



1

From the initial spark to a well-formulated research question: A practical guide

Start with a literature review:

Web of Science – search for a topic, find most cited papers on the topic

Read a review paper or two to get an idea of the background theories

Look at papers recommended by your co-workers and most cited papers – search for recent papers that cite them to get the idea of contemporary research in the field

Read lots of abstracts, making a prioritised list of papers to skim with clear reasons for what relevant information might be in each one of them

2

The purpose of a literature review

- What has already been done on this phenomenon?
 - Are there previous research approaches that one can use as a starting point?
 - What hypotheses have other researchers (theoreticians and experimentalists alike) made regarding the phenomenon in question?
 - Are there any alternative and/or complementary models or explanations?
- What is the required skill set to understand previous work / conduct future work?

3

Research Methods – and back again!

Initially, we may have a good set of intuitions about what participant samples, independent variables (i.e. factors) and dependent variables (i.e. measures) to use

A thorough literature review refines both the process of choosing the methods/analysis and the process of generating a good hypothesis

4

Conclusions

Students implicitly learn about research – by reading papers or through mentoring and imitation

Useful for applying these techniques to similar questions

Not so useful for competently addressing new problems, or synthesizing and extending methods

Thinking in a clear and structured way about links between research questions and methods improves all other aspects of the research process

5

Thank you for your attention

Literature used in the preparation of this lecture:
Blohm, Kording, Schrater, 2020, A how-to-model guide for Neuroscience, eNeuro 2020;
10.1523/ENEURO.0352-19.2019

6