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Undergraduate Research for Online Students

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UNDERGRADUATE RESEARCH FOR ONLINE STUDENTS

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Editors and Au:
All other articles
have abstracts.
To remain
consistent, this
should have one
as well?

BENEFITS AND BARRIERS TO UNDERGRADUATE RESEARCH

Since the term “high impact educational practices” (HIPs) was coined in 2008, it comes up often in SoTL research and professional development. Undergraduate research is one of the commonly listed HIPs. The professional and personal benefits to students are numerous, including increased persistence, self-confidence, career preparation, enhanced mentoring relationships, development of transferable skills, networking opportunities, and balancing of intellectual independence and collaboration skills (Council on Undergraduate Research, 2017; Lopatto, 2006, 2010; Madan & Teitge, 2013).

Not only do students benefit, but faculty do as well! Faculty have reported improved career satisfaction, increased quality of their research program, and the formation of close mentoring relationships (Rorive & Brint, 2013; Zydney, Bennett, Shahid, & Bauer, 2002). Undergraduate research increases retention and diversity

(Council on Undergraduate Research, 2017; Eagan et al., 2013).

Even with those benefits, some significant barriers exist. There is a lack of awareness of existing opportunities, the benefits of research experiences, how to approach and interact with faculty, and cultural norms associated with scientific research. Students may also see financial and personal barriers like time availability and confidence (Figure 1) (Bangera & Brownell, 2014; Morrison, 2017).

UNDERGRADUATE RESEARCH IN ONLINE AND DISTANCE EDUCATION

With the current emphasis on HIPs, what does that look like in the online and distance education environment? It is probably fair to say that online and distance students are less engaged in undergraduate research, though the literature is silent on this. Is this due to a lack of opportunity or a lack of interest? Are the benefits and barriers the same for online and dis-

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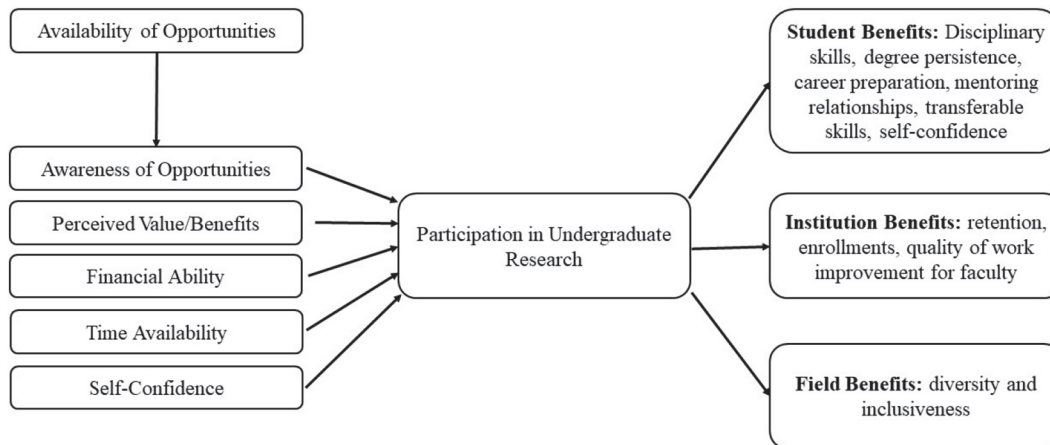


FIGURE 1
Theoretical Model for Participation in Undergraduate Research

tance students? What can be done to bring this HIP to our students?

Course-based research experiences are well supported in the literature, but what does that look like online? Do traditional undergraduate research opportunities (e.g., National Science Foundation's Research Experience for Undergraduates program) appeal to the online student population? How could our online students collaborate with on-ground research? What roles could we assign in our research projects to undergraduate researchers? Online students can easily contribute to a research project through professional and technical writing, data analysis, project management, and use of specialized software.

Currently, nontenure track instructors and contingent faculty, account for the majority of all academic faculty in the United States. Online courses are more even likely to be taught by contingent faculty (Ortagus & Ste-drak, 2013). While they may be engaged in research, participation in research is unlikely to be a duty of nontenure track and contingent faculty. With fewer research faculty, there are fewer opportunities for students to engage in research with the professionals they are closest to. So who will build online research opportunities? Just as students face barriers, so do

undergraduate research mentoring faculty. Do online and distance faculty face the same barriers as traditional faculty: time, resources, recognition, appropriate consideration for evaluations and tenure, and professional development aimed at undergraduate research mentorship?

A Call to Research

It is clear that further exploration in the area of online undergraduate research is warranted. An exploratory study of existing undergraduate research opportunities available to undergraduate students would be informative to understand if online students are provided similar opportunities as traditional students. A survey of online undergraduate students could identify their level of awareness of and interest in undergraduate research as well as their perceived benefits and barriers to participation. A revelatory case study could illuminate a theory regarding the influence of barriers to undergraduate research for online and distance students, providing institutions the opportunity to pursue action for an emerging problem.

If online students are indeed interested in undergraduate research, institutions wishing to increase access will need to consider how to

→ Au: "on-ground" is an unusual term. Is this the right word choice? Do you mean "on-the-ground"?

adapt this high impact practice. Even with limited research, it is clear that a pilot program for undergraduate research within an online program will need to consider data-driven outreach, online-only research opportunities, and professional development for online faculty.

REFERENCES

- Bangera, G., & Brownell, S. E. (2014). Course-based undergraduate research experiences can make scientific research more inclusive. *CBE—Life Sciences Education*, 13(4), 602–606. doi:10.1187/cbe.14-06-0099
- Council on Undergraduate Research. (2017). Fact sheet. Retrieved from http://www.cur.org/about_cur/fact_sheet/
- Eagan, M. K., Hurtado, S., Chang, M. J., Garcia, G. A., Herrera, F. A., & Garibay, J. C. (2013). Making a difference in science education: The impact of undergraduate research programs. *American Educational Research Journal*, 50, 683–713. Retrieved from <http://journals.sagepub.com/doi/abs/10.3102/0002831213482038>
- Lopatto, D. (2006). Undergraduate research as a catalyst for liberal learning. *Peer Review*, 8(1), 22–25.
- Lopatto, D. (2010). Undergraduate research as a high-impact student experience. *Peer Review*, 12(2) Retrieved from <https://www.aacu.org/publications-research/periodicals/undergraduate-research-high-impact-student-experience>
- Madan, C. R., & Teitge, B. D. (2013). The benefits of undergraduate research: The student's perspective. *The Mentor: An Academic Advising Journal*, 1–3. Retrieved from <https://dus.psu.edu/mentor/2013/05/undergraduate-research-students-perspective/>
- Morrison, E. (2017). Undergraduate research: The barriers. Retrieved from <https://www.purdue.edu/recourse/2017/03/09/undergraduate-research-opportunities-facing-the-student-overload/>
- Ortagus, J. C., & Stedrak, L. J. (2013). Online education and contingent faculty: An exploratory analysis of issues and challenges for higher education administrators. *Educational Considerations*, 40(3).
- Rorive, V. M., & Brint, S. (2013). *UCR undergraduate student participation in research*. Riverside, CA: University of California Riverside. Retrieved from https://ueeval.ucr.edu/Undergraduate%20Research%20Tracking%20Report%20March%202013_final.pdf
- Zydney, A. L., Bennett, J. S., Shahid, A., & Bauer, K. W. (2002). Impact of undergraduate research experience in engineering. *Journal of Engineering Education*, 91(2), 151–157.

← Au: Add page numbers.

