# An open-access data workshop curriculum for researchers

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STEM Librarians South 2019

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# Libraries Roles are Changing



HUFFPOST

Steve Haber, Contributor
President of Sony's Digital Reading Business

## The Changing Role of Libraries in the Digital Age
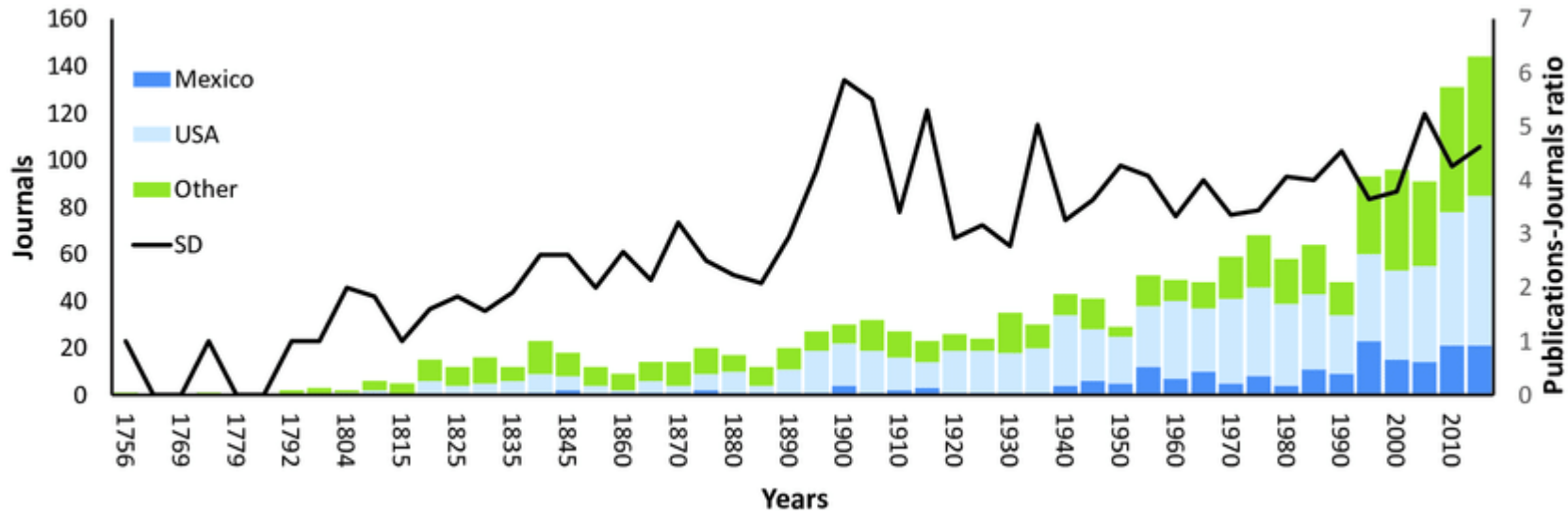
01/03/2011 01:34 pm ET | Updated May 25, 2011

Home / Archives / Vol 15 No 3 (2010): Malaysian Journal of Library & Information Science / Articles

## THE ROLE OF ACADEMIC LIBRARIES IN FACILITATING POSTGRADUATE STUDENTS' RESEARCH

## Libraries Transformed: Research on the changing role of libraries

BY LEE RAINIE

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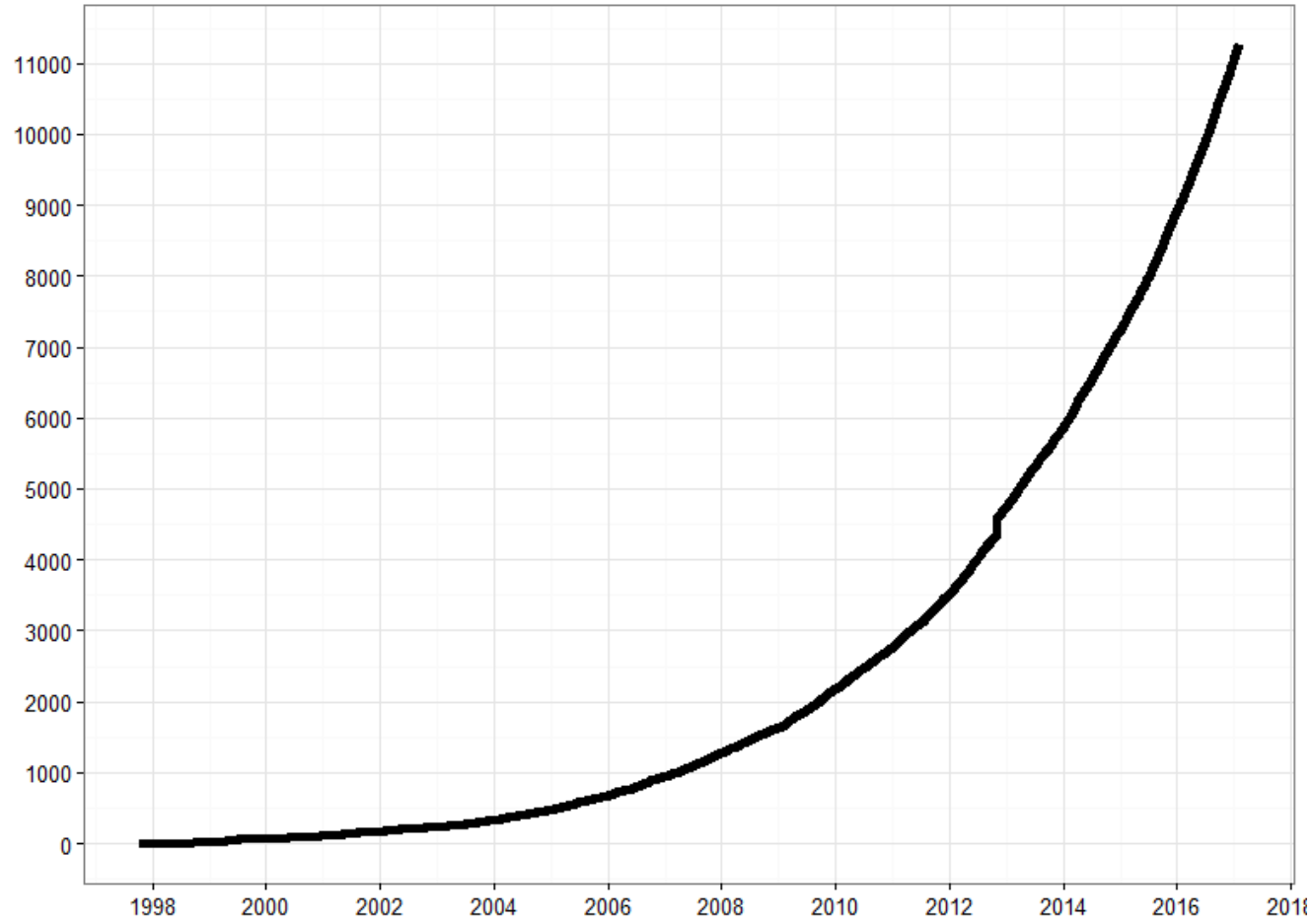
# The Pace of Research is Increasing



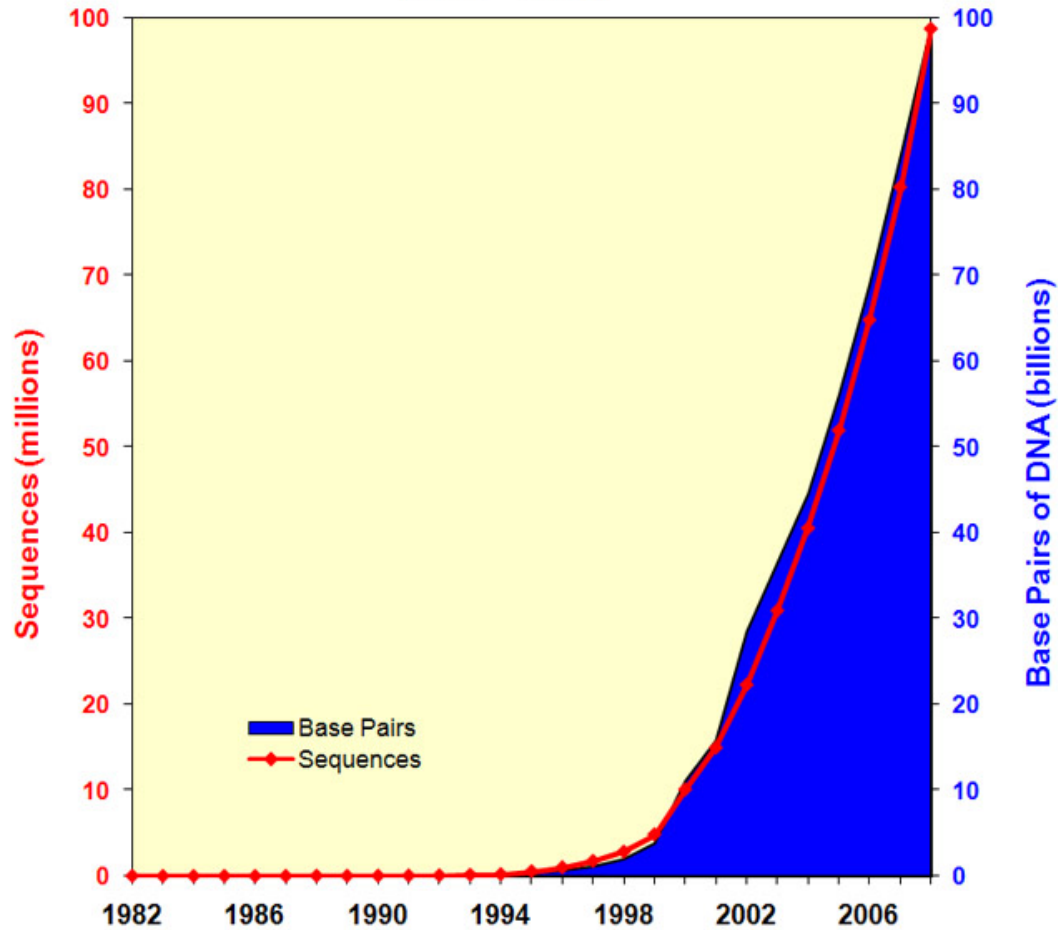Ramirez-Pulido et al. *Associación Mexicana de Mastozoología* 2017

# The Pace of Research is Increasing



Number of R packages ever published on CRAN

# The Pace of Research is Increasing



Growth of GenBank (1982 - 2008)

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# Researchers Need Training in Addition to Access

# Model Projects



NCSU Libraries Digital and Data Science Skills Workshops:
Building Capacity and Meeting Campus Needs

Jennifer Garrett, North Carolina State University

Coalition for Networked Information (CNI)
Spring 2018 Membership Meeting
April 12-13, 2018
Washington, DC

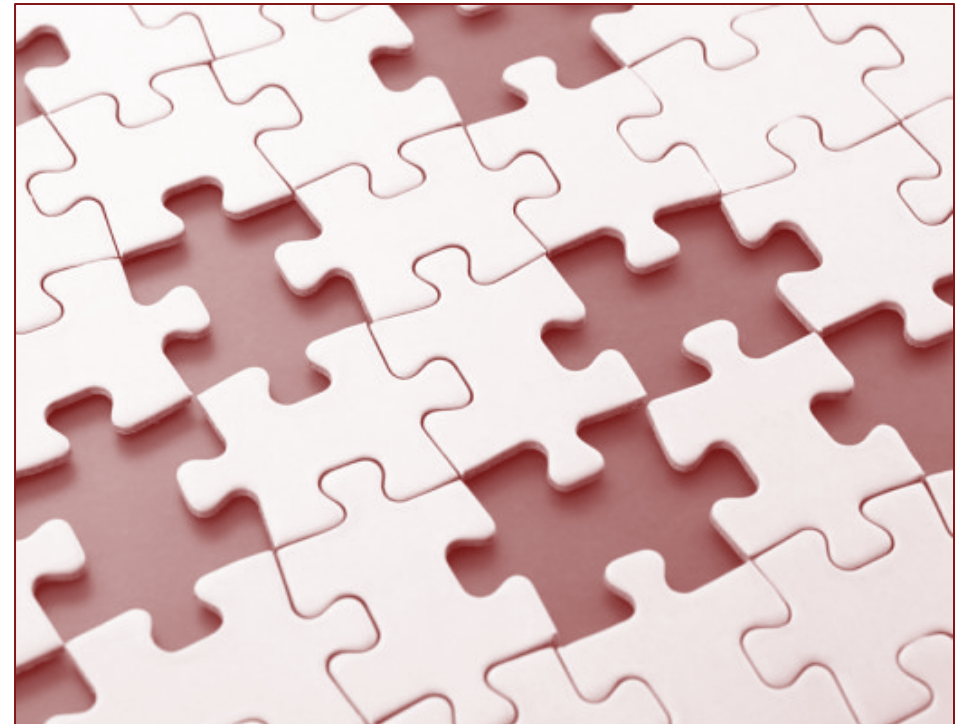# Drawing on Our Research Experience

# The Beginnings
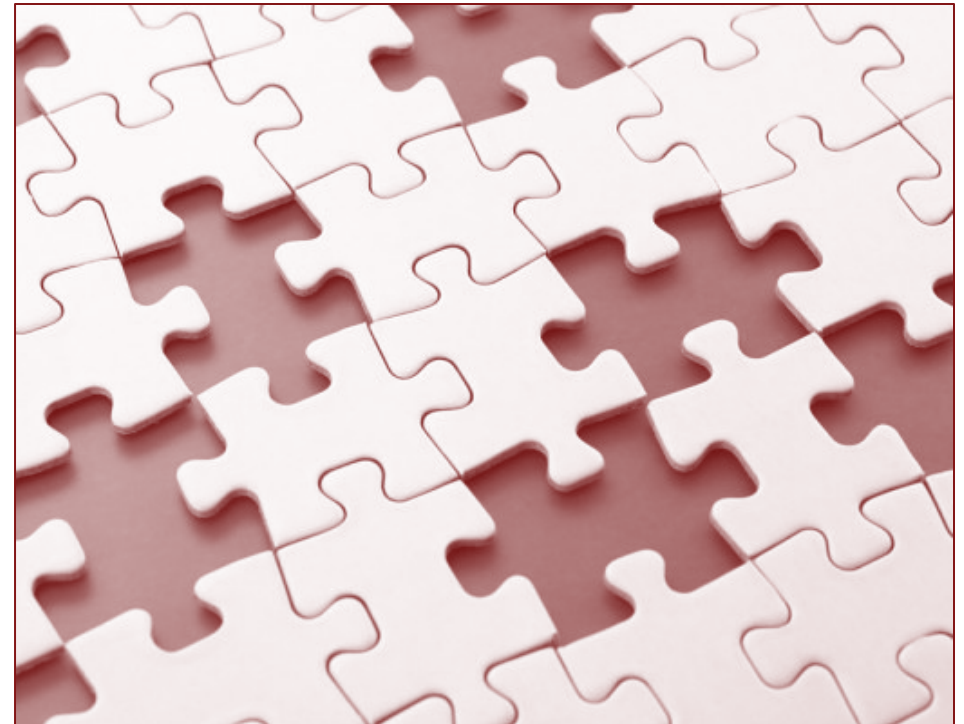
*What are the needs?*

- Experience
- Feedback from Carpentries
- Catalog assessment

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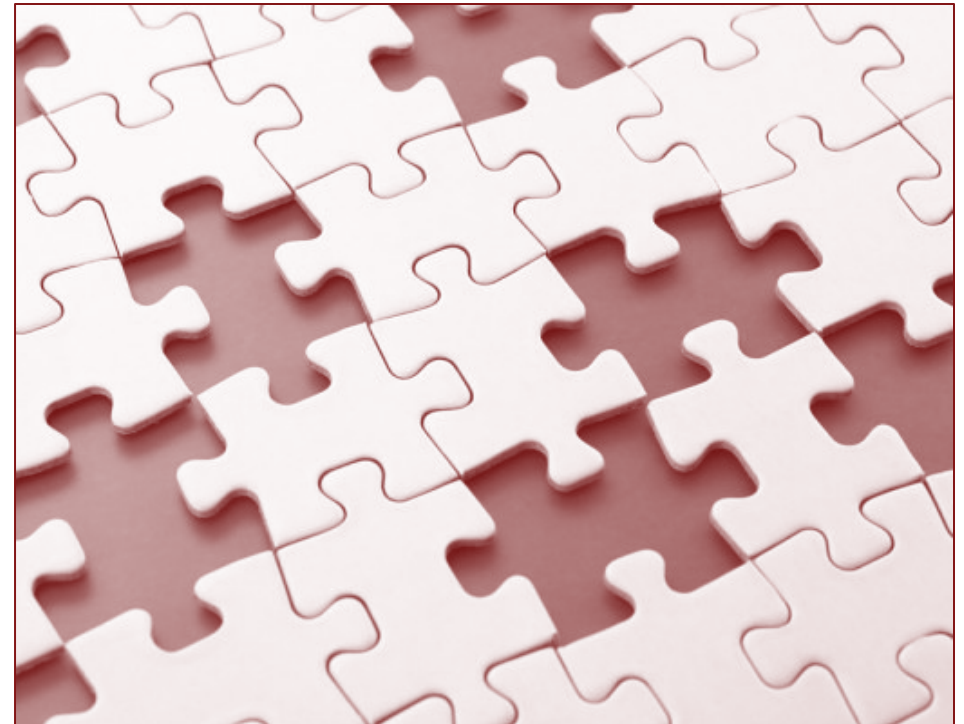
# The Carpentries

- Two day workshops; foundational coding and data science skills

- @ OU Libraries
  - Software Carpentry w/R
  - Software Carpentry w/Python
  - Data Carpentry

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*What are the needs?*

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# The Beginnings

Debut of Survival Skills 101

Love Data Week 2019

lovedataweek.org

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# The Beginnings

*Survival Skills 101*

✓ Beginner level

✓ Skills that *all* researchers need (or anyone with data, electronic or paper)

✓ Concepts, not tools

## *Survival Skills 101*

- Managing Research Data
  file naming, file & folder organization, ReadMe's

- Formatting Your Data for Analysis
  cleaning up data tables/spreadsheets

- Concepts of Data Driven Visualization
  which visualization for your data?

- Keep Your Research Safe with Backups
  Who, What, Where, When, Why, and How

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# Survive and Thrive

## *Better Practices*

- ✓ Beginner level

- ✓ Skills that could improve your data management / organization / communication

- ✓ Tools used to demonstrate

# **Survive and Thrive**

## *Better Practices*

- Managing Research Projects with OSF

- DMP Tool for Funding

- Tracking Changes with Version Control in Git/GitHub

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# Survive and Thrive

*Workflow Tools*

✓ Beginner to intermediate

✓ Concept / skill not relevant to every researcher

✓ Tool specific

# Survive and Thrive

## *Workflow Tools*

- Bash Shell

- LaTeX

- Citation Management with Zotero

- Visualization w/R using 'ggplot2'

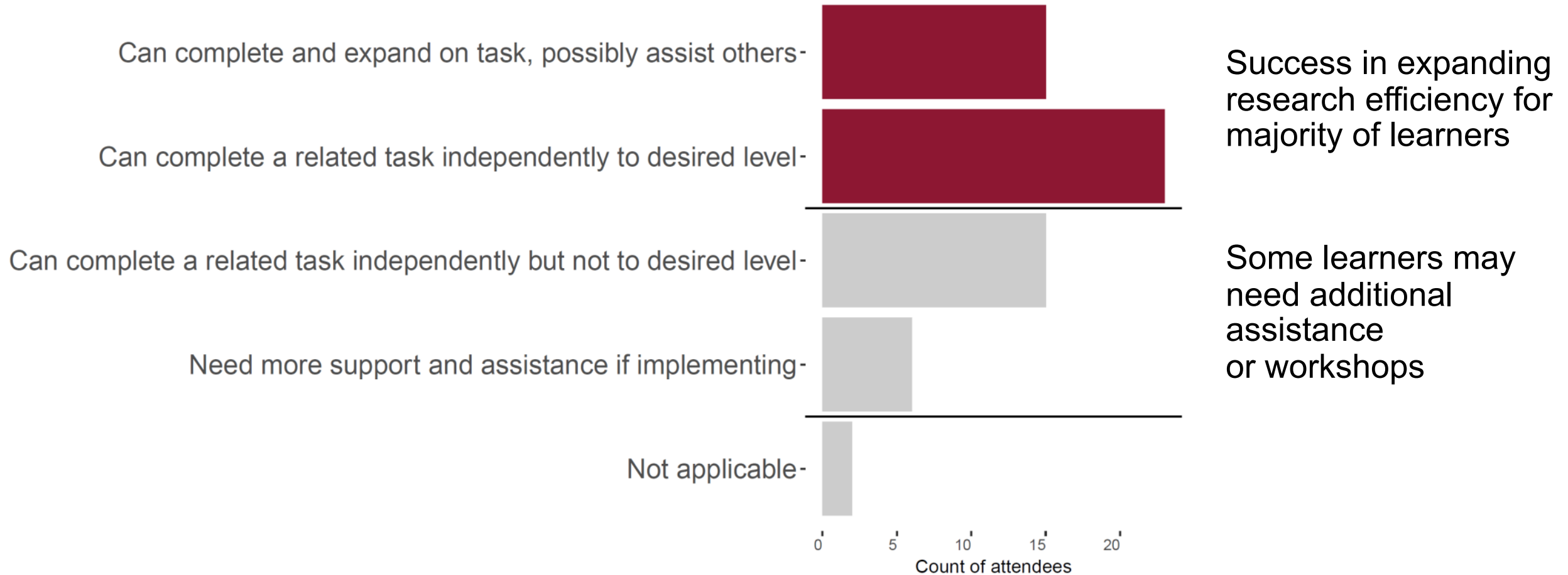- Visualization w/Python using 'matplotlib'

# Scheduling

- Data Fridays

- Workshop Menu

# Are these workshops effective?

- Goal of improving campus research efficiency
- Questions covering
  - How they perceive their skills at the workshop topic
  - How they discovered the workshops
- Takes about 3-5 minutes to complete at end of workshop

# These workshops are effective



Success in expanding research efficiency for majority of learners

Some learners may need additional assistance or workshops

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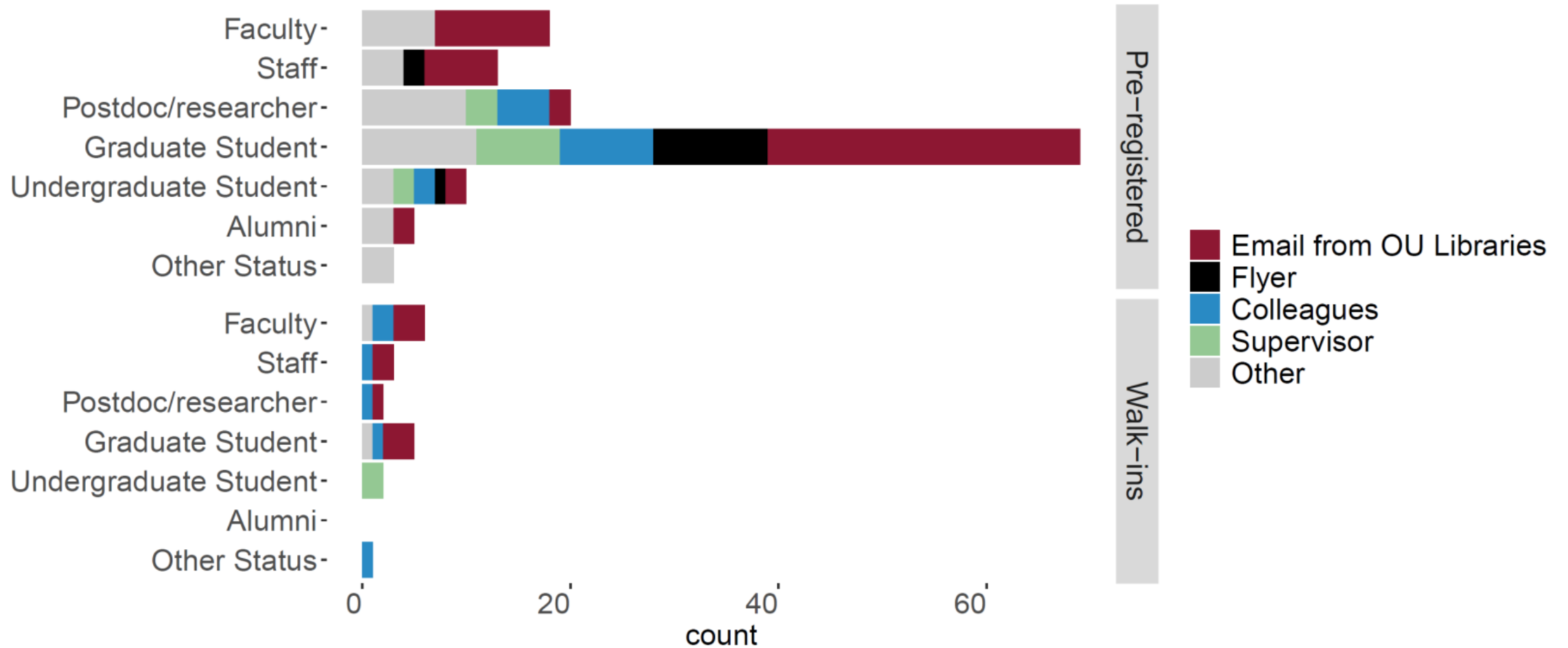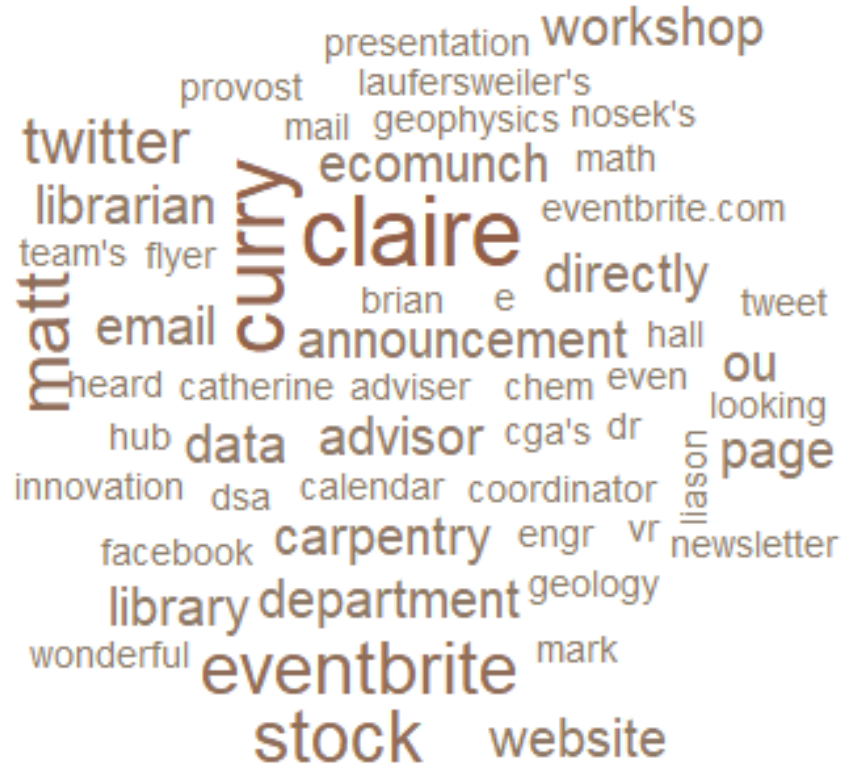
# Workshop comments

- "I like how each workshop is focused and specific"
- "Keep these intensive workshops coming!"
- "This will help me tremendously"
- "It will really help to give me options"

# How did they find us?

# What was "other"?



Pre-registered (n = 138)



Walk-ins (n = 19)

# Sharing our materials CC-BY

Search    Support    Donate    **Sign Up**    **Sign In**

Data Workshops at OU Libraries    Files    Wiki    Analytics    Registrations

# Data Workshops at OU Libraries

Public    ⌥ 0    ⋯

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Affiliated institutions: The University of Oklahoma

Date created: 2018-10-10 10:26 AM | Last Updated: 2019-06-03 02:23 PM

Category: 📦 Project

Description: Short workshops to promote better practices for data-driven research and efficiency at the University of Oklahoma.

License: CC-By Attribution 4.0 International ❶

## Wiki ⬈

Regularly scheduled workshops, presented by OU Libraries targeted to researchers of all levels (graduate students, faculty, postdocs, research-oriented undergrads) to increase working efficiency with understanding of research and data better practices. Workshops focus on a broadly targeted mix of concepts and tools.

This is a living document and we add changes as curricula are developed.

## Citation ⌄

## Components

💬 Survival Skills 101

# Our next steps

- Developing new materials each year
  - How to choose a visualization tool
  - Visualizations in Excel
  - Repetitive tasks in R
  - Intermediate bash scripting
  - OSF for teaching
  - Presentations 101
- Recruiting new speakers from beyond our team
- Continuing to disseminate materials

# Take-home lessons

- Researchers need this help – based on our experience and from comments at Carpentries workshops

- Feedback shows activities effective

- Emails and word of mouth for marketing

- Curriculum available at https://osf.io/ymzu8 - fork or contribute

# Thank you for your attention!

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Curriculum available at

https://osf.io/ymzu8

Workshop Menu

https://libraries.ou.edu/content/university-libraries-location-workshops

STEM Services Team

https://libraries.ou.edu/content/stem-services