizens, and lifelong learners.

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