

Mixed Method Study Examines Undergraduate Student Researchers' Knowledge and Perceptions About Scholarly Communication Practices

Riehle, C. F., & Hensley, M. K. (2017). What do undergraduate students know about scholarly communication?: A mixed methods study. *Portal: Libraries and the Academy*, 17(1), 145–178. <http://dx.doi.org/10.1353/pla.2017.0009>

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Evidence Summary

Mixed Method Study Examines Undergraduate Student Researchers' Knowledge and Perceptions About Scholarly Communication Practices

A Review of:

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Abstract

Objective – To examine undergraduate student researchers' perception and understanding of scholarly communication practices and issues.

Design – Mixed method study involving a survey and semi-structured interviews.

Setting – Two major undergraduate universities in the Midwest region of the United States of America.

Subjects – Undergraduate students who participated in or had completed undergraduate research experiences with faculty mentors.

Method – The method was first approved by Institutional Review Board offices at both campuses involved in the study. Then, students received invitations to participate in a survey via email (Campus 1 = 221 students; Campus 2 = 345 students). Identical online surveys ran separately on each campus; both remained open for a period of three weeks. All respondents received a reminder email one week before the survey closed.

Participants answered 12 questions related to demographics and scholarly communication practices. The survey examined knowledge and experience across five areas: the peer review process, author and publisher rights, publication and access models, impact of research, and data management. All students who completed the survey were entered in a

drawing for a \$50 Amazon card. The response rates were 34.8% (Campus 1) and 18.6% (Campus 2).

Surveys on both campuses were administered using different software: campus 1 utilized Qualtrics survey software while campus 2 used an institution-specific survey software. Data sets were normed and merged later in the study to enable comparison and identify broad themes.

Survey respondents were also invited to participate in a 15 to 20 minute follow-up interview and were compensated with a \$20 Amazon gift card. The interviews consisted of four open-ended questions that further examined students' knowledge of scholarly communication practices. The researchers coded interview transcripts and identified themes. Qualitative software was used to analyze the surveys and assess coder agreement. Finally, connections and anomalies between survey and interview results were explored.

Main Results – Quantitative and qualitative data collected during the study indicate that students were most confident in their understanding of the peer-review process and data management but felt less confident in their knowledge of author and publisher rights, publication and access models, and determining the impact of scholarly research publication. In addition, they value instruction related to scholarly communication topics like the peer-review process, publication models, and data management. However, few students feel confident in their current level of knowledge or ability surrounding the previously mentioned topics. Study findings suggest that this knowledge gap is based on a lack of training or discussion of scholarly communication topics in relation to students' research activities.

Results also suggest that undergraduate students have difficulty articulating their rights as authors and their scholarly communication practices. In many cases, skill sets like data management are learned through trial and error while students progress through

the research process. In some cases, faculty mentors have misperceptions and assumptions about undergraduate students' knowledge and abilities regarding scholarly communication practices. This can create challenges for undergraduate students as they attempt to make informed decisions about research activities based on a limited foundation of experience or information.

Finally, results indicate that undergraduate student researchers do not currently view the library as a place to learn about scholarly communication practices. The authors suggest that by forming strategic relationships with undergraduate research program directors, faculty, and graduate student mentors, librarians are in a prime position to incorporate scholarly communication practices into information literacy sessions or provide point-of-need coaching.

Conclusion – The researchers conclude that academic libraries are in a unique position to support overarching research, teaching, and learning goals within the academic community. By developing programs that support information literacy and scholarly communication, libraries demonstrate value and align goals with teaching and learning priorities within the higher education community as a whole. Through this work, librarians support students as knowledge creators and advocate for training that emphasizes data literacy, copyright and authors' rights, and the impact of research within specific disciplines.

Commentary

Within the academic community, undergraduate student researchers are gaining credit as knowledge creators. In response, information professionals are transforming information literacy programs to include scholarly communication practices. The study at hand supports what was previously known—that students have a greater role in the creation of knowledge (ACRL, 2013) and that traditional information literacy training provides guidance on scholarly communication practices (Hensley, 2015) – and

includes a unique perspective that brings value to the information profession. That perspective is an exploration of students' perception and understanding of scholarly communication.

The researchers suggest that librarians support "undergraduate students as they move beyond their role as knowledge consumers, encouraging them to become skillful knowledge creators" (p. 146). To achieve this goal, they designed a mixed methods study that documents students' application of scholarly communication practices. Detailed descriptions of the research design, recruitment methods, and data analysis techniques provide a detailed roadmap that can be adopted by other librarians who wish to conduct similar investigations.

The paper was enhanced by the organization and presentation of results. It was interesting to read about the methodology and results of the survey and interview sessions separately, followed by a discussion of observed trends across the complete body of quantitative and qualitative data collected during the study. The conclusions offered viable strategies to merge information literacy sessions with scholarly communication training. For instance, the researchers stress the importance of strategic relationships between the library and undergraduate program directors to facilitate mentorship and training opportunities.

Since the participant group largely conducted research in scientific fields, it would be interesting to discover if observed trends apply to students working in the humanities or social sciences. With that being said, the researchers note this limitation and suggest it as an area for future study. Additionally, the researchers mentioned that participants had only

experienced small portions of the research process and did not have a chance to see the "big picture" of research projects. Running the study again when participants are involved in the full research process would be useful.

Because the value of the study rests on the methodology and ability to document local gaps in knowledge or training, it was unfortunate that the research tools (i.e., survey and interview questions) were not included as an appendix to the study. These tools may have served as a starting point for similar studies within the information management profession.

The paper successfully demonstrates how a mixed methods study can be used to understand students' perception and knowledge of scholarly communication practices. Repeating the study in several years could help to determine how the establishment of strategic relationships between the library and the campus community influences students' skill sets and comfort level with scholarly communication practices.

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