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Bridging the Skills Gap: A Boot Camp for Graduate Students

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BRIDGING THE SKILLS GAP:
A BOOT CAMP FOR GRADUATE STUDENTS

Adelia Grabowsky
Liza Weisbrod

AUBURN
LIBRARIES
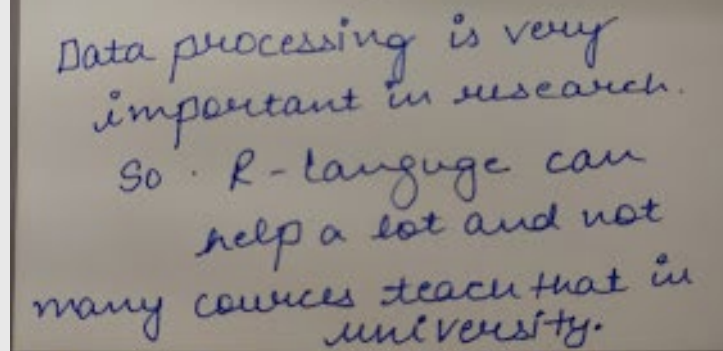
Juliet Rumble
Tim Dodge

Graduate Student Colloquium

Suggestions

- Software instruction, especially statistical software
  - R, SAS, SPSS, GIS, MatLab, LaTeX

- Writing and presentation skills
  - Poster design, presentations, personal statements, lit reviews, grants, research proposals, dissertation and thesis writing

- Citation software
  - EndNote, Zotero, Mendeley

- Library skills
  - Searching, Google Scholar, using library resources

- Data management

Data processing is very important in research. So R-language can help a lot and not many courses teach that in university.

Savvy Researcher Boot Camp

- ○ First offered: February 2, 2019
- ○ Multiple workshops in one day
- ○ Scheduled for Saturday to ensure fewer conflicts
- ○ Conference-style feel

Feedback Forms

Thank you for attending the Savvy Researcher Boot Camp.
The following questions will give you an opportunity to tell us more about your experience
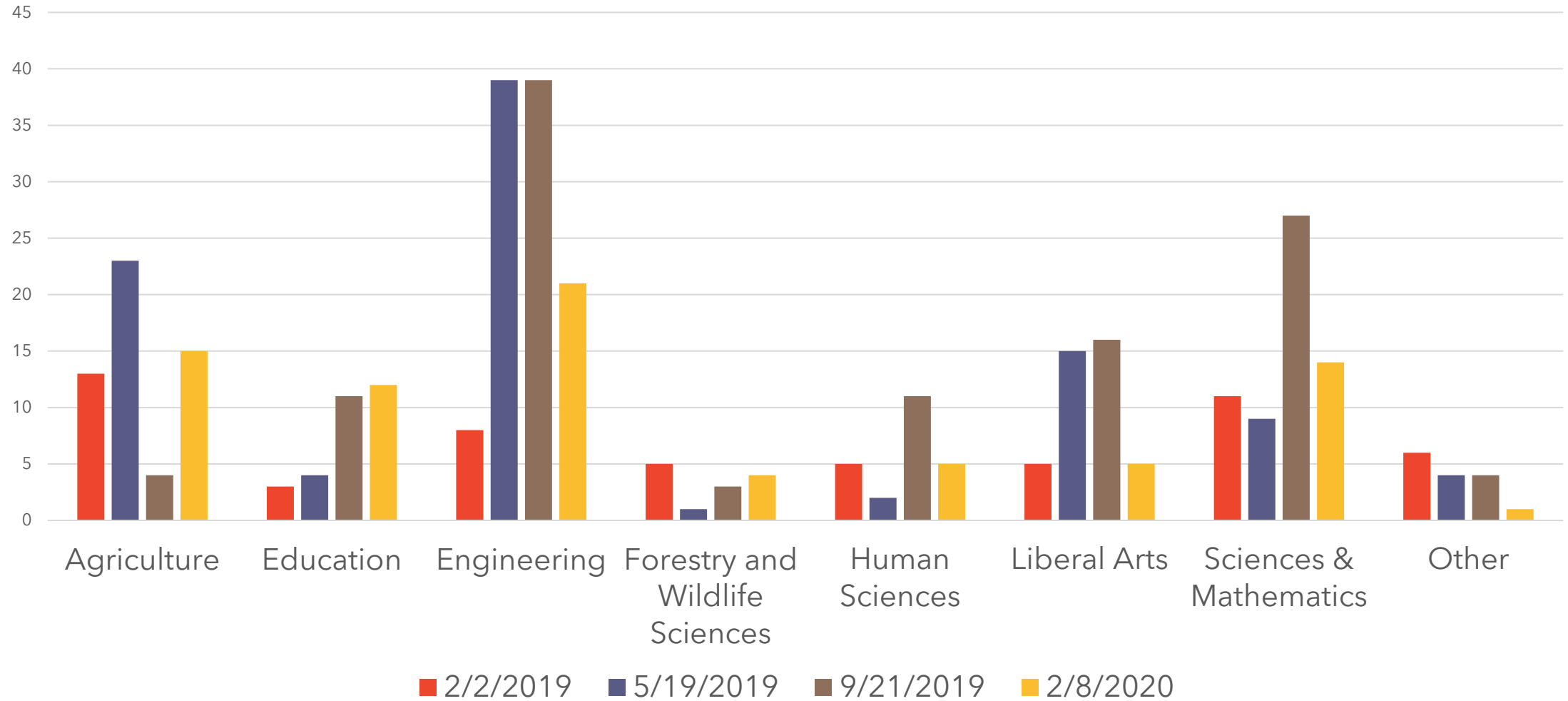
◦ 9 questions (both closed and open-ended)
   ◦ additional question added to 2/8/2020 version
◦ Participants could complete a paper or electronic version
◦ Responses to open-ended questions were coded and analyzed to identify themes
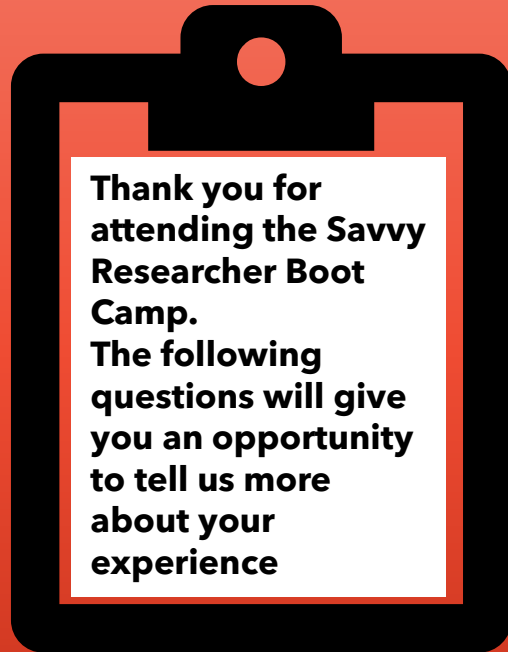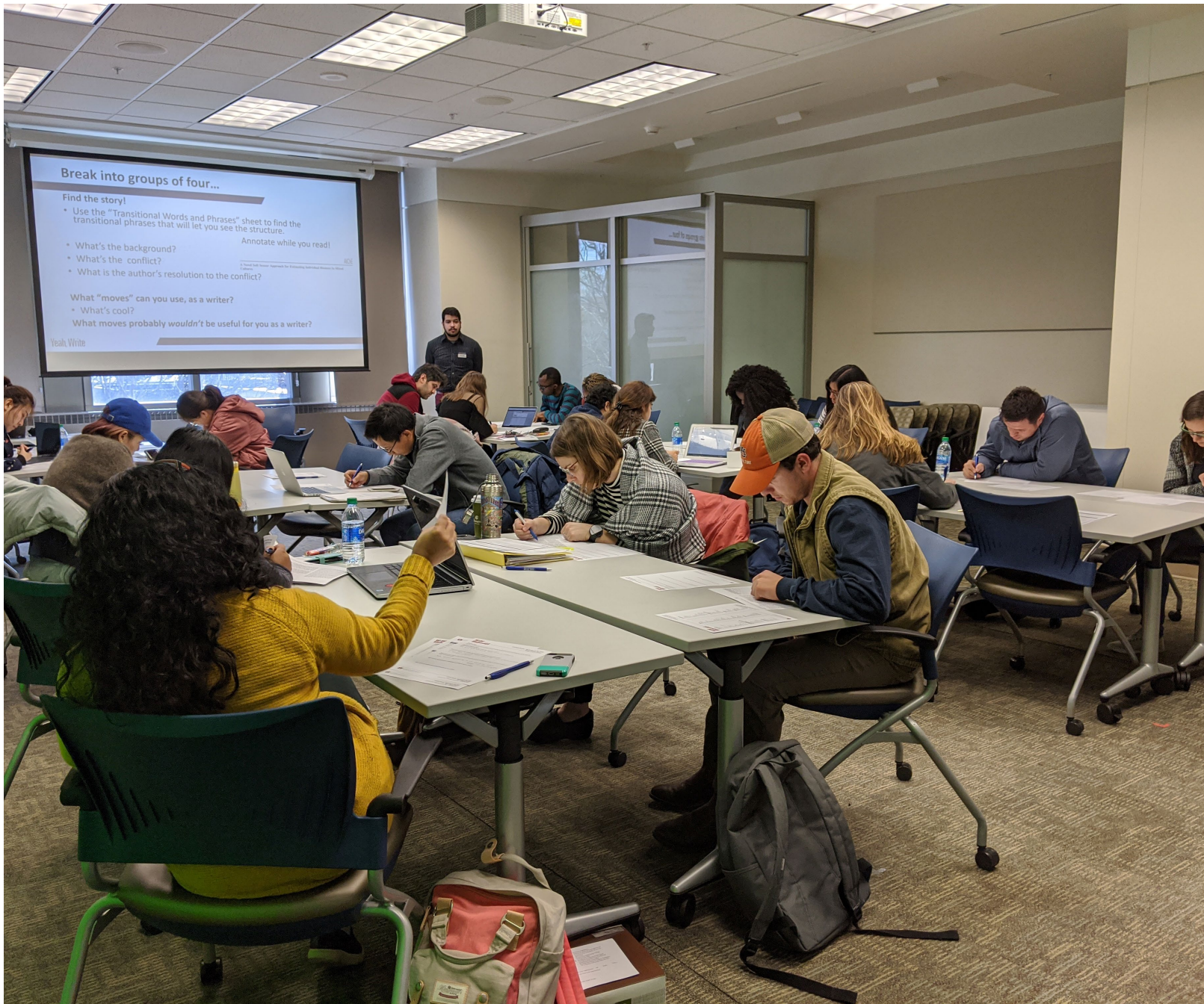
To what extent do you feel you learned from the Savvy Researcher Boot Camp workshops?

0 ←———→ 6

	mean	range
2/2/2019	4.97	1 to 6
5/18/2019	4.53	1 to 6
9/21/2019	5.04	2 to 6
2/8/2020	4.95	1 to 6

WHAT WAS THE MOST USEFUL PART OF BOOT CAMP?

Overall Theme	#	Subthemes	#
Writing	N=39		
		Thesis/papers	13
		Literature Reviews	7
		Publishing	5
		Dissertation Help	4
		Citation workshop	2
		Zotero	2
		Proposals	2
		Technical	2
		Plagiarism	1
		Grammar	1

What other workshop topics should be offered?

Overall Theme	#	Subthemes	#
Software	N=31		
		R	12
		SAS	5
		Excel	3
		Statistics	2
		Meta Analysis	2
		GIS	1
		CitHub	1
		MatLab	1
		SigmaPlot	1
		Technology Tools	1
		Supercomputer	1
		Computer skills	1

What other workshop topics should be offered?

Overall Theme	Subthemes	#
Research N=26	How to read a scholarly/research article	6
	Experimental analysis/design	5
	Data organization/ management	5
	Searching	3
	Cloud/online storage	3
	Time/project management	2
	Google scholar	1
	Balance	1

Overall Theme	Subthemes	#
Presenting N=13	Presentation help	6
	Posters	3
	Adobe (including Photoshop)	3
	Video editing	1
Funding N=4	Grant writing	3
	Funding for non-science	1

What other workshop topics should be offered?

Overall Theme	#	Subthemes	#
Basics	N=3		
		Research for beginners	1
		Research for returners	1
		Intro to librarians	1
Networking	N=2		
		Networking	1
		Networking for introverts	1
Miscellaneous	N=3		
		How to find a job	1
		Teaching help	1
		Mental health resources	1

Focus Groups

- To gather more in-depth information
- Used a semi-structured interview protocol with 6 open-ended prompts
- Conversations were recorded, transcribed, coded and analyzed to develop themes from responses
- 3 groups with a total of 5 participants
  - 3 women, 2 men
  - 3 from College of Education, 2 from College of Engineering
  - 3 doctoral students, 2 master's students

ALL STUDENTS

Research Skills

"**I thought that this was just my own problem**, so, you know, I didn't realize that it is a challenge that almost all the students, most of the students [have]." (11/1/2019, lines 253-262)

"I honestly thought **because I came from a different culture and, you know, I'm also older than most of the students and** I thought most of the students had learned these skills in high school, or as undergraduates, and **I came from a very different background, it was just my problem, really**." (11/1/2019, lines 296-301)

"A lot of graduate students finish their coursework, but then … when they come to their research, to writing it, that's where the big bump … comes in, and they really cannot take it over that hurdle … **Students do not have the skills to do the research** … They do not have those skills, undergraduates, they do not totally, completely learn that when they come into the graduate program and they're not really prepared for that." (11/1/19, lines 280-284, & 287-291)

Communicating Their Research

"**To own it, to find my voice.** I call it finding my voice and owning the knowledge. The more I can talk capably and intelligently and independently about the topic." (9/27/2019, lines 417-419)

"For me, **writing is painful**." (11/5/19, line 85)

"It's always good to show some of your data in a, like **a graphic thing instead of putting some meaningless numbers** …. I'm not very experienced in this way. You know, you write the paper, but **you couldn't copy the paper into the presentation**." (11/5/19, lines 320-323)

"If you don't have a consultant sometime with a **high experience in research**, he's so nice, he tries to help me all the time, but sometimes it's because he don't have skills with more high level." (11/1/19, lines 346-350)

"You don't have the academic support for the graduate students here, **but for the undergraduates**." (11/1/19, lines 1060-1062)

"I needed more help with the research and the undergraduate consultants **were not able to help me because they had no clue**." (11/1/19, lines 592-594)

A Solitary Journey

"Only I realized that … with graduate students, it's a lot of problems because **it's like a very solitary journey** of doing your research, really, and writing it, and finding your resources." (11/1/19, lines 293-296)

"Yeah, you know, unfortunately in graduate school, **you're working alone, always**. The only time you're coming out of your shell is for your thesis, your proposal, so it's like another atmosphere, another life…." (11/5/19, lines 307-309)

Intimidation Factor

"Coming to the library is like going to the gym, where you have all this equipment. And it's so overwhelming and intimidating that **you do not know how to use it and you're embarrassed to ask**. Most of the students are embarrassed to ask, really." (11/1/19, lines 312-318)

OLDER STUDENTS

2 older students, both doctoral, both from College of Education

Technology

"I think I'm just a very non-traditional student … because I **came back after some 30 years** to finish up and continue my education and **my biggest challenge was the technology** really, because when I did my master's … I would take books off of the library shelf, use them, and then put them back and there was no Internet … so for me that was **my biggest challenge, was how to use the library.**" (11/1/19, lines 142-151)

"Really, at that time, **all I knew about computers was how to write an email** and copy and paste and that's all I knew of how to use a computer and it was really, **really a huge learning curve** to master all of that, it really is. You know, in the browser, the databases, all of those things, **even the terminology was so unfamiliar**." (11/1/19, lines 166-171)

"I mentioned in one of our sessions, I don't get the login thing, the passwords and logins. I don't know how many passwords. I can't find the same thing twice. I know **I've got a folder somewhere that has hundreds of articles that I have no idea where it went**." (9/27/19, lines 604-608)

Experience

"**I'm a different kind of student than undergrad** and they're very geared to the undergraduate population. My age, my experience, my understanding of learning and even just **the understanding I've gained from just living it**." (9/27/2019, lines 499-503)

"And I tell you it's often **you get that look from people like why don't you get it, are you just kind of stupid**. And I'm like no, I'm not. I just, I think differently … you get past a certain age … **you develop a sense of inadequacy or shame**. So even … getting support … from a reference librarian … I don't want to tell them my whole story, but I need people to understand. **I have a different context**." (9/27/2019, lines 537-547)

INTERNATIONAL STUDENTS

4 international students from Brazil, Iran, Nigeria, & Pakistan

2 doctoral & 2 master's, 2 from College of Engineering & 2 from College of Education

Language

"I have a problem with my skills to communicate, **because I'm learning English and sometime I don't feel comfortable with the language**." (11/1/2019, lines 1226-1231)

Grammar

"**I personally would like to know more about the softwares for grammar** specifically. After a while, **I learned about Grammarly** …. I'm not alone. We have many graduate student, many international students who struggling with English … introducing some grammar … software." (11/5/2019, lines 151-158)

Differences in libraries

"I learned … the university library resources have already been paid for. I can access journals for free.… **[I]n my undergrad, I couldn't access journals, good journals.** I couldn't get any papers for my senior report." (11/5/2019, lines 86-88)

Differences in support services

"[B]ecause I study in another country, my undergraduate, but everything that I learn here is new for me. **Everything that I learn about the academic is new**." (11/1/2019, lines 971-975)

Support is wonderful

"And I really want everybody to enjoy these moments here in learning and use the support because **the support is wonderful. I don't have this support in my country**." (11/1/2019, lines 1220-1223)

"I say, Mama, **the library is open 24 hours. It's incredible** for us." (11/1/2019, lines 1253-1254)

"I need help, and someone will help me." (11/1/2019, lines 1242)

But there are problems

"Yeah, I think ... library, uh, it's big, and, uh, lots of different resources. **And it's kind of intimidating**. Plenty of resources." (11/5/2019, lines 469-470)

"There **seems to be that gap** between the students not knowing what is expected of them or **who to turn to ask questions, especially when it comes to the research**." (11/1/2019, lines 259-262)

What does it mean?

"This semester, I say … I will go to see what that is, what's happening, **but it's not clear for me,** not clear for me that it's helping, you know … I think you have to **communicate more clear** for the students**, especially the international students**." (11/1/2019, lines 1093-1095 & 1097-1098)

"I stay here all the time, and I read, ah, the Writing Center, and I **ask, what does it mean?** I ask it by myself, but when I study ESL programs, I had one day one appointment here and he explained about the resources." (11/1/2019, lines 1077-1081)

"**Asking this colleague, asking that colleague**. So yeah—the short answer is asking my colleagues and **sometimes just searching online**." (11/5/2019, lines 75-76)

I didn't know

"**I stay here one year**, but they are some information that you send for me now that **I never hear about**." (11/1/2019, lines 1134-1136)

"[T]he **take home from the workshop was library databases**. **I didn't know it existed**." (11/5/2019, lines 216-217)

"I had a lot of problem to find … how can I cite my paper? …[H]ow can I borrow the book from library? … [I]n the past, I had a very difficulty to find a way to …. How to go and get the interloan from the library…. **I didn't even know that there is something existed** that I can go and ask library to bring book from other libraries. And of course the softwares for citations…. I don't know even if you had any workshops three years ago for these EndNote or Zotero…. **I didn't know anything about the resources in Auburn University**." (11/5/2019, lines 53-60)

"**Engineering Librarian?** … I heard about him on the Boot Camp day." (11/5/2019, lines 442-447)

Solutions

"[W]hen they start the semester, I don't know, **organize a workshop for the graduate students to explain about the resources**." (11/1/2019, lines 993-998)

"I really **like the PowerPoint because has the pictures**." (11/1/2019, line 1140)

"[I]f you talk with the students when they arrive … I suppose that students will use it more here." (11/1/2019, lines 1162-1165)

TAKEAWAYS

- Deep penetration of digital technologies into all aspects of research lifecycle
  - Implications for scope of support services

- Communication skills are highly valued by graduate students
  - Intellectual fluency – finding your voice
  - Writing skills
  - Creating effective multimedia presentations

- Point of need services are key for grad students' compressed timelines

- Challenges associated with addressing student requests for "advanced" assistance:
  - Information needs of grad students are highly specific and individualized
  - BUT grad students appear to favor advanced workshops over individual research consultations

BOOT CAMP IMPLEMENTATION STRATEGIES

Workshop Design

- Solicit graduate student input about their research needs.

- Clearly communicate workshop content, learning outcomes & format.
  - Lecture? Discussion? Hands-on practice?

- Offer a mix of theory- and tool-based sessions.

- Consider offering sessions that showcase student work.

- Keep it fresh! Try out new offerings to maintain student interest.

Campus Partners

- Support can come in many forms:
  - Expertise
  - Help with promoting event
  - Cost share

- And from many sources:
  - Graduate School
  - Writing Center
  - Teaching & Learning Center
  - Office of Institutional Research
  - Grant Proposal Services office
  - Campus faculty & staff

Promotion

- Enlist assistance from graduate students' academic circle
  - Graduate program officers rule!

- Targeted marketing
  - Graduate student listservs & newsletter

- In-person promotion
  - Graduate orientations, colloquia, etc.
  - Graduate student council
  - Graduate student advisory groups

- Create social media press kit
  - Branding images, news releases

SAVVY RESEARCHER BOOT CAMP
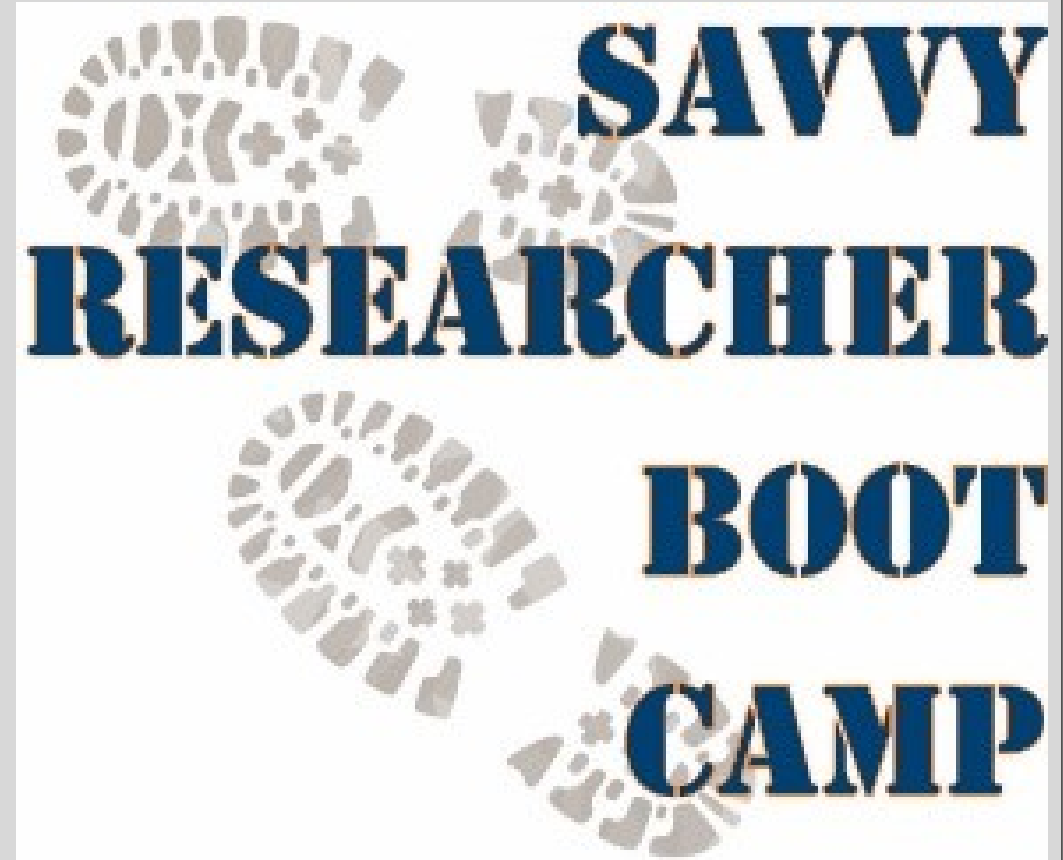
Logistics

- Boot Camp registration:
  - AU uses Springshare's LibCal (email reminders, waitlist & reporting features)
  - We overbook by about 25% for most sessions

- Facilities needs:
  - Staffed help desk to welcome attendees
  - Wayfinding signage
  - Classroom & software tech support

- Mini-conference format:
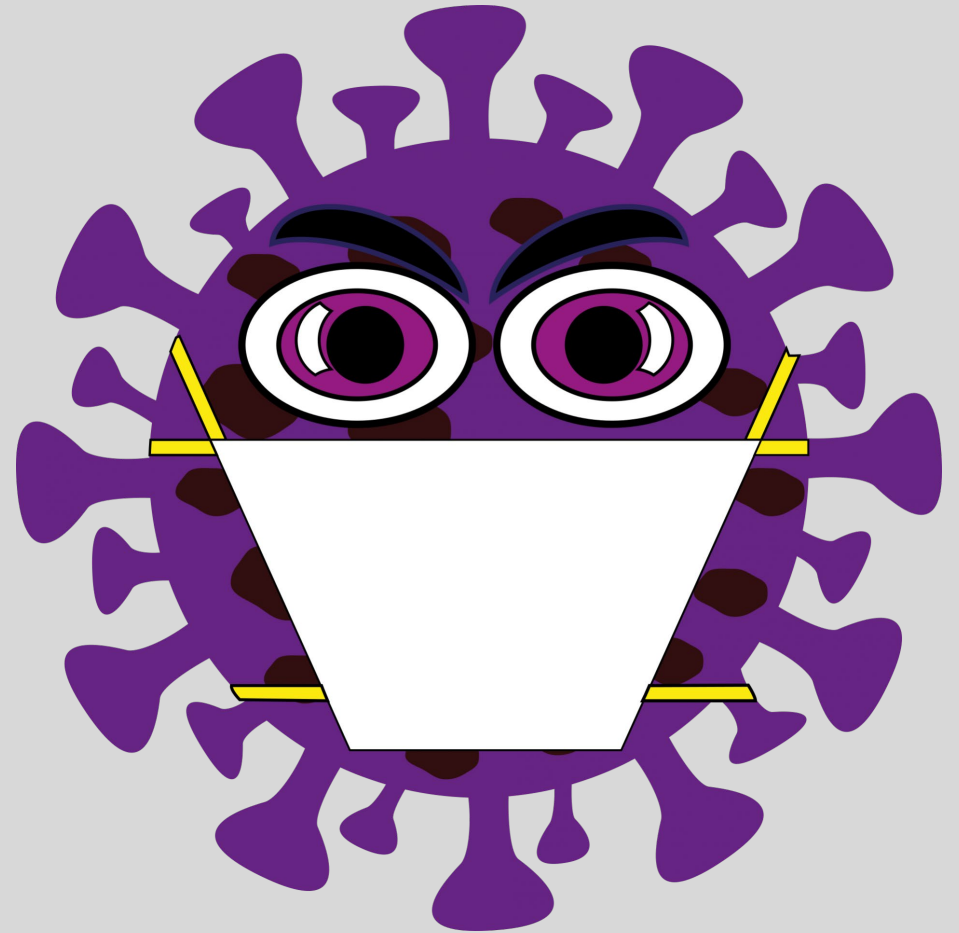 - Lunch, snacks, library swag, etc.

Virtual Boot Camps

- **Challenges**
  - Greater need for tech support
  - Lack of in-person assistance
 - Increased number of no-shows

- **Opportunities**
  - Easy access for distance ed students
  - Teach and learn from the comfort of home
  - No limit on the number of workshops
  - No facilities set-up required

Assessment

- Individual workshops assessed on rotating schedule
    - Alignment of class content & learning outcomes
    - Instructor's teaching effectiveness

- Brief survey evaluating the overall Boot Camp
    - Print & online (Qualtrics) versions offered
    - Email reminder to complete survey

- Boot Camp survey questions:
    - Demographics / scheduling preferences
    - A limited number of open-ended questions:
        - How can we improve? What was most useful? Workshop suggestions?

- Original survey questions retained for consistency & longitudinal analysis

Plan

Implement

Assess

Refine/Revise
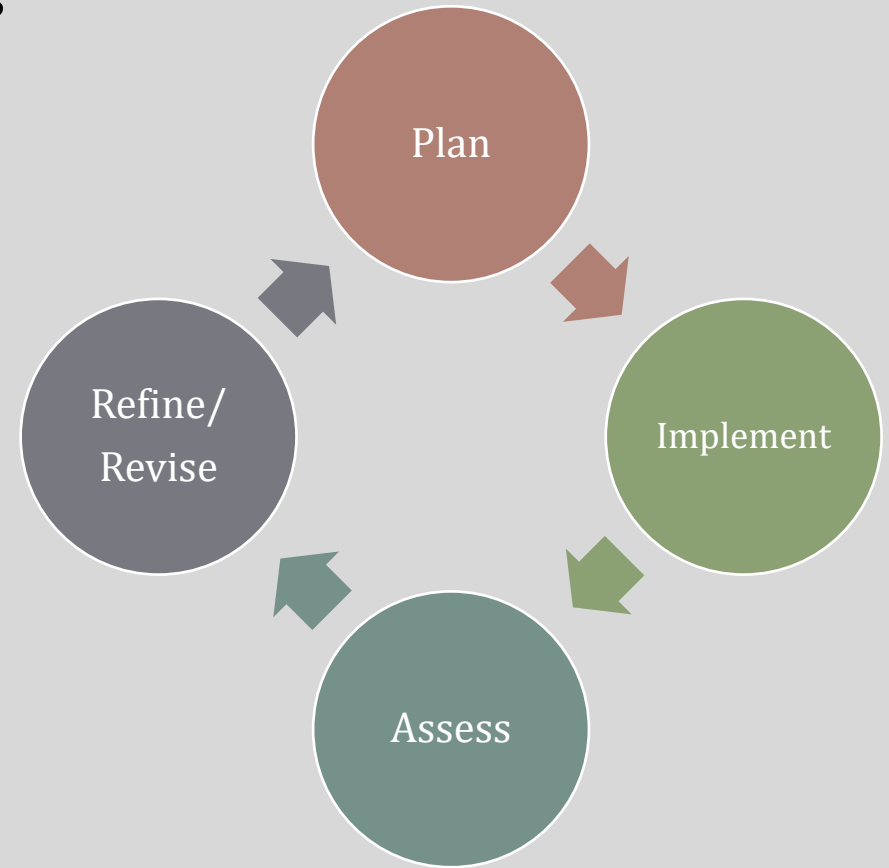
Questions?
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