

A Very Small Study of a Big Problem: Information-Seeking Behavior of Students/Faculty in Agri.

Sources of concern: by experience, the Ithaka S+R national report, our local Ithaka report, and results of two years of a local 3000 level Crop Science quiz, students need more support for literature reviews (LR). Rempel, Hussong-Christian and Menniger (2011) showed that graduate students who are acting as teachers are often caught between the expectations of advisors and their students' needs. A lack of skills, knowledge of resources and techniques on the part of graduate students can affect their work, that of their students, and the work of faculty advisors, especially if the grad students are providing LR support for faculty, as the national Ithaka S+R report suggests.

Participants:

- . 52 students over two semesters
- . Class level and majors not identified
- . Fall semester class
- . Unknown record of previous library instruction.

The CSES professor wrote the quiz and gave it to classes before scheduled library instruction. I hope to get the 2018 results.

First round quiz questions (2016):

- What are the three databases you use most?
- How do you evaluate the reliability of a source you use?
- How do you know that the statements made in what you read are true, accurate and precise?

Second round (questions added in 2017):

- Do you have scientific journals that you go to in order to find information? What questions do you have for the librarian?

Google Scholar
Web of Science
Ebscohost
ProQuest
SciFinder
JSTOR
University Libraries
Government websites
SSURGO (soil data)
Scopus

Students' resources

Journals mentioned by students: *Nature*, *Science* and the *Journal of Environmental Quality* (2017 quiz examples).

Authority: by authors' credentials, style, publisher (all quiz examples) and validity of methods, though how determined was not identified.

Truth, accuracy and precision was judged by sampling methods, data and citations, evidence of bias, methodology, replication, and comparison to similar studies. Peer-reviewed journals were mentioned; how they were identified wasn't specified.

Questions for the librarian: "What is the best database for research on water science?" "How can I narrow down a search?" "Are there specific databases for Agriculture?" "Effective ways to find and cite sources?"

Faculty interview comments on what they use and student knowledge:

Local faculty members (FM) mentioned *Google Scholar*, *Web of Science*, *Ebscohost*, and specific titles: *PubMed*, *SciFinder* and *CAB Abstracts*, subject journals and interdisciplinary titles.

FM are unimpressed with students' practices regarding the literature.

"...what I am constantly amazed by is: ...(students) don't know how to do (literature) searches."

Explicit modeling of literature review practices by FM for students was only done in response to specific "how do I..." questions.

FM support librarians' efforts to instruct graduate students on literature reviews.

"...little workshops, which you offer...for graduate students,...to help get into the mindset on research....There is a new generation of students, that are more difficult to work with, and that is off-campus students; and the literature review...that, you could help with...."

Some FM feel behind in their own skills, or critique others:

"...making sure that we keep both the faculty and the students trained on the best ways of doing...this information searching is a good thing to do."

There's tension between individuals' feeling that what they are doing is adequate, versus recognition by observers of what could be done with more training, experience, and time.

"Yeah...students grow up ...with the expectation that if it is out there, that they can find it. ...I don't know how you get beyond that, because if I *think* I can do it myself, it doesn't matter what you offer me, *I think* I can do it myself....*I guess you just have to run up against the rocks and then you find out who can help.*" (Parker-Gibson and Houpert, 2016).

The Literature: We've been exploring the literature, but are not as far as we hoped. There's material on students in humanities/social sciences, such as Boote and Beile (2005), Calkins (2007), and Allen and Weber (2012), but fewer involving graduate students in STEM disciplines. Kuruppu and Gruber (2006), Rempel (2010), Harris (2011), Salisbury, Lainz and Smith (2012), Catalano (2013), O'Clair (2013), DeBose, Haugen and Miller (2017), and O'Clair and Gillard (2018), have dug into the problem.

"most graduate students receive little or no formal training in how to analyze and synthesize the research literature..." p. 5)

Reaching grad students: Most studies and we use live or online instruction by librarians.

FM are in contact with graduate students and more likely to be heard; would it be more effective if we:

- . *Push* more information about services to FM?
- . Help augment how FM show techniques for LR to graduate students in agriculture?



The graduate students are a **big cog** in the system, turning between FM, other students and undergraduates.

Who else is involved:

- . Graduate student coordinators in CSES, AEED, and other departments will help us review and revamp instruction and incorporate what we glean from the literature.
- . The direction of graduate students can be enriched more extensively and fully by us and the FM.

Assessment Rubrics:

- . Assessment rubrics at the degree level from the college departments may be a starting point.
- . Higher scores (proficient or exemplary) are tied to information skills/behavior on graduate student evaluations.
- . The other librarians for Bumpers College are consulting, too. <https://oir.uark.edu/assessment/assessment-plans-2016.php>

Allen, EJ, and RK Weber. 2012. Graduate student searching proficiencies in the selection of qualitative and quantitative journal references. *Journal of Academic Librarianship* 38, (3): 130-134.

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Kuruppu, Pali U., and Anne Marie Gruber. 2006. Understanding the information needs of academic scholars in agricultural and biological sciences. *The Journal of Academic Librarianship* 32, (6): 609-623.

Parker-Gibson, Necia and Maree U. Houpert. 2016. "Research Support Services for the Field of Agriculture: Semi-structured Interviews." https://uark.libguides.com/ld.php?content_id=27035980

Rempel, Hannah Gascho, Uta Hussong-Christian, and Margaret Mellinger. 2011. Graduate student space and service needs: A recommendation for a cross-campus solution." *Journal of Academic Librarianship* 37, 6: 480-487.

Salisbury, Lutishoor, Jozef Lainz & Jeremy J. Smith. 2012. Students' preferences in selecting information resources used to find scholarly information: