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Exploring Data Management: Identifying Signposts for Graduate Student Researchers

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OBJECTIVES

Identify knowledge gaps and instructional needs of graduate students (explorers) and disciplinary faculty in research data management concepts.

Explore new pathways for research data management education.



TWO NEIGHBORING UNIVERSITIES

8,851 UG
3,103 G

Education,
applied health
sciences, core
of natural &
life sciences

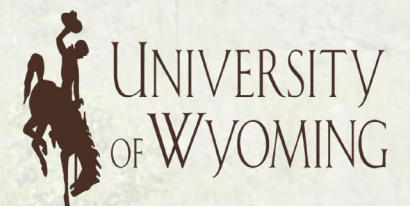
Medium-Sized
Public
Research
Universities

Agricultural
sciences,
engineering,
natural & life
sciences, applied
health sciences,
psychology

9,290 UG
2,543 G

R3, Doctoral
Comprehensive

R2, Doctoral
STEM
Dominant



OUR RESEARCH QUESTIONS

- How do graduate students and faculty rate the importance of research data management (RDM)?
- How do graduate students and faculty rate RDM knowledge and skills of graduate students?
- How do graduate students learn RDM concepts and practices?
- Do self-reported assessments by graduate students regarding RDM education differ from faculty perceptions of their graduate students?
- Are there differences in RDM education needs between the two institutions studied?

BRIEF OVERVIEW OF OUR STUDY

Methods

- Surveys designed for graduate student and faculty populations, deployed at both universities.
- Quantitative analysis
- Qualitative analysis

Respondents

	UNC	UW	Total
Graduate students	63	68	131
Faculty	39	40	79

DATA COMPETENCIES

Ethics &
attribution

Planning &
organization

Discovery &
acquisition

Cultures of
practice

Database &
data formats

Metadata &
data
description

Quality
assurance

Conversion &
interoperability

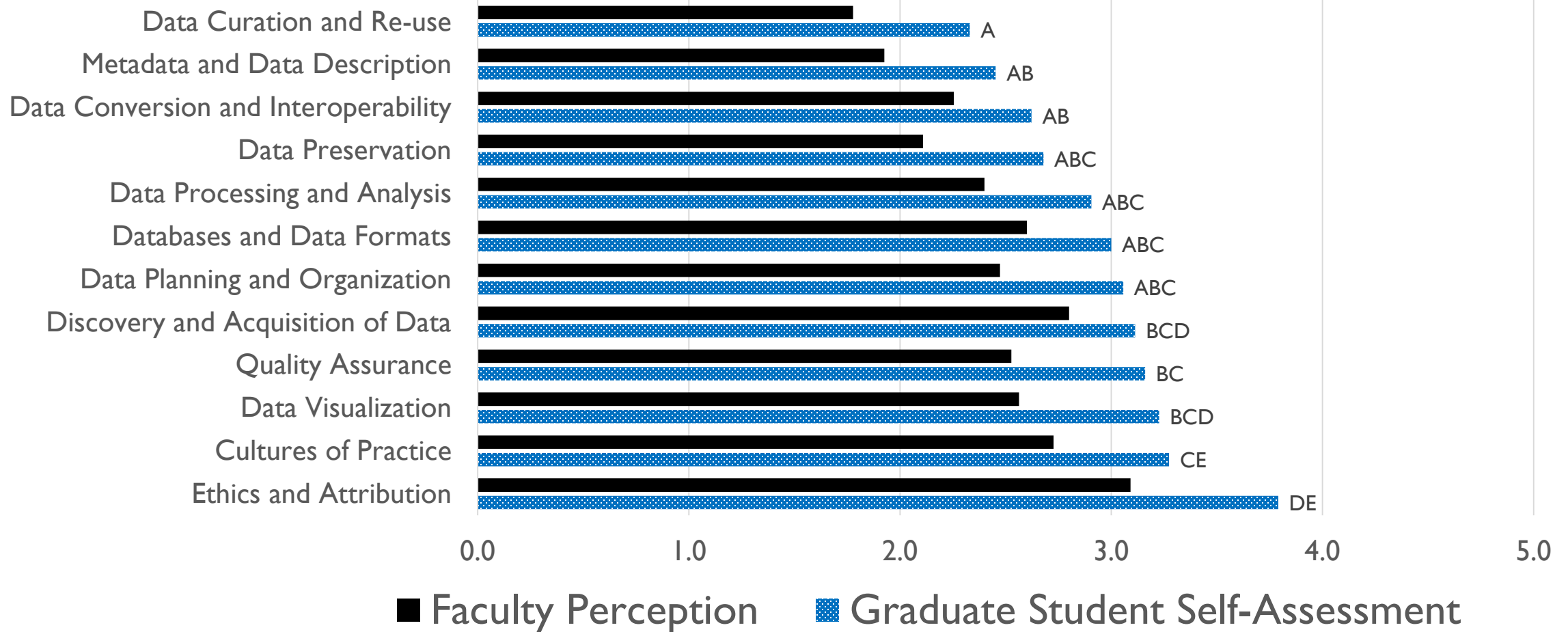
Processing &
analysis

Visualization

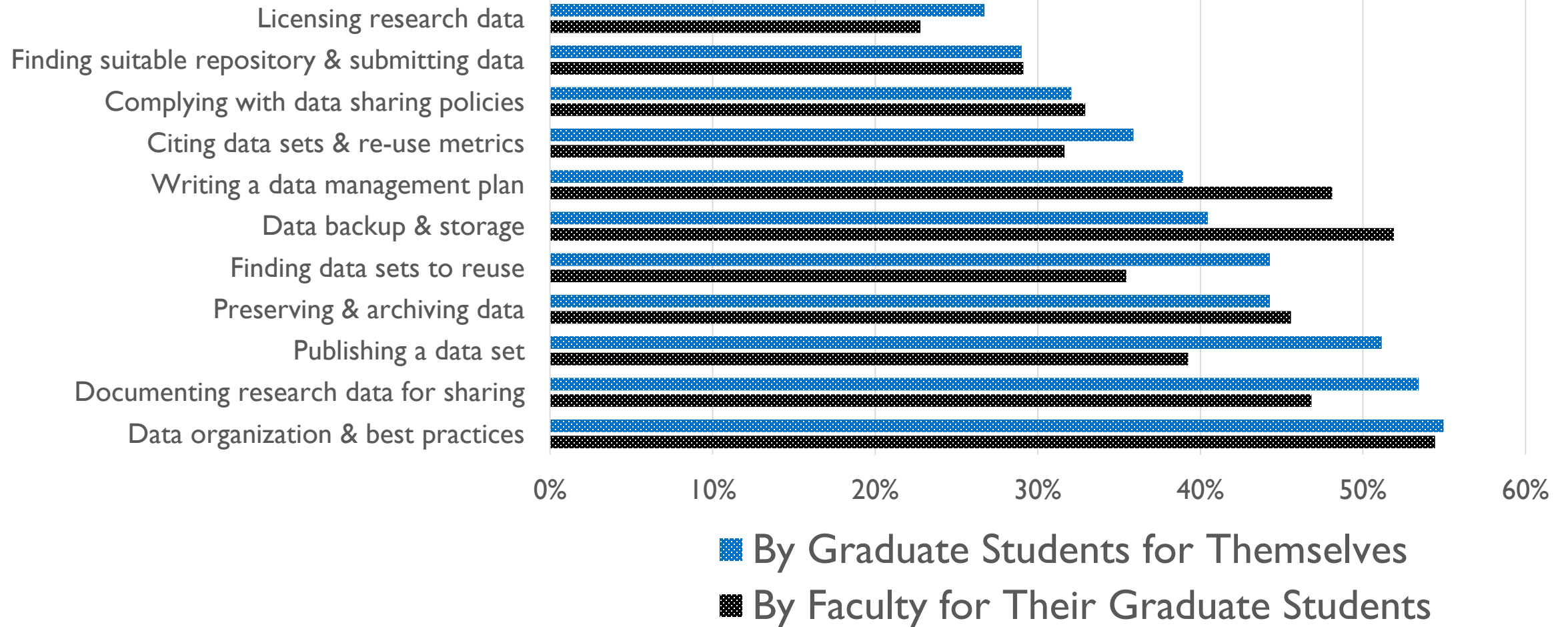
Curation &
reuse

Preservation

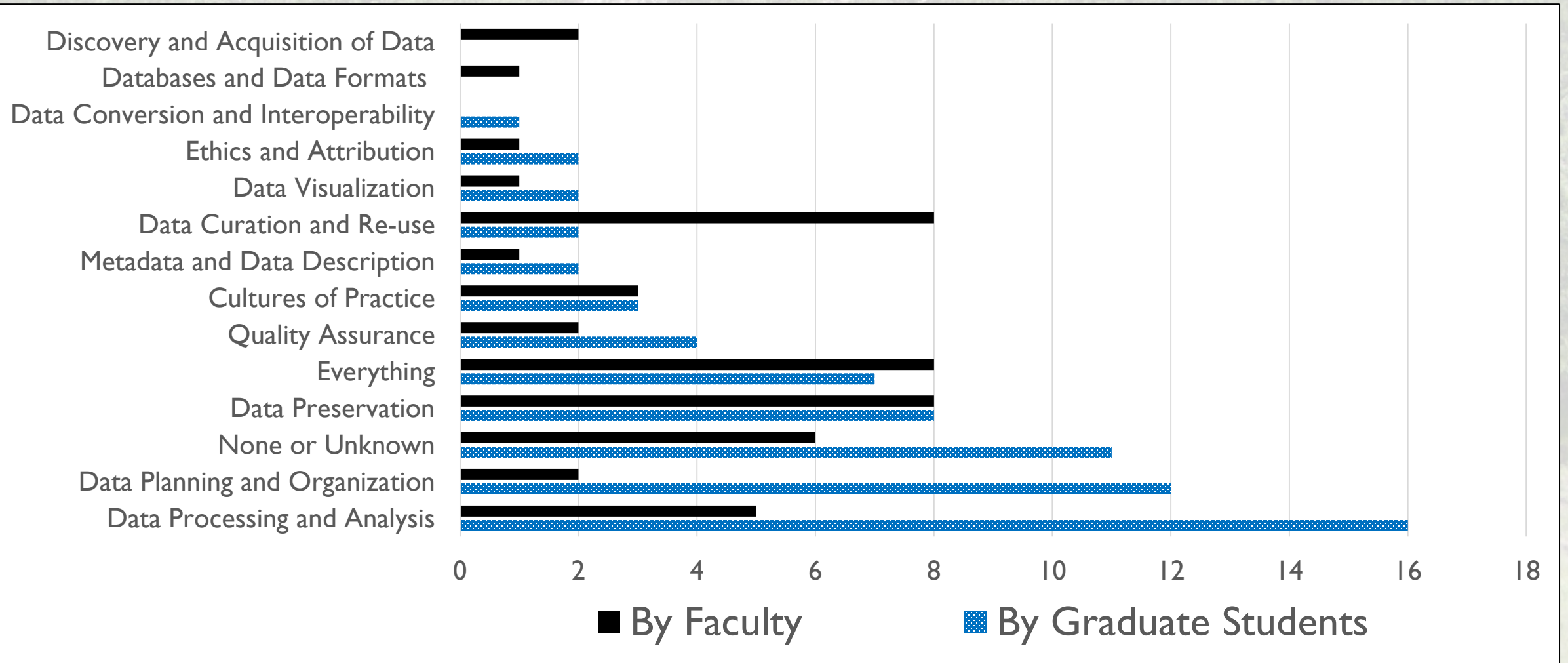
RESULTS: RDM KNOWLEDGE & SKILLS



RESULTS: TRAINING INTERESTS

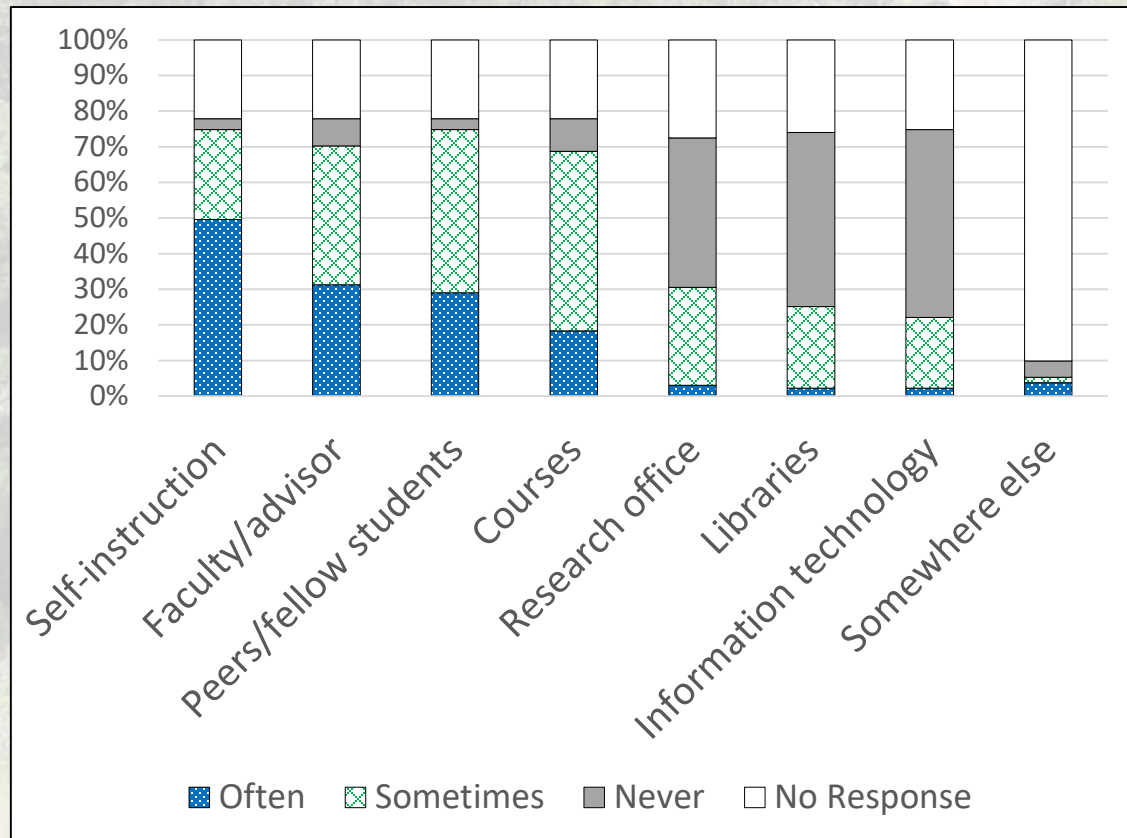


RESULTS: CHALLENGES IN RDM

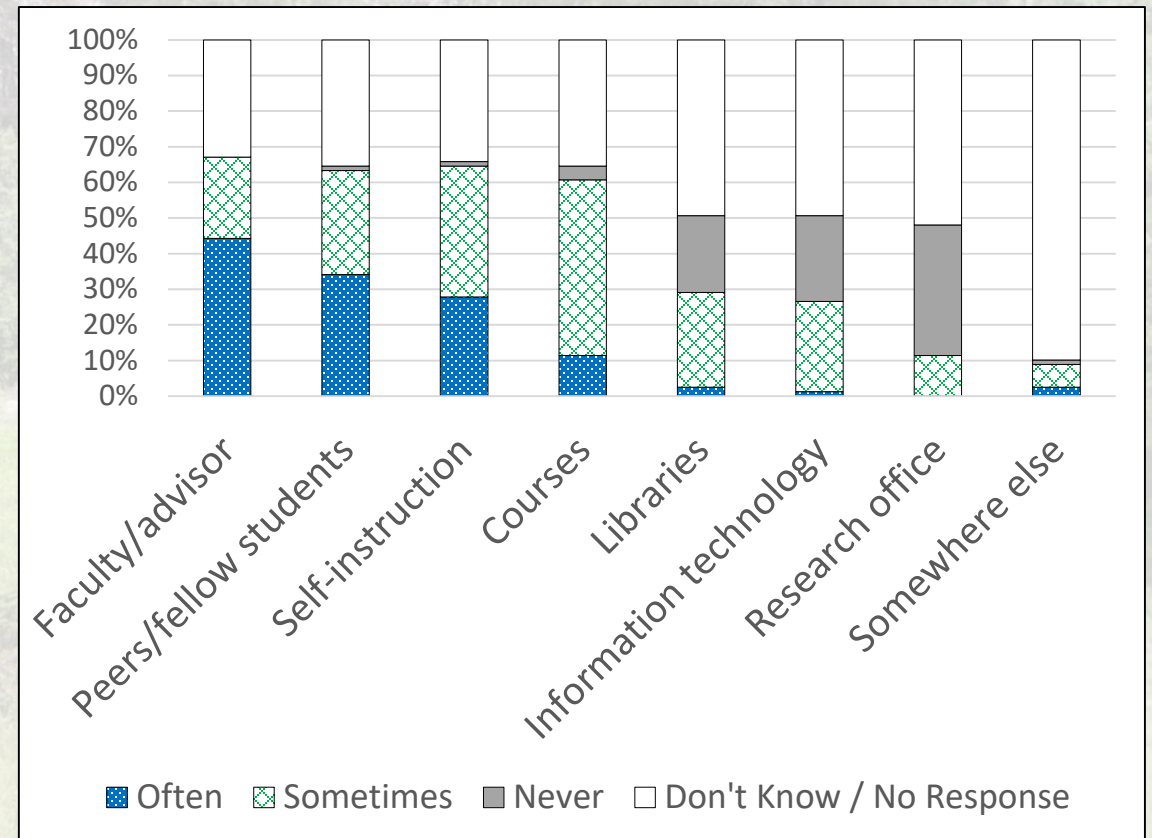


HOW STUDENTS LEARN RDM

Where graduate students say they learn



Where faculty say their graduate students learn



NOTABLE IMPLICATIONS

- Knowledge levels
- Training interests
- Teaching approaches



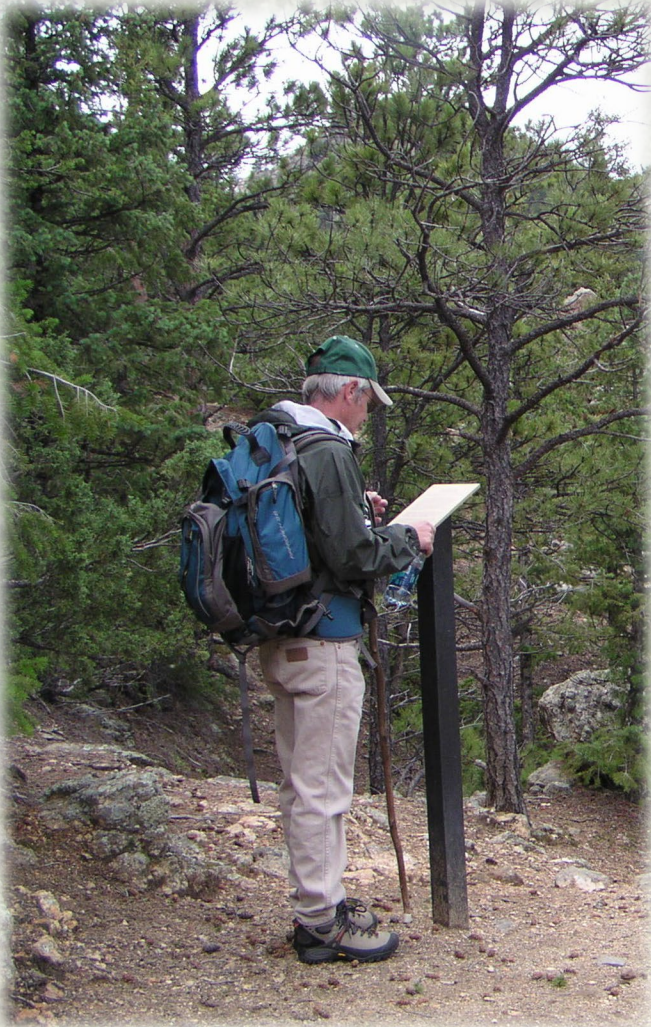
DISCUSSION

What are your ideas for teaching approaches for research data management?

- Formats
- Content
- Collaboration
- Limitations

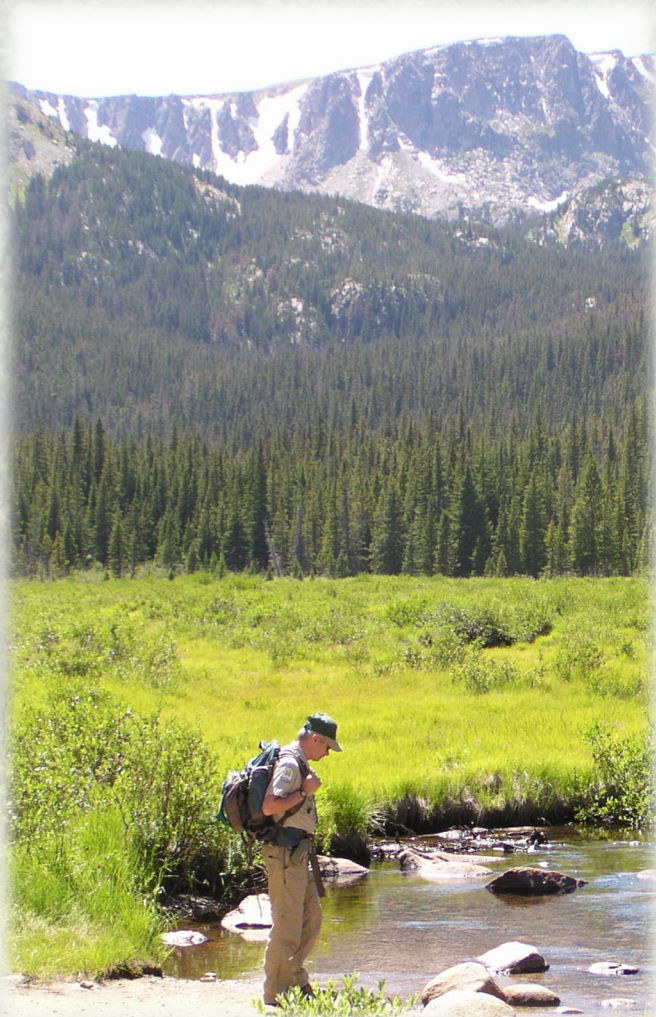


OUR RECOMMENDATIONS



- Librarian support and areas of focus
 - Data sharing concepts; complementary to expertise of disciplinary faculty
 - Emphasize data planning, organization, metadata, curation, and preservation

MORE RECOMMENDATIONS



- Collaborate with faculty on data sharing instruction
 - Tutorials with exercises as point of need learning
 - Develop a peer to peer model for graduate student RDM instruction
 - Topical workshops

QUESTIONS?



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WORKS CITED

Carlson, J., Fosmire, M., Miller, C.C. & Nelson, M.S. 2011. Determining data information literacy needs: A study of students and research faculty. *portal: Libraries and the Academy* 11(2):629-657. DOI: 10.1353/pla.2011.0022.

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