

**Title:** Give Them What They Want: Graduate Student Workshops Focused on Skills, Not Theory

**Authors:** Clara Llebot and Hannah Rempel

## **Introduction**

At Oregon State University, we have hosted workshops for graduate students and faculty since 2007 (Rempel & Davidson, 2008). These workshops have covered a range of topics including the literature review process, citation managers, publishing tips, and 3D printers (for a complete overview of our workshop options, see [this guide](#)). These workshops are almost never connected to specific credit classes, are free and open to anyone (some undergraduates attend, and occasionally we have attendees from other universities in the region), and registration is optional. We have few restrictions for attendance, in part, because we interpret our land grant mission to mean that we should make our services openly available whenever possible. In addition, we do not want to impose financial restrictions that might exclude under-resourced students.

We have also been open to innovative workshop topics. If a librarian wants to try out a new topic, or if an emerging issue like research data management arises, there is room for experimentation. That said, we also take into account our target audience and their information needs and gaps. For example, we recognize that no one else on campus provides structured instruction in how to use citation managers, so we are mindful to always make those types of workshops available.

As the workshop series planners, we continually seek ways to make the workshops as relevant as possible for our audience. We track registration and attendance data to decide which workshops to continue offering and which workshops to discontinue. While we don't have hard and fast numerical targets to define what makes a successful workshop, in our context if a workshop consistently receives fewer than 5 registrants each term over the course of a year, we usually decide that a voluntary, stand-alone workshop is not be the best way to deliver that content.

The problem we will be describing in this article is how we have balanced librarians' occasional desire to offer workshop topics they think they *should be* teaching graduate students and faculty, with the issue that highly theoretical or abstract workshops are often poorly attended. We have learned that offering content that is initially abstract, but which is based in practice better aligns with our audience's learning preferences and results in more successful workshops for both attendees and librarians. We will share the ways our approach is grounded in pedagogical best practices while also respecting librarians' knowledge of the evolving information landscape.

## **Connections to Theory**

Our pedagogical best practices are informed by two key theories. The first theoretical model we draw on is the Dreyfus model of skill acquisition (Dreyfus, 2004). Software Carpentry programs sometimes use this pedagogical approach, which describes a five-stage learning model. Learners who begin as *novices* (with little context for the skills they are acquiring), become *advanced beginners*, who gain more practice based on a few controlled contexts. They advance to *competent practitioners*, who are able to make decisions based on frameworks they are learning to apply and with time become *proficient practitioners*, who gain confidence as they make decisions. Eventually the learners may develop into *experts* - who are able to act on intuition based on experiencing a wide range of contexts and no longer need to explicitly process the decisions they are making. Eliason (2017) notes that when viewing adult learners through the Dreyfus skill acquisition lens, most people are advanced beginners at their skill. Advancing further through the stages requires deliberate practice. Many learners need a teacher or other structured method of receiving feedback, as well as practice activities that push them out of their comfort zone, to achieve this level of practice.

In our workshops we encounter participants with varying levels of previous experience. As a result, we typically target our instructional materials at students in the novice zone. We give participants opportunities to transition from novice to advanced beginners by providing new contexts in which to practice their skills. We also seek to provide enough practice and modeling for learners who may already be at the advanced beginner stage, so they begin to feel more confident with their skills.

The other pedagogical theory we have relied on to guide how we work with the graduate student and faculty audience is andragogy, or adult teaching strategies. Andragogy best practices indicate that for adults, learning must be coupled with clear goals. Similarly, adults prefer learning that is connected to real-life situations and thrive when given the opportunity to learn by solving problems rather than via teacher-driven strategies such as lectures or teacher-student discussions on theoretical topics from the disciplinary domain (Alajlan, 2015).

Stern and Kaur (2010) applied andragogy to workshop and training environments and suggested that in these adult learning environments teachers (or trainers) must be flexible. Training should relate to an immediate need with clearly stated practical applications. A related finding is that adult learners do not prefer learning theories that seem to have no real world connections or immediate value. Adult learners want to use their previous experiences as a foundation for new learning. These learners typically come to workshops or trainings because they are internally motivated, as opposed to being pushed by short-term external motivators like tests or badges.

One way we implement andragogy principles in our workshops is by giving participants problems to work through. For example, in a spreadsheets workshop participants work in small groups to find problems in a provided spreadsheet. In a Zotero workshop participants create their own bibliography and then find (and correct) errors based on metadata problems in their Zotero libraries. These exercises allow participants to apply what they are learning to realistic situations, which they can then translate to their own work.

## Applying Theory to Our Workshops

We had long suspected that workshops with a more theoretical focus were not as appealing to our audience. We examined the workshop registration data to see if these suspicions were true. We used registration data because they are collected centrally and more consistently than attendance data. Based on our experience and in conversations with others who also teach workshops at OSU, attendance numbers are typically about 50% to 60% of registration.

The last 5 years of registration numbers for our workshops are shown in Figure 1. Workshops have been assigned to one of two groups. Workshops that are strongly based on learning a tool, like a citation manager, version control software, or typesetting tools, are grouped together in the tool-based line. Workshops that deliver theoretical concepts around a topic, like copyright and fair use, data management, or how to do a literature review, are grouped in the theory-based line.

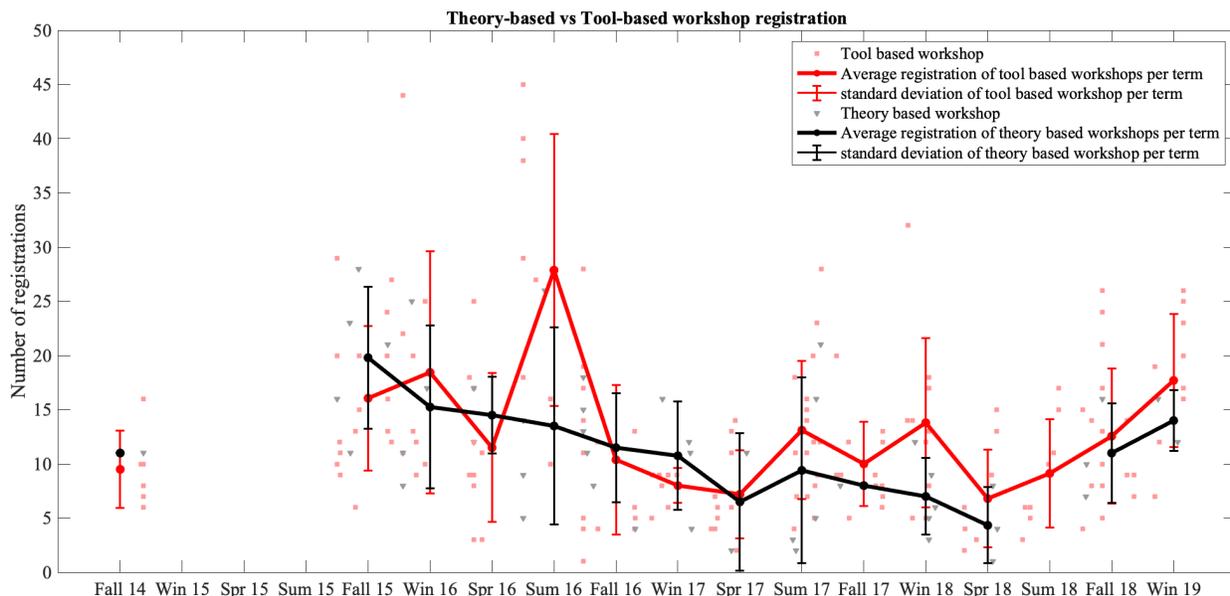


Figure 1. Registration data for tool and theory-based workshops over a five-year period.

The figure shows the registration of the individual workshops that we have offered, average registration, and standard deviation. Registration for tool-based workshops tends to be higher than registration for theory-based workshops, although there are terms (5 out of 14 according to the averages in our dataset) when the contrary is observed. The highest registration for a tool based workshop in the last 5 years has been 28, while the highest registration for a tool based workshop has been 45. In all terms except for one the tool based workshop with most registrations had more registrations than the theory based workshop with most registrations.

Theory-based workshops can definitely be sustainable, but the overall registration and attendance tend to be lower than for tool-based workshops.

In order to attract more learners, our library has made an effort to make the theory-based workshops more applied. This attempt has been done at several levels. First, the title of the workshop avoids general subjects, and focuses on what the participants will learn. For example, the “Intro to Data Management” workshop was renamed “Manage Your Research Data” in 2016. The new title does not assume that participants are familiar with the term data management, and includes the concept of research data clearly. The new title also uses the word “manage” as the action that new learners will learn to do during the workshop. Second, the descriptions of the workshops describe the tools that will be used, and the level of expertise necessary to benefit from the workshop. Finally, the content of the workshops is more applied. The Manage Your Data workshop was cancelled in summer 2018, and is taught in other contexts, but the key concepts of the workshop have been incorporated in other tool-based workshops. For example, the importance of keeping documentation about research data, and the need to increase research reproducibility are key concepts in the Spreadsheet Best Practices and the Git workshops.

### **Best Practices Recommendations**

Based on our experiences with adapting workshop content over time and our observations of our registration data, we offer the following recommendations for all library workshops:

- Craft workshop topics and curriculum based on demonstrably practical learning outcomes (*andragogy connections*).
- Develop workshops that relate to learners’ immediate needs (*andragogy connections*).
- Transition workshop topics from abstract ideas or theoretical concepts to targeting a skill or tool connected to these concepts (*andragogy connections*).
- Break workshops down into beginner and advanced sessions, so that learners can attend the level that fits them best (*Dreyfus model connections*).
- Workshops designed for *novices* should focus on the tool, and address the skills needed to make the tool work (e.g., which button to push, or which command to type). Workshops planned for *advanced beginners* should incorporate concepts that help the learner figure out how the tool can be helpful for their particular work (e.g., workflows, application examples, how to collaborate with others using the tool, etc.) (*Dreyfus model connections*).

For data management-focused workshops, we particularly recommend that library workshops focus on teaching skills rather than principles or theories. Workshop instructors can still focus on core data management principles, but these principles should be broken down into smaller chunks. Workshops should be designed to address concrete problems learners have, especially when helping transition advanced beginners to the competent practitioner stage (i.e., providing more context and options for enhanced decision making). Encourage learners to come up with examples of their own to practice or provide time for learners to reflect on and apply their own questions within the context of the information being presented. Finally, the description of the workshops should be focused on practical takeaways and should build on learners’ pre-existing

knowledge. Use language learners are likely already familiar with (e.g., spreadsheets, file naming) but push beyond this initial knowledge and include challenging examples in the session itself.

## References

- Alajlan, A. S. (2015). Applying andragogy theory in photoshop training programs. *Journal of Education and Practice*, 6(25), 150–154.
- Dreyfus, S. E. (2004). The five-stage model of adult skill acquisition. *Bulletin of Science, Technology & Society*, 24(3), 177–181. <https://doi.org/10.1177/0270467604264992>
- Eliason, N. (2017). The step-by-step guide to go from novice to expert in any skill. Retrieved from NatEliason.com website: <https://www.nateliason.com/blog/become-expert-dreyfus>
- Rempel, H., & Davidson, J. (2008). Providing information literacy instruction to graduate students through literature review workshops. *Issues in Science and Technology Librarianship*, 53. Retrieved from <http://www.istl.org/08-winter/refereed2.html>
- Stern, C., & Kaur, T. (2010). Developing theory-based, practical information literacy training for adults. *The International Information & Library Review*, 42(2), 69–74. <https://doi.org/10.1016/j.iilr.2010.04.011>