



## Assessing and Serving the Workshop Needs of Graduate Students



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### ABSTRACT

This study determined which workshop topics are of most interest to graduate students in the humanities, science, and social science disciplines, and what their preferences are for workshop formats, times, and communication. Topics in demand by students were evaluated against those identified as very important by graduate program directors. In addition to disciplinary differences, the needs of master's and doctoral students were compared (and contrasted). Findings were shared with multiple campus units and utilized to develop workshops and other services to more fully support graduate students with their research, grant, career, teaching, and technology training requirements.

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### INTRODUCTION

Graduate students face a rapidly-changing higher education environment. As a result, a variety of their information needs – both education-related and career-related – might not all be met within a given graduate program's curriculum. Graduate students are able to learn some research, grant, technology, teaching, and/or career skills from faculty advisors or other graduate students, but there is no standard for what topics and content to include or how thorough and complete the training is in these areas. The students might consider asking for assistance from campus experts such as the Graduate School, Library, Research Office, Computing Services, Writing Center, Learning Center, and Career Services, if these groups serve graduate students. Of course, this assumes graduate students look outside their department for help and know where to go and what to ask for. Unfortunately, previous studies have shown that students do not always know what they do not know and student orientations are not sufficient to familiarize them with the available resources (Gibbs, Boettcher, Hollingsworth, & Slania, 2012; Rempel, Hussong-Christian, & Mellinger, 2011). The literature review discusses how others have attempted to learn about and provide support for their graduate students' various needs.

The current study identifies both those topics in greatest demand by graduate students and those deemed most important by their graduate directors. In addition to overall findings, disciplinary analysis was performed to determine what differences exist between the humanities, sciences, and social sciences. The divergent needs of doctoral and masters' candidates were also examined. Following this assessment, the

authors detail how they applied their findings in practice and provide a framework for future directions of their research.

### LITERATURE REVIEW

One solution for expanded learning opportunities might be for campus experts to provide workshops featuring skills that complement and supplement the graduate student curriculum. Whether under the leadership of the Graduate School, Library, or another unit, multiple groups might collaborate to offer workshops as part of the graduate student orientation, as a "Dissertation 101" seminar, or throughout the year (Hannig, 2015; Kansas State University Graduate School, 2015; Rempel et al., 2011; Switzer & Perdue, 2011; University of Wisconsin-Madison Graduate School, 2013). Many librarians teach workshops on a wide-range of research-related topics, from the more traditional literature review and use of specific resources to citation management and software to the newer data management training (Baruzzi & Calcagno, 2015). In fact, Covert-Vail and Collard (2012) recommend that libraries develop a suite of graduate student services that considers their spectrum of roles and suggest collaborating with library colleagues and campus partners. A grant writing center could teach grant funding search skills and grant proposal writing skills (Weisblat & Sell, 2012). An education center or center for teaching and learning could focus on pedagogy and course design for teaching assistants (TAs) and future faculty (Chicago Center for Teaching, 2016; Lockwood, Miller, & Cromie, 2014). A career center might teach interview skills (Behrens, 2009). Academic departments might decide to develop their own workshops or seminars focusing on writing or oral presentation skills if they notice their students are weak in those areas (Delyser, 2003; Fowler & Jones, 2015; Micciche & Carr, 2011).

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Supplementary learning could also be sponsored by external parties such as academic societies, grant funding agencies, or corporations (American Chemical Society, 2014; Bauer, Libby, Scharberg, & Reider, 2013; Rutgers University Libraries, 2015).

Before expending limited resources to develop training opportunities that graduate students may not attend, it is essential to identify first which supplementary topics graduate students would be interested in. Librarians have attempted to do this in the past, focusing primarily on student input about research-related topics. Hoffmann, Antwi-Nsiah, Feng, and Stanley (2008) asked graduate students in the sciences and health sciences about the usefulness of specific research-related workshops. Critz et al. (2012) brainstormed topic ideas for a workshop series on library research skills with officers of the Graduate Student Government Association. Roszkowski and Reynolds (2013) surveyed social science students about traditional library topics they would be interested in learning and modified their outreach methods accordingly. In their interviews with science graduate students, Johnson, Kuglitsch, and Bresnahan (2015) focused more on barriers to doing research.

It was not unusual for researchers to encounter students surprised by what the library could do to assist them (Madden, 2014). Some graduate students, however, were reluctant to seek help from their library. They expressed concern that librarians may not possess adequate subject knowledge to be able to deal with their research (Fleming-May & Yuro, 2009). Others seemed willing to try a library workshop anyway since nobody else was providing support for the topic (Hoffmann et al., 2008). Focus group discussions with graduate students have revealed that they want to learn dissertation formatting, statistical software, programming languages, career-related skills, and teaching skills, which reflect the multiple roles they often play (Rempel et al., 2011). When examining how science graduate students used library services and resources, Tomaszewski (2012) discovered students were interested in workshops about software and how to effectively write and communicate science – not just traditional library offerings such as how to use database and bibliographic management tools. Similarly, Gibbs et al. (2012) asked graduate students across the disciplines open-ended questions about their research needs and saw a desire for help with note-taking, writing, and editing/proofreading. It is clear that graduate students have research needs that go beyond typical library training but are not certain where to turn. To be fair, there may simply be gaps in support services for some of these topics and skills. In the current study, it was acknowledged that the library did not have the expertise on staff to provide training for all topics; however, the hope was that crucial service gaps might be filled by the Graduate School, academic departments, and/or other supporting units on campus.

## METHODOLOGY

In Fall 2013, graduate students at Rutgers University-Newark were sent an e-mail inviting them to complete an online survey (see Appendix A) about workshop topics they were interested in, their preferences for workshop formats and times, and how they would like to be informed of such offerings. The range of topics is considered more comprehensive than that in any single study previously performed because they encompass the many topics graduate students might need to know as they switch from student to researcher, data manager, techie, author, teacher, grant seeker, or job seeker. The topics list was divided into five categories – Research Support, Grant Support, Teaching Support, Career Support, and Technology Support. Within Research Support were four sub-categories (i.e., information literacy (finding, using, & managing information); data collection, analysis, & management and digital humanities; thesis research & writing; and scholarly communication) and within Technology Support were two sub-categories (i.e., desktop applications and research technology). For each of the 58 topics listed, students were asked if they *would attend*, *might attend*, or *would not attend* training on that topic. This was expected to be a truer gauge of workshop attendance.

At the same time, graduate program directors at Rutgers University-Newark were sent an e-mail inviting them to participate in a 15–20 min interview with one of the authors. The directors were provided with the same list of workshop topics as the students, but were instead asked which topics they felt were *very important*, *somewhat important*, or *not important* for graduate students in their department to know. Directors were also asked which topics their department already offered support for, in what format(s) the support was offered, and whether there was interest in integrating any of the topics into courses or department activities. Since students lack the advantages of hindsight that their graduate program directors have, the comparison of student and director perspectives is a unique aspect of this study and extremely helpful in informing service priorities.

This study also examines disciplinary differences and compares and contrasts the needs of master's and doctoral students. There does not appear to be any recent studies of this size that do this. Given how varied student needs are and their disinterest for attending workshops and other activities they do not perceive as being relevant (Fleming-May & Yuro, 2009), it is vital to understand these differences and use that knowledge to customize training accordingly. Promotion of training opportunities can also make use of this knowledge to be more effective. Institutional Review Board (IRB) approval was obtained prior to study commencement and study subjects were provided with the appropriate informed consent form before participating. As an incentive to participation, all study subjects were given the opportunity to participate in a random drawing for a chance to win one of ten \$50 gift cards. These gift cards were sponsored by the Graduate School. In fact, when the authors shared their intention for this study, they found very supportive colleagues at the Graduate School.

## FINDINGS

### OVERALL FINDINGS

#### STUDENT SURVEY

A total of 233 (out of 3476) graduate students participated in the online survey. These study subjects came primarily from the social sciences (58%), followed by the sciences (19%), then humanities (13%), with another 10% failing to identify with a particular discipline. Most were in their first two years of graduate school (34% in their first year, 36% in their second, 12% in their third, 6% in their fourth, 6% in their fifth, 3% in their sixth, and 3% beyond that). There were more full-time students (56%) than part-time students (44%), and more master's students (61%) than doctoral students (38%). These demographics may have influenced the results for when graduate students prefer to attend workshops because Monday–Friday evenings were surprisingly the most popular, whereas those same mornings were least appealing (see Table 1). In-person workshops were in greatest demand (68%), but online training in the form of videos or tutorials (52%), information portals (43%), and webinars (42%) were not far behind (see Fig. 1). Students overwhelmingly preferred e-mail (99%) to any other forms of communication, with smaller groups expressing interest in learning about training opportunities on the Graduate School Web site (15%) and Facebook (15%).

A complete summary of responses concerning topics of interest to respondents can be found on Table 2. Those that at least 40% of all

**Table 1**  
Student respondents' preferred training times.

	Morning	Mid-day	Afternoon	Evening	None
Monday	16%	23%	26%	50%	14%
Tuesday	17%	23%	26%	49%	13%
Wednesday	17%	21%	22%	51%	13%
Thursday	15%	20%	26%	50%	14%
Friday	18%	25%	27%	41%	24%

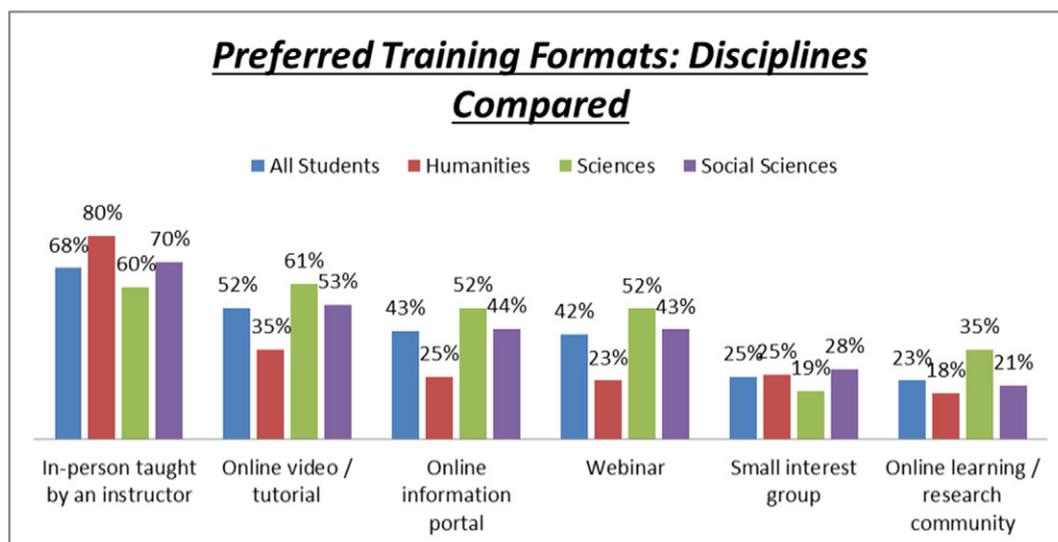


Fig. 1. Student respondents' preferred training formats.

respondents said they *would attend* training for are in bold. These “Top Topics” all fall within the categories of Research Support and Career Support except for the most in-demand topic, which is part of Grant Support. Students were understandably excited about the possibility of obtaining additional funding. In the category of Research Support, graduate students seemed most interested in learning the more immediately relevant skills that would help them complete their dissertation, such as writing their proposal, conducting a literature review, accessing hard-to-find research materials, managing and analyzing data, and formatting their dissertation. Other high-ranked topics include considering options when submitting their dissertation, post-dissertation publishing, and the more generic publishing tips. Students are also clearly concerned about their career following graduation. They expressed interest in building their professional network and developing job search strategies, with more students wanting to learn how to find employment outside of academia than find a postdoctoral fellowship. Of course, given the possibility that graduate students may not necessarily recognize which topics should be a high priority for them to learn, it is crucial to compare student perspectives with graduate program director viewpoints.

#### DIRECTOR INTERVIEWS

The authors interviewed a total of 13 graduate program directors, with 38% in the social sciences, 38% in the sciences, and 23% in the humanities discipline. In bold on Table 2 are those topics at least 40% of directors found to be *very important*. Similar to the graduate students, directors felt Research Support was most important, followed closely by Career Support, then Grant Support, and distantly by Technology Support, resulting in a lot of overlap between the topics that rose to the top of both lists. However, a few differences are worth noting. Of greatest significance is that the top two topics directors believed to be very important for their students to know – basic research information discovery and ethics and plagiarism – were of little interest to their students. Perhaps students thought they were knowledgeable enough about these subjects, but directors felt differently. Current awareness was also deemed very important by 73% of directors, but did not seem to be a concern for students. Since most student respondents were in their first two years of graduate school, they might not be pursuing original research yet and therefore, might not realize the value of staying aware of new research in their specific field of study. Alternatively, student concerns about publishing were not reflected in the directors' responses. It is unclear why this might be since there is a growing trend towards publishing by graduate students (Fong, 2017). Disciplinary

differences could be behind this disparity. Some directors may feel this is something students focus on after degree completion.

#### DISCIPLINARY DIFFERENCES

While overall findings are very helpful and can certainly assist in prioritizing what type of training to offer, an increased understanding of disciplinary differences would allow for the possibility of more focused marketing to students and graduate program directors of these new learning opportunities. Previous studies have confirmed that graduate students prefer training that is subject-specific, believing it will be more relevant to their needs. Therefore, data was re-analyzed in order to reveal discipline-specific concerns.

#### HUMANITIES

Of the 30 humanities students who responded to the survey, 73% were master's candidates and 27% were doctoral candidates. As with the larger respondent pool, the vast majority of humanities students were in the first two years of their graduate programs, with 30% in their first year and 50% in their second year. There were more full-time students (60%) than part-time students (40%). Approximately one-third (33%) were in the Creative Writing program, slightly more than one-quarter (27%) were in the American Studies program, and a little less than one-fifth (17%) were in the History program. The remainder of the humanities students (23%) was enrolled in the Liberal Studies, Jazz History and Research, and English graduate programs. As Fig. 1 shows, humanities students by far preferred in-person workshops (80%). Wednesday and Friday evenings as well as mid-day Tuesday were the most desirable times for training.

In Table 2, those topics that at least 40% of humanities respondents said they *would attend* training for are highlighted in bold. The list overlaps quite a bit with the “Top Topics” in greatest demand among all respondents. The topics humanities graduate students wanted to learn most about fell primarily within the categories of Research Support and Career Support, with secondary concerns focusing on Grant Support. Since humanities students' scholarship centers primarily on writing and not on data collection and/or analysis, it was not surprising they were more concerned about handling writer's block and applying for Fulbright scholarships and much less worried about data management and data analysis software. Their responses may also reflect practical concerns of humanities graduate students in the current political and economic climate. The humanities has been increasingly criticized in the popular press as a discipline without practical utility (Jay &

**Table 2**  
Summary of responses to topics on student survey and in director interviews.

Category	Sub-category	#	Topic	Students would attend <sup>a</sup>				Very important per directors <sup>a</sup>			
				All	Hum.	Sci.	Soc.	All	Hum.	Sci.	Soc.
Research	Information Literacy	1	Basic research information discovery (e.g., using databases to search for scholarly articles)	29%	19%	24%	34%	100%	100%	100%	100%
		2	Accessing hard-to-find research material (e.g., using archives, special collections, and government documents)	46%	48%	41%	46%	75%	100%	75%	60%
		3	Current awareness tips	16%	11%	17%	17%	73%	100%	75%	60%
		4	Secondary data resources	25%	23%	24%	25%	50%	67%	25%	60%
		5	Government resources	31%	26%	21%	35%	64%	67%	33%	80%
		6	Patents	13%	7%	13%	13%	17%	33%	25%	0%
		7	Citation management tools (e.g., RefWorks, EndNote, Zotero, Mendeley)	34%	33%	48%	28%	69%	67%	60%	80%
		8	Research collaboration web tools (e.g., wikis, blogs, project management systems)	32%	26%	31%	33%	50%	67%	25%	60%
Research	Data & Digital Humanities	9	Ethics & plagiarism	17%	7%	29%	15%	85%	67%	80%	100%
		1	Data management – best practices (e.g., data management plans, organization of data, documentation, preservation)	43%	22%	43%	51%	50%	67%	50%	40%
		2	Data analysis software (e.g., SPSS, Stata, R, Nvivo)	50%	4%	46%	61%	50%	0%	75%	60%
		3	Online survey / data collection tools (e.g., Qualtrics, Google Forms, SurveyMonkey)	35%	7%	29%	41%	25%	0%	25%	40%
		4	Data visualization	39%	11%	39%	46%	27%	33%	67%	0%
		5	Electronic Lab Notebooks (ELNs)	21%	0%	31%	23%	31%	0%	67%	40%
		6	Don't fear the code! Introduction to coding: HTML and CSS	29%	19%	32%	32%	33%	0%	50%	40%
		7	Intro to Data Analysis Tools for Humanists	26%	19%	20%	29%	33%	67%	25%	20%
		8	Basic introduction to statistics for humanities research	28%	19%	28%	31%	33%	33%	25%	40%
Research	Thesis Research & Writing	9	Introduction to GIS mapping for humanities research	23%	11%	17%	28%	50%	67%	50%	40%
		1	Writing your proposal	55%	58%	57%	54%	75%	67%	100%	60%
		2	Keeping a research notebook	34%	36%	43%	30%	73%	67%	100%	50%
		3	Conducting a literature review	40%	48%	39%	40%	75%	100%	100%	40%
		4	Dealing with writer's block	34%	41%	38%	30%	58%	100%	25%	60%
		5	Microsoft Word formatting for thesis & dissertation	43%	31%	57%	41%	33%	67%	25%	20%
		6	Considerations when submitting your thesis (e.g., ProQuest, ETD, RUcore, embargo)	43%	33%	52%	40%	55%	67%	67%	40%
Research	Scholarly Communication	7	Post-dissertation publishing	46%	52%	52%	43%	30%	67%	0%	20%
		8	Navigating the IRB process	31%	26%	36%	28%	33%	67%	0%	40%
		1	Author rights, copyright, Open Access	34%	30%	45%	29%	36%	33%	67%	20%
		2	Publishing tips	42%	41%	55%	37%	36%	33%	67%	20%
		3	Poster design	26%	4%	40%	25%	42%	33%	75%	20%
		4	Oral presentation – best practices	38%	19%	40%	40%	67%	33%	100%	60%
		5	Networking with citations and discipline-specific social networks	32%	26%	40%	27%	42%	67%	50%	20%
		6	Promotion of research via ResearcherID, ORCID	24%	19%	38%	18%	18%	0%	0%	40%
Teaching		7	Increasing research visibility and impact	35%	26%	48%	33%	40%	67%	50%	20%
		1	Using multimedia in the classroom	27%	15%	33%	27%	38%	33%	40%	40%
		2	Classroom assessment techniques (e.g., clickers)	23%	11%	40%	20%	31%	0%	40%	40%
		3	Designing research assignments	28%	15%	40%	28%	38%	67%	40%	20%
		4	Fair use in the classroom	17%	15%	20%	16%	31%	0%	40%	40%
Grants		5	Course management software (e.g. Blackboard, eCollege, Sakai, and Moodle)	29%	30%	31%	27%	38%	33%	60%	20%
		1	Grant funding opportunities for graduate students	57%	56%	57%	58%	69%	67%	80%	60%
		2	Developing your Fulbright application	30%	37%	19%	30%	36%	33%	33%	40%
		3	Developing your NIH grant application	32%	33%	36%	30%	36%	0%	67%	40%
Career		4	Developing your NSF grant application	33%	19%	36%	34%	46%	0%	80%	40%
		1	Job search strategies	53%	56%	50%	54%	77%	100%	80%	60%
		2	Finding postdoctoral fellowships	42%	44%	54%	37%	54%	33%	80%	40%
		3	Looking outside of academia	47%	52%	52%	44%	77%	100%	60%	80%
Technology	Desktop Applications	4	Building your professional network	53%	56%	52%	52%	54%	33%	60%	60%
		1	Microsoft Access	29%	19%	22%	32%	8%	0%	0%	20%
		2	Microsoft Excel	31%	30%	21%	34%	23%	0%	20%	40%
		3	Microsoft PowerPoint	25%	22%	17%	28%	23%	33%	20%	20%
		4	Prezi	23%	15%	22%	24%	8%	0%	0%	20%
		5	Microsoft Word	17%	15%	10%	19%	15%	33%	0%	20%
Technology	Research Technology	6	Note taking using Microsoft OneNote / EverNote	27%	19%	27%	27%	9%	0%	0%	20%
		1	How to use Andromeda/Pegasus account for file storage/sharing, web site hosting, and research collaboration	24%	19%	26%	23%	42%	33%	75%	20%
		2	Web-based database basics (MySQL and PHP)	23%	11%	19%	25%	17%	0%	25%	20%
		3	High performance computing and Internet2	20%	7%	20%	22%	9%	0%	33%	0%
		4	Research-On-The-Go (e.g., with mobile apps)	19%	19%	15%	19%	17%	0%	25%	20%
5	Simile Exhibit ( <a href="http://www.simile-widgets.org/exhibit/">http://www.simile-widgets.org/exhibit/</a> )	12%	4%	15%	11%	0%	0%	0%	0%		

<sup>a</sup> "All" refers to respondents in all disciplines, "Hum." refers to respondents in the humanities, "Sci." refers to respondents in the sciences, and "Soc." refers to respondents in the social sciences.

Graff, 2012) and humanities graduate students hear repeatedly about the shrinking pool of jobs available in academia, where their degrees are most practically applied (Benton, 2009). In this environment, it is no surprise that humanities graduate students' greatest interests

– after tips on writing their thesis/dissertation proposals – center on finding grants, building a professional network, job search strategies – including strategies for finding employment outside academia, and post-dissertation publishing.

Two items about humanities' graduate student needs that emerged from the survey were surprising: the high level of interest in literature reviews and the relative lack of interest in the growing field of digital humanities. Humanities graduate students might have interpreted the item about literature reviews as a service geared towards researching literature, which it is, but might not have understood the different form and function of the literature review as a format in the sciences and social sciences publications. Literature review instruction would serve humanities graduate students well as basic research information discovery (which they ranked relatively low) and as accessing hard-to-find research materials (which they ranked among their top concerns). The relative lack of interest in digital humanities by graduate students may be partially explained by the respondent pool. English and History programs were not well represented in the survey, yet these are the humanities disciplines which tend to have the most engagement with digital humanities methods. Low interest in digital humanities training might also be explained by the campus culture. At the time the survey was conducted, faculty in some of the humanities disciplines on campus had expressed interest in digital humanities (defined in various ways), but others may be unaware of digital humanities as a practice and students often take cues from faculty. With master's students dominating the respondent pool, research skills such as those related to the digital humanities are unlikely to take prominence.

Three graduate program directors in the humanities were interviewed for this study. As indicated previously, all directors felt basic research information discovery was very important. Only 19% of graduate students in the humanities, on the other hand, indicated they would attend a workshop on basic information discovery. Furthermore, all three graduate directors ranked current awareness tips as of vital importance for graduates in their program, while only 11% of graduate humanities students said they were interested in workshops on the topic. Almost all topics given priority by humanities graduate students overlapped with those that their graduate program directors also felt were crucial to know. Missing from the directors' short list were the topics of networking, publishing, and fellowships. The absence of these topics from the directors' list of top priorities may affirm that the directors place greater emphasis on skills they feel incoming graduate students lack or believe graduate students should develop during the course of study and place less weight on students' post-graduation needs. Humanities graduate students, however, are clearly focused on post-graduation career concerns in equal measure to research skills development.

#### SCIENCES

Of the 43 science graduate student respondents, 74% were pursuing a doctoral degree and 26% pursuing a master's degree. Approximately half (47%) were in the Nursing program, 19% were in Chemistry, 14% in Biology, with the remainder in Neuroscience (9%), Mathematical science (7%), or Environmental science (5%). There was a more even spread of students at various stages of graduate school in this discipline (i.e., 19% in their first year, 27% in their second, 21% in their third, 12% in their fourth, 9% in their fifth, 5% in their sixth, and 7% beyond that). Many more were full-time (65%) rather than part-time students (35%) and this may have influenced their preference for training times. Afternoons were strongly preferred by almost half the students, with midday following closely behind. However, science students were slightly more in favor of training via online videos or tutorials (61%) than in-person workshops (see Fig. 1). This was followed closely behind by webinars and online information portals. This group also seemed most open to training through an online learning or research community. Their inclination for online learning likely stems from the large amount of time they may spend in their laboratory, in the field, or doing clinical work off-campus.

The topics that at least 40% of science graduate students said they would attend training for are noted in bold on Table 2. Learning about grant funding opportunities is of most interest to science graduate

students. Other popular topics fall primarily within the categories of Research Support and Career Support. All the "Top Topics" according to the entire respondent pool were perceived as being similarly valuable by science students, but science students also found a number of other topics to be very important. Due to the sciences becoming increasingly data-intensive, it is logical that students in this discipline would also want training on data management and data analysis. Science students were the only ones who indicated high interest in how to keep a research notebook. Perhaps they associated it with their laboratory notebook. Since students in the sciences are likely to publish while they are still in graduate school, topics related to this were much more important to them, including publishing tips, training on author rights, and using citation management tools that can assist them with formatting their references for different journals. With conference presentations typical for graduate students in the sciences, it was not surprising that there was demand for knowing oral presentation best practices and how to design posters. Students were also enthusiastic about networking and learning how to increase their visibility and the impact of their research. Demand for Teaching Support may originate from many science graduate students' roles as TAs.

The five science graduate program directors interviewed came from the departments of Behavioral/Neural Science, Biology, Chemistry, Environmental Geology/Environmental Sciences, and Mathematical Sciences. For them, the category of Research Support was deemed most important, followed by Grant Support and Career Support, and more distantly by Teaching Support (see Table 2). The topics of most interest to the science students were also deemed valuable by the directors, with the exception of formatting dissertations and post-dissertation publishing. Science directors expected their students to arrive at graduate school with adequate computer skills and so did not feel that dissertation formatting would be necessary for their students. Given how fast-paced the sciences are, directors pointed out that their students should be publishing while in graduate school, rather than waiting until post-dissertation. As mentioned previously, directors thought it very important their students learn basic research information discovery skills, ethics and plagiarism, and how to maintain current awareness, but these topics were not at the top of the science students' list. Directors also felt students should be taught how to conduct a literature review, revealing that science graduate students may be mistakenly overconfident about their ability to do this or may simply not realize the importance of this skill.

Science directors placed emphasis on Research Support topics that are more geared towards their discipline, such as data visualization, coding, GIS mapping, and electronic laboratory notebooks (ELNs), although these seemed off the radar for the sciences students. Of course, these skills can be more or less appropriate depending on a student's field of study. Perhaps the large number of Nursing student respondents masked the desires of Environmental Geology/Environmental Sciences students for training on GIS mapping or those of Biology and Chemistry students for training on ELNs. Directors also pointed to the importance of developing NSF and NIH (National Institute of Health) grant applications, which students saw as lower in priority. It was unclear if the students perceived national grants as being part of their faculty advisor's domain or if they were simply unaware of what opportunities those organizations have available to graduate students.

#### SOCIAL SCIENCES

There were 134 social science student respondents – more than any other discipline. Half (50%) were from the Business School, 20% were from the School of Public Affairs and Administration (SPAA), with the remainder in Global Affairs (8%), Criminal Justice (7%), Urban Systems (4%), Psychology (3%), and other departments. They were primarily in their first (40%) or second year (35%) of graduate school. Most were master's students (66%) instead of doctoral students (33%). The majority attended school full-time (54%) rather than part-time (46%). Over half the social sciences group had a strong preference for attending

workshops Monday–Friday evenings. In-person workshops were in greatest demand (70%), but as Fig. 1 shows, many students also wanted online training in the form of videos or tutorials (53%), information portals (44%), and webinars (43%).

Table 2 highlights in bold those topics that at least 40% of social science graduate students said they *would attend* training for. The categories of Research Support and Career Support were in greatest demand, with the topic of grant funding for graduate students very high on the list. Almost all overlap with the “Top Topics” that appeal to all respondents. Two exceptions were data visualization and online survey / data collection tools. Data was of greater concern to students in the social sciences. In fact, they ranked data analysis software, data management, and data collection tools much higher than students in other disciplines. However, publishing tips and finding postdoctoral fellowships were of less interest. This was likely influenced by the respondent pool being made up of so many students from the Business School, where these skills would be of little concern.

The five graduate program directors interviewed in the social sciences covered the departments of Global Affairs, Economics, Peace & Conflict Studies, and SPAA. Research Support was deemed most important to them, followed by Career Support, and more distantly, Teaching Support and Grant Support. Almost all topics of greatest interest to the social sciences students were also identified as important by their directors, with the exception of data visualization, post-dissertation publishing, and Microsoft Word formatting for thesis and dissertations. Data-related topics tended to much higher ranked on the students' list than directors' list, which could mean directors are overestimating their students' data skills. On the other hand, students are underestimating how vital information literacy skills are. Basic research information discovery skills, ethics & plagiarism, government resources, citation management tools, current awareness, research collaboration tools, and secondary data resources were all at the top of the social science directors' list, but absent from their students' list. Similarly, directors thought training on how to deal with writer's block would be very helpful for their students, although the students did not feel the same. Of course, that may be an appealing topic for students in the midst of writing their dissertation, but two-thirds of the social science student respondents were master's students and 75% were still in their first or second year of graduate study.

With half of social science student respondents being from the Business School, the needs of other social science students likely remained below the surface; however, director interviews provided some insight into what might have been missed. Students performing original research in much of the social sciences tend to undergo the IRB process, so directors recognized this as a very important topic for their students to learn. Due to growing trends towards interdisciplinary work in the social sciences, skills related to the digital humanities were valuable to the directors. This was not the case for students, probably because the business discipline emphasizes other approaches to working with data. Similarly, business students are less likely to apply for Fulbrights and postdoctoral fellowships, so these ranked lower on the social science students' list, but were seen as important by the social science directors interviewed. This is also likely the reason Teaching Support is high on the directors' list, but not the students' list. Non-business social science students are more likely to serve as TAs or pursue teaching careers than business students.

#### MASTER'S VS. DOCTORAL STUDENTS

As indicated previously, there were many more master's student respondents (61%) than doctoral respondents (38%). Due to the typical length of master's programs as compared with doctoral programs, master's respondents tended to be in their first (41%) or second (42%) years of graduate school, whereas doctoral students were more spread out, with 21% in their first year, 28% in their second year, 13% in their third, 11% in their fourth, 13% in their fifth, 4% in their sixth, and 8%

beyond their sixth year. There were more part-time (58%) than full-time (42%) master's students, but this certainly was not the case for doctoral students, where 81% were full-time and 19% were part-time. Each group's preference for training times was likely influenced by this. Master's students showed a clear preference for evening workshops (50–63%); however, doctoral students indicated a slight preference for afternoons, with mid-day and evening training not far behind. Both groups overwhelmingly preferred communication via e-mail, with a smaller sub-set interested in postings on Facebook and the Graduate School website. They would also both choose in-person workshop over online videos or tutorials, webinars, and online information portals, although online training is of interest (see Fig. 2).

Due to the nature of requirements in their particular programs and students' intended career paths, the training topics master's students and doctoral students demand differ. This is reflected in the list of topics for which at least 40% of each group indicated they would attend training. The master's students' list (see Table 3) is shorter and shows they are primarily interested in Career Support, secondarily in Research Support. They would also like more Technology Support. These students want to learn the skills that are immediately relevant to their coursework and then focus on gaining employment. On the other hand, the doctoral students' list (see Table 4) is much longer. Their research-focused needs are more in line with academic, rather than professional, careers. Doctoral students emphasize Research Support, including publishing, dealing with data, and increasing one's scholarly impact. Career Support and Grant Support are also important, but less so.

## APPLICATION OF FINDINGS

### SHARING FINDINGS AND FINDING PARTNERS

Following data analysis, study findings were summarized and shared with multiple campus units. Recognizing that certain types of support may be best offered by others on campus, representatives from the Graduate School, Research Office, Writing Center, Learning Center, Computing Services, Career Center, and Office of International Student and Scholar Services (OISS) were invited to meet at the Library to discuss study findings, learn more about what other units already do, and plan how to address service gaps without duplication of efforts. The exchange of ideas also included identifying opportunities for collaboration and developing strategies for working cooperatively, such as helping each other with promotion, making referrals, and avoiding conflicts in event scheduling. The Career Center never responded. While OISS was encouraging of the authors' efforts, academic support services were outside of their purview, so they could only help with promoting others' graduate student services on campus. Representatives from all the other units were very interested in learning more about graduate student needs and excited to develop services that would address existing gaps. They expressed appreciation both for being included in the conversation and for knowing they had a supportive network of colleagues with whom they could discuss ideas, tips, and concerns related to graduate student support. This newly created network was named the “Graduate Student Support group” on campus. Beginning with May 2014, the (librarian-led) group has met every May, August, and January to continue the dialogue about improving graduate student services on campus. These months were chosen due to the relative calm on campus at those times.

### LIBRARY TRAINING ACTIVITIES

Due to the wide-ranging expertise of librarians and library staff, the John Cotton Dana Library provides Research Support, Grant Support, and Career Support. Since one of the Library's primary functions on campus is research support services, training offered to graduate students focuses on many of the most popular Research Support topics.

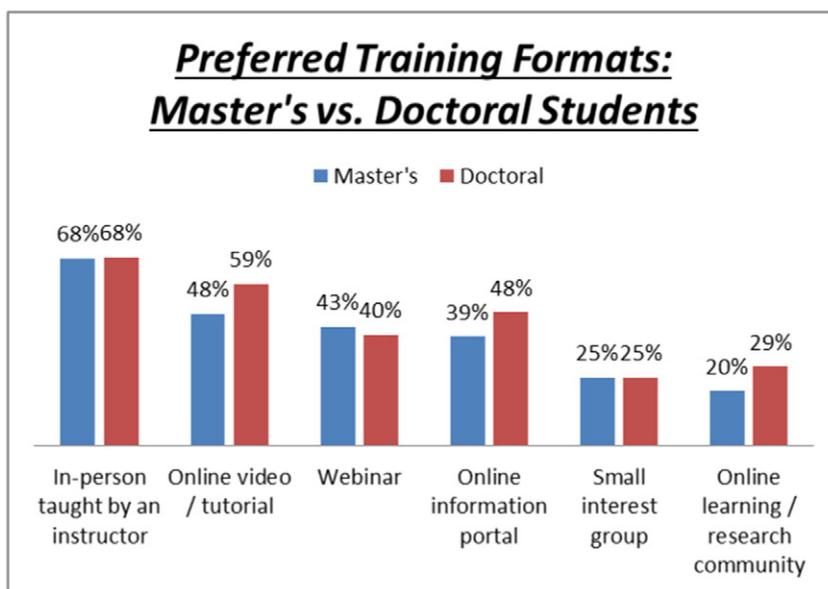


Fig. 2. Master's vs. Doctoral student respondents' preferred training formats.

This includes those that topped graduate student lists, such as conducting a literature review; data management; data analysis software (e.g., Nvivo, Qualtrics, SPSS, Stata); formatting for dissertations; considerations when submitting dissertations; author rights, copyright, and Open Access; and increasing research visibility and impact. Librarians also provided instruction on topics that were high only on the graduate program directors' lists, such as using specific databases (e.g., Scopus) and citation management tools (i.e., RefWorks, Flow, Mendeley, and EndNote). Continuing with a long-standing collaboration, the Library co-sponsors workshops with the Research Office about grant funding opportunities for graduate students. The Library has also resumed co-teaching workshops with the Writing Center. In addition, vendors (such as Elsevier, Nvivo, and ProQuest) are invited to present workshops in-person or via Webinars. Given the lack of response from the Career Center and the demand by both students and directors for a job hunting workshop, librarians with previous experience teaching this topic to students in their liaison area agreed to do so for the broader graduate student population. Another librarian developed a workshop about building one's professional network.

Between fall 2014 and fall 2015, the Dana Library sponsored and/or co-sponsored 62 workshops, almost all of which were newly developed based on graduate student needs. There were a total of 1926 registrants. Several workshops co-sponsored by the library did not require registration, but for workshops that did, there were an average of 35 registrants per workshop. Registration for workshops ranged from four to 78. Reminders were sent to all registrants prior to each workshop, but actual attendance was still disappointing. There were a total of 312 workshop

attendees, which equates to 16% of registrants. Workshop attendance ranged from zero to 37, with an average of 6 attendees per workshop.

In an attempt to balance student preferences and librarian availability, workshops are primarily taught afternoons and mid-day and secondarily early in the evening. Workshops have also mostly been in-person workshops (94%). For the 6% taught as Webinars, there has been an average of 22 registrants per Webinar, but an average attendance of 4.75 attendees. To accommodate students who prefer online tutorials/videos and information portals, materials used in workshops are often shared through an online guide and webinars are typically recorded and archived for future viewing.

Table 3  
Training sessions 40% or more of Master's students would attend.

Rank	Topic	Would attend	Category
1	Job search strategies	58%	Careers
2	Building your professional network	58%	Careers
3	Writing your proposal	52%	Research
4	Grant funding opportunities for graduate students	51%	Grants
5	Accessing hard-to-find research material (e.g., using archives, special collections, and government documents)	46%	Research
6	Looking outside of academia	45%	Careers
7	Data analysis software (e.g., SPSS, Stata, R, Nvivo)	44%	Research
8	Microsoft Excel	41%	Technology
9	Oral presentation – best practices	40%	Research

Table 4  
Training sessions 40% or more of Doctoral students would attend.

Rank	Topic	Would attend	Category
1	Grant funding opportunities for graduate students	66%	Grants
2	Post-dissertation publishing	65%	Research
3	Publishing tips	63%	Research
4	Data analysis software (e.g., SPSS, Stata, R, Nvivo)	60%	Research
5	Finding postdoctoral fellowships	60%	Careers
6	Writing your proposal	58%	Research
7	Data management – best practices (e.g., data management plans, organization of data, documentation, preservation)	52%	Research
8	Considerations when submitting your thesis (e.g., ProQuest, ETD, RUcore, embargo)	52%	Research
9	Looking outside of academia	52%	Careers
10	Microsoft Word formatting for thesis & dissertation	51%	Research
11	Increasing research visibility and impact	49%	Research
12	Job search strategies	48%	Careers
13	Accessing hard-to-find research material (e.g., using archives, special collections, and government documents)	47%	Research
14	Conducting a literature review	46%	Research
15	Author rights, copyright, Open Access	45%	Research
16	Online survey/data collection tools (e.g., Qualtrics, Google Forms, SurveyMonkey)	45%	Research
17	Building your professional network	45%	Careers
18	Citation management tools (e.g., RefWorks, EndNote, Zotero, Mendeley)	45%	Research
19	Data visualization	45%	Research
20	Keeping a research notebook	40%	Research
21	Navigating the IRB process	40%	Research
22	Developing your NSF grant application	40%	Grants

### ADDITIONAL “GRADUATE STUDENT SUPPORT” TRAINING ACTIVITIES

While the Graduate School and the Research Office are more inclined towards working collaboratively and the Writing Center is moving in that direction with more co-sponsored workshops, the Learning Center and Computing Services are currently more interested in working cooperatively. Under new leadership, the Graduate School now offers many more training activities than it had in the past. It hosts a full-day “Responsible Conduct of Research” workshop that partially satisfies graduate program directors’ demand for ethics and plagiarism training. The Graduate School also invites librarians to teach job hunting workshops to their Dissertation Fellows. In addition, it co-sponsors grant workshops with the Research Office.

With financial support from the Graduate School, the Writing Center currently offers workshops and other services for graduate students. They provide sessions about high demand topics such as writing dissertation proposals, the research notebook, and getting work published. Since research and writing go hand-in-hand, the Library and Writing Center co-teach some workshops, including one about conducting and writing the literature review and one about citation.

The Learning Center did not traditionally work with graduate students, but was eager to offer sessions on oral presentation skills, which were most desired by graduate program directors and science graduate students. Unfortunately, they did not feel there was sufficient student attendance to justify the resources they expended on the sessions, so decided to step back from actively providing training to graduate students, and instead concentrate on their core base of undergraduate students. However, the Learning Center expressed interest in remaining in the Graduate Student Support group. The Writing Center has since stepped in to teach a session about oral presentations.

Computing Services had tried in-person workshops in the past and were also disappointed in low attendance, but continues to provide online technology training to all members of the Rutgers University-Newark community via Blackboard. Graduate students can learn Microsoft Access, Excel, Outlook, PowerPoint, and Word through online tutorials at their convenience. However, in-person training could be offered if requested by a group of 10 or more. Given that desktop applications were generally low in importance for both students and directors, this seemed like a reasonable solution.

### FUTURE DIRECTIONS

Although there has been significant progress towards providing greater support for graduate students on the Rutgers University-Newark campus, there is still room for improvement. A few topics that were in high demand by students and their directors remain unaddressed, primarily because appropriate instructors for teaching them have not yet been found. The Graduate Student Support group will need to continue their search and may need to look externally. Hopefully, financial resources to support this can be obtained, if necessary. Some of the graduate program directors interviewed had indicated willingness for their department to co-sponsor events featuring topics in this study. This is something the authors hope will happen in the near future.

Attendance at workshops continues to be a concern. While registration for workshops and webinars has been at record highs, typically, only a small percentage of registrants actually attend. It is important to identify the reasons for this, and in fact this is currently being studied. Working more directly with graduate program directors – perhaps having them encourage the students in their department to attend specific training activities – would help ensure the graduate students are learning the skills that are vital in their field of study.

As new graduate students arrive on campus, as research trends in the different disciplines evolve, and as the role of graduate students continue to change, it is worthwhile to periodically re-visit graduate students’ training needs. The authors will likely repeat this study in the

future, improving upon the study instruments. New topics will be added to reflect emerging trends, and the categories and sub-categories might also require modification. The experience of this exploratory study revealed that brief descriptions of the topics would be helpful for both the student and director study participants.

### CONCLUSION

Findings from this study show graduate students have many information needs outside of their program curriculum that can be met by various units on campus. There is greatest demand for research, career, and grant support. To a lesser degree, graduate program directors see technology and teaching support as being important for their students, as well. Although graduate students and directors generally agreed, there were a few notable exceptions, such as the topics of basic research information discovery, ethics and plagiarism, and maintaining current awareness. These were all extremely important from the directors’ perspective, but not the students’. In the sciences, directors felt much more strongly about the importance of NSF and NIH grants than students. In the social sciences, directors emphasized information literacy skills, whereas students focused on data skills. A few directors also expressed enthusiasm for their students learning digital humanities tools – something low on students’ radar.

It was clear that graduate students in the humanities, sciences, and social sciences have different service needs. Humanities students worry about writer’s block and applying for Fulbrights. They have a very strong preference for in-person training and would like to see the training take place evenings or mid-day. Science students, on the other hand, are almost evenly split between favoring in-person training or online training, leaning more towards the latter. They prefer afternoon or mid-day training. Topics they are distinctively interested in are publishing skills, conference-related skills, and data skills. Data skills are also in very high demand by social science students. This group, however, prefers in-person training Monday–Friday evenings.

Of course, whether a student is a master’s or doctoral candidate also influences what topics s/he would attend training. Master’s students want career support the most, followed by research support, then technology support. Doctoral students place emphasis on research support, especially publishing, dealing with data, and increasing one’s scholarly impact. This is followed by career support and grant support.

Although all study subjects are from the Rutgers University-Newark campus, there are likely many similarities between the research, grant, technology, teaching, and career needs of graduate students there and elsewhere. Findings are expected to be of value to graduate program directors, graduate schools, and any other unit that supports graduate students. Graduate students themselves might also be curious about what topics their directors feel are important to know and might even actively seek out these skills during graduate school.

It is crucial that graduate students are given the opportunity to learn the skills necessary not only for completion of their degree, but also for a successful career. The discussion about how findings were utilized by the Library, Graduate School, Research Office, Writing Center, Learning Center, and Computing Services to enhance graduate student services is likely to be useful for all parties involved. Should one wish to pursue a similar study on his/her own campus, all aspects of this one can easily be adopted for that purpose, from the research study to the application of findings to develop new training opportunities for graduate students.

### ACKNOWLEDGEMENTS

The authors would like to thank the Graduate School-Newark for their sponsorship of \$500 in gift cards and their feedback on study instrument design. The authors would also like to express their appreciation for the members of their Graduate Student Support group in working collaboratively and cooperatively together to utilize this study’s findings to enhance graduate student services on campus.

**APPENDIX A. GRADUATE STUDENT SURVEY QUESTIONS****A.1. PART I. BACKGROUND INFORMATION:**

I am a:

- Master's candidate
- Ph. D candidate
- Other, please specify: \_\_\_\_\_

I am a:

- Full-time student
- Part-time student

Affiliated graduate program:

Which year of the program are you in?

- 1st
- 2nd
- 3rd
- 4th
- 5th
- 6th
- More than 6th

What are the best times for you to attend workshops?

	Morning	Mid-day	Afternoon	Evening	None
Monday	<input type="checkbox"/>				
Tuesday	<input type="checkbox"/>				
Wednesday	<input type="checkbox"/>				
Thursday	<input type="checkbox"/>				
Friday	<input type="checkbox"/>				

Which of the following are best for letting you know about workshops?

- E-mail
- Graduate School Website
- Facebook
- Twitter
- Flyer
- Other \_\_\_\_\_

**A.2. PART II. WORKSHOP TOPICS & FORMATS**

In the following five topic areas: research, teaching, grant, career, and technology, please let us know how likely you are to attend a workshop/other training session on each of the sub-topics and in which formats you prefer to learn?

**A.2.1. TOPIC AREA A: RESEARCH SUPPORT**

How likely are you to attend a workshop/other training session on each of the following topics? In which formats do you prefer to learn?

Subtopic 1: Information Literacy (Finding, Using, and Managing Information)

	Would attend	Might attend	Would NOT attend
Basic research information discovery (e.g., using databases to search for scholarly articles)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accessing hard-to-find research material (e.g., using archives, special collections, and government documents)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Current awareness tips	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Secondary data resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Government resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patents	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Citation management tools (e.g., RefWorks, EndNote, Zotero, Mendeley)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Research collaboration web tools (e.g., wikis, blogs, project management systems)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ethics & plagiarism	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Subtopic 2: Data Collection, Analysis and Management, and Digital Humanities Specific Methods and Tools

	Would attend	Might attend	Would NOT attend
Data management – best practices (e.g., data management plans, organization of data, documentation, preservation)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data analysis software (e.g., SPSS, Stata, R, Nvivo)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online survey / data collection tools (e.g., Qualtrics, Google Forms, SurveyMonkey)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data visualization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Electronic Lab Notebooks (ELNs)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Don't fear the code! Introduction to coding: HTML and CSS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intro to Data Analysis Tools for Humanists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Basic introduction to statistics for humanities research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Introduction to GIS mapping for humanities research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Subtopic 3: Thesis Research, Writing, and more!

	Would attend	Might attend	Would NOT attend
Writing your proposal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keeping a research notebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conducting a literature review	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dealing with writer's block	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Microsoft Word formatting for thesis & dissertation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considerations when submitting your thesis (e.g., ProQuest, ETD, RUcore, embargo)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Post-dissertation publishing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Navigating the IRB process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Subtopic 4: Scholarly Communication

	Would attend	Might attend	Would NOT attend
Author rights, copyright, Open Access	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Publishing tips	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poster design	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oral presentation – best practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Networking with citations and discipline-specific social networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promotion of research via ResearcherID, ORCID	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increasing research visibility and impact	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In what format(s) would you prefer to learn the above research related topics?

- In-person taught by an instructor
- Online information portal
- Online video / tutorial
- Webinar
- Small interest group
- Online learning / research community

## A.2.2. TOPIC AREA B: TEACHING SUPPORT

How likely are you to attend a workshop/other training session on each of the following topics?

	Would attend	Might attend	Would NOT attend
Using multimedia in the classroom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Classroom assessment techniques (e.g., clickers)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Designing research assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fair use in the classroom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Course management software (e.g. Blackboard, eCollege, Sakai, and Moodle)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In what format(s) would you prefer to learn the above college teaching related topics?

- In-person taught by an instructor
- Online information portal
- Online video / tutorial
- Webinar
- Small interest group
- Online learning / research community

## A.2.3. TOPIC AREA C: GRANT SUPPORT

How likely are you to attend a workshop/other training session on each of the following topics?

	Would attend	Might attend	Would NOT attend
Grant funding opportunities for graduate students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing your Fulbright application	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing your NIH grant application	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing your NSF grant application	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In what format(s) would you prefer to learn the above grant funding and career related topics?

- In-person taught by an instructor
- Online information portal
- Online video / tutorial
- Webinar
- Small interest group
- Online learning / research community

## A.2.4. TOPIC AREA D: CAREER SUPPORT

How likely are you to attend a workshop/other training session on each of the following topics?

	Would attend	Might attend	Would NOT attend
Job search strategies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finding postdoctoral fellowships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Looking outside of academia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building your professional network	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In what format(s) would you prefer to learn the above grant funding and career related topics?

- In-person taught by an instructor
- Online learning / research community
- Webinar
- Small interest group
- Online information portal
- Online video / tutorial

## A.2.5. TOPIC AREA E: TECHNOLOGY SUPPORT

How likely are you to attend a workshop/other training session on each of the following topics? In which formats do you prefer to learn?

## Subtopic 1: Basic Desktop Applications

	Would attend	Might attend	Would NOT attend
Microsoft Access	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Microsoft Excel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Microsoft PowerPoint	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prezi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Microsoft Word	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Note taking using Microsoft OneNote / EverNote	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Subtopic 2: Research Technology

	Would attend	Might attend	Would NOT attend
How to use Andromeda/Pegasus account for file storage/sharing, web site hosting, and research collaboration	○	○	○
Web-based database basics (MySQL and PHP)	○	○	○
High performance computing and Internet2	○	○	○
Research-On-The-Go (e.g., with mobile apps)	○	○	○
Simile Exhibit ( <a href="http://www.simile-widgets.org/exhibit/">http://www.simile-widgets.org/exhibit/</a> )	○	○	○

In what format(s) would you prefer to learn the above technology related trainings?

- In-person taught by an instructor
- Online information portal
- Online video / tutorial
- Webinar
- Small interest group
- Online learning / research community

## A.3. PART III. SUGGESTING OTHER WORKSHOPS AND FORMATS

Please let us know if you have any suggestions for workshops and/or formats not yet mentioned. Also, please indicate if there are any particular topics that you strongly prefer taught in a specific format.

After submitting the survey, you will be automatically re-directed to a page where you may enter your contact information for a chance to win one of ten \$50 Amazon.com gift cards. Thank you again for completing this survey!

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