

# Final Project: First Steps

ARTSCI 101: From Data to Insight

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# Today's Plan

- Check in
- Overview of Research Proposals
- Final Project: Steps (1), 2 and 3
  - (Research topic)
  - Going from research topic to research question
  - Annotated Bibliography and Literature review
  - Introduction
- Team work (time permitting)

# Research Proposals: Overview

- Like we talked about on Monday, our final project is a research proposal.
- All proposals are slightly different, depending on their purpose and the sections required; no *one way* to write a proposal.

# Research Proposals: Overview

- If you go on to complete graduate work, your advisors/committees/depts would give you their specific requirements.
- If you apply for grant funding, the funding agency will outline their specific requirements.

# Research Proposals: Overview

- Let's quickly review a few of my own proposals to give you a concrete idea of what they're all about...
- Dissertation
- 2 Grants

# Final Project: Overview

- Regarding your proposals, the topics that we'll discuss today on **RQs**, **ABs**, and **LRs** all will contribute to the **Introduction** section of your proposal.
- Let's revisit the assignment prompt:
- [http://www2.stat.duke.edu/~mc301/ARTSCI101\\_Su16/assignments/project/](http://www2.stat.duke.edu/~mc301/ARTSCI101_Su16/assignments/project/)

# FP: Step 2 Topic to Question

- Important handouts to review:
  - *Ch. 3 from Booth et al.'s The Craft of Research and Research Questions*
    - Ch. 3- from Topics to Questions has very useful information
    - It also has info that may be less relevant to us...
    - But, I like this chapter because of the detailed and step-wise progression through the process of formulating a strong research question.

# FP: Step 2 Topic to Question

- We're going to go through example of going from topic to question from my own research following some of the tips suggested in Booth et al.'s ch. 3.
- First, let me give you a little background on my research topics.



# Dr. M's Research

- My program of research examines how social and health disparities influence individual differences in cognitive aging.
  - I study how these disparities work separately and jointly to affect cognitive aging and decline in African Americans.
- My work also seeks to understand and implement health interventions to improve cognitive function and prevent or delay cognitive decline and incipient dementia.
  - Motivated by past research on racial/ethnic differences in cognitive performance.

# Cognitive Health Disparities

- My work fits into what is now an emerging field on “cognitive health disparities.”
  - Newer term; refers to different rates of cognitive decline/dementia by race/ethnicity (Alzheimer’s Association)
- The CDC and Alzheimer’s Association have partnered in “The Healthy Brain Initiative: The Public Health Road Map for State and National Partnerships, 2013-2018” (Alzheimer’s Association, 2013)

# Cognitive Health Disparities

- According to the Alzheimer's Association:
  - AD is a public health crisis among African Americans
  - They call it a “silent epidemic” (Alzheimer's Association)
- Research has shown:
  - AD is more prevalent among AAs than whites
  - Estimates range from 14% to almost 100% higher
  - There is a greater familial risk of Alzheimer's in AAs
  - Genetic and environmental factors for AD may work differently in AAs.

# Health Disparities

- Well-documented that are persistent health disparities among African Americans.
  - Specifically, AAs suffer from worse cardiovascular health relative to other groups (e.g., hypertension; Ostchega et al., 2008).
  - CV health is closely related to brain health and cognitive function.
- If we improve cardiovascular health (through exercise or physical activity), can we improve cognitive function— particularly for AAs?

# Step 2: Topic to Question

- With this background in mind, let's talk about how I might devise a research question.
- FP Handout: Topic to Question
- If we have time at the end of class, you to brainstorm in your teams.

# Going from Step 2 to 3...

- Now, it may seem like once you have your RQ, it will be set and won't change...
- And, it may seem like you will wait to do any literature searches and reviews until *after* you have thought of your question...
- This is ***not*** true!
  - Don't think about these steps as mutually exclusive- they should inform one another.
  - You may need to do some LR before even devising a RQ...and once you have a RQ, you may need to change it based on what you find in the LR.

# FP: Step 3 AB & Lit Rev

- Now, let's shift gears and discuss the Annotated Bibliography (AB).
  - How many of you have ever done an AB?  
Was it helpful?
- You should review the *AB handout* and *Ch. 6 from Booth et al.* as you move to this part of step 3.
  - I really like Booth et al.'s ch. 6 because it discusses how to engage your sources at a deeper level than just summarizing the content.

# Annotated Bibliography

- The AB is a tool that will help you go from research sources to your lit review section of your proposal introduction.
  - Using the library tools you learned about, you will search for articles relating to your RT and RQ.
    - Be careful with this! Be selective in the articles you choose to include in the final AB, so that this exercise is useful and not a waste of time!
  - Important to understand that the AB is just a tool. It ***will not*** appear in your final research proposal.
- *Student example of RQ and AB*



# Step 3: Introduction

- Now that we've covered going from RT to RQ and the AB & LR, let's talk about putting this all together to draft your Introduction.
- *FP Handout: Introduction*
- *Student example Introduction\**
  - \*You will discuss policy implications instead of a theoretical framework.

# Wrap-Up

- Any questions?
- Review the following materials:
  - Booth et al.'s: Chs. 3 and 6
  - Writing handouts:
    - Research Questions
    - Annotated Bibliography
  - FP handouts:
    - Topics to Questions
    - Introductions

# Wrap-Up

- Work plan and deadlines:
  1. Develop your team topics (if you have not already, this needs to move along quickly!): **Due ASAP**
  2. Begin to develop your RQ & Dataset: **Draft of RQ & Dataset Due 7/22 (tomorrow)**
  3. Begin LR to complete your AB: **AB Due 7/25 (Monday)**
  4. Revise and refine RQ based on your LR: **Final RQ & Dataset Due 7/28 (next Thursday)**
  5. Begin remaining parts of Introduction: I will announce these due dates.
- Team work (if time)