How to do bigger better research: Collaboration tools for researchers

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Handouts at
http://faculty.unlv.edu/barchard/

How to do bigger better research

- Humankind is capable of amazing projects

- But researchers usually work individually or in very small groups

How to do bigger better research

- Benefits and challenges of working together
- Software to facilitate collaborative
  - Data collection
  - Writing
  - Long distance meetings
- Collaborating across institutional boundaries

Better Data, Better Writing, More Perspectives, Meeting Challenges

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Benefits and Challenges of Collaborative Research

- Benefits
  - For data collection
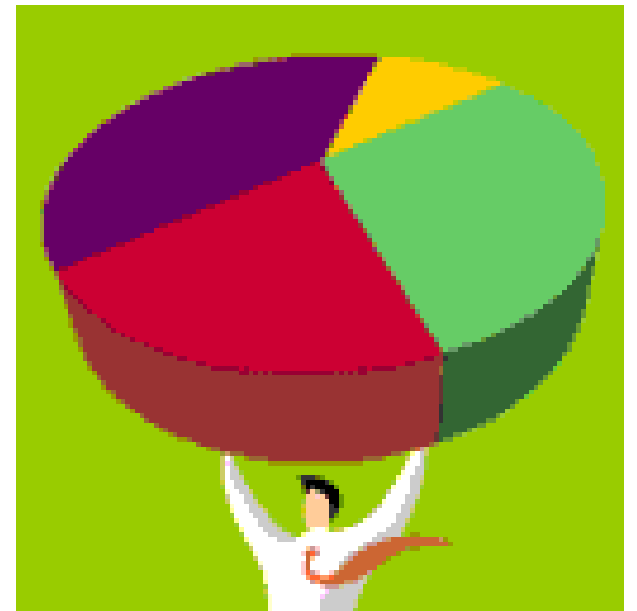 - For writing

- Challenges

Benefits of Collaborative Data Collection

- Access to more resources

- More time-consuming data collection and scoring

- More expensive data collection and scoring

Benefits of Collaborative Data Collection

- Larger samples

- More diverse samples

- Analyses within subgroups

Benefits of Collaborative Data Collection

- More homogeneous samples

  - Allows selectivity in inclusion criteria

  - Increases statistical power

Benefits of Collaborative Data Collection

- Allows specialization:
  - Not everyone has to collect data

Benefits of Collaborative Writing

- More content area expertise

- More perspectives

- More data analysis skills

Benefits of Collaborative Writing

- Multidisciplinary research
  - A signaling pathway in epilepsy
    - Molecular biology
    - Electrophysiology
    - Genetics
    - Behavioral genetics
    - Chemistry
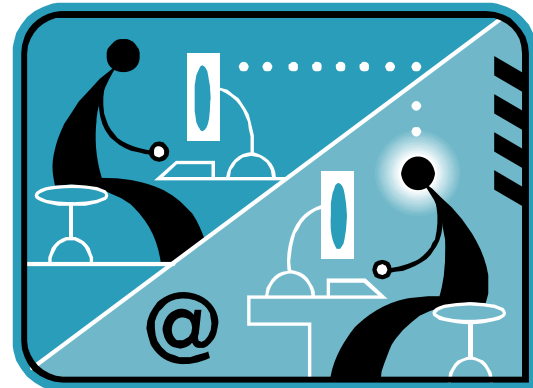
- Broaden our own perspectives

Challenges of Collaborative Research

Challenges of Collaborative Research

- Finding collaborators
  - Previous advisors
  - Previous students
  - Publications
  - Conference programs

Challenges of Collaborative Research

- Creating a sense of community
  - Share pictures and backgrounds
  - Long-distance meetings

Challenges of Collaborative Research

- Disagreements with collaborators

  - To prevent serious disagreements:
    - Get references for potential collaborators
    - Enter relationship slowly and cautiously
    - Establish shared norms and protocols

  - To solve disagreements
    - Establish a plan for resolving disagreements

Challenges of Collaborative Research

- Standardizing procedures
  - Physical space
  - Data collection scripts
  - Data entry procedures
  - Data scoring procedures

Challenges of Collaborative Research

- Obtaining recognition for one's contribution
  - Agree on authorship order early
  - If there are many authors:
    - Create multiple products with varying authors
    - First author, and then alphabetical

Challenges of Collaborative Research

- Changing how we evaluate contributions
  - Authorship order is an impoverished evaluation system
  - Need more information on contributions
    - Provide written summaries of contributions
  - Need more information on project scope
    - Include abstracts on evaluation materials

Challenges of Collaborative Research

- Software tools to facilitate collaboration:
  - Data collection
  - Writing
  - Long-distance meetings
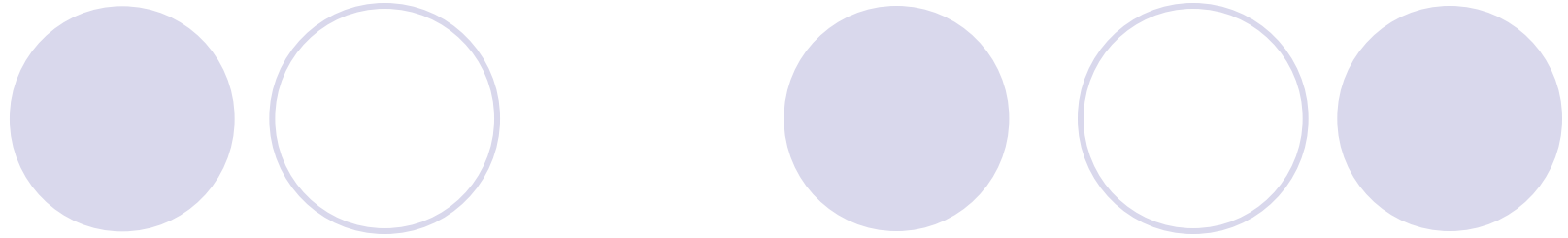
Challenges of Collaborative Research

- Working effectively across institutional boundaries
  - Structures
  - Norms and protocols

Collaborative Research

- Handout discusses additional advantages and how to meet additional challenges.

- It is beneficial and feasible to collaborate in larger groups than you previously have.

Please hold your questions
until the end of the symposium