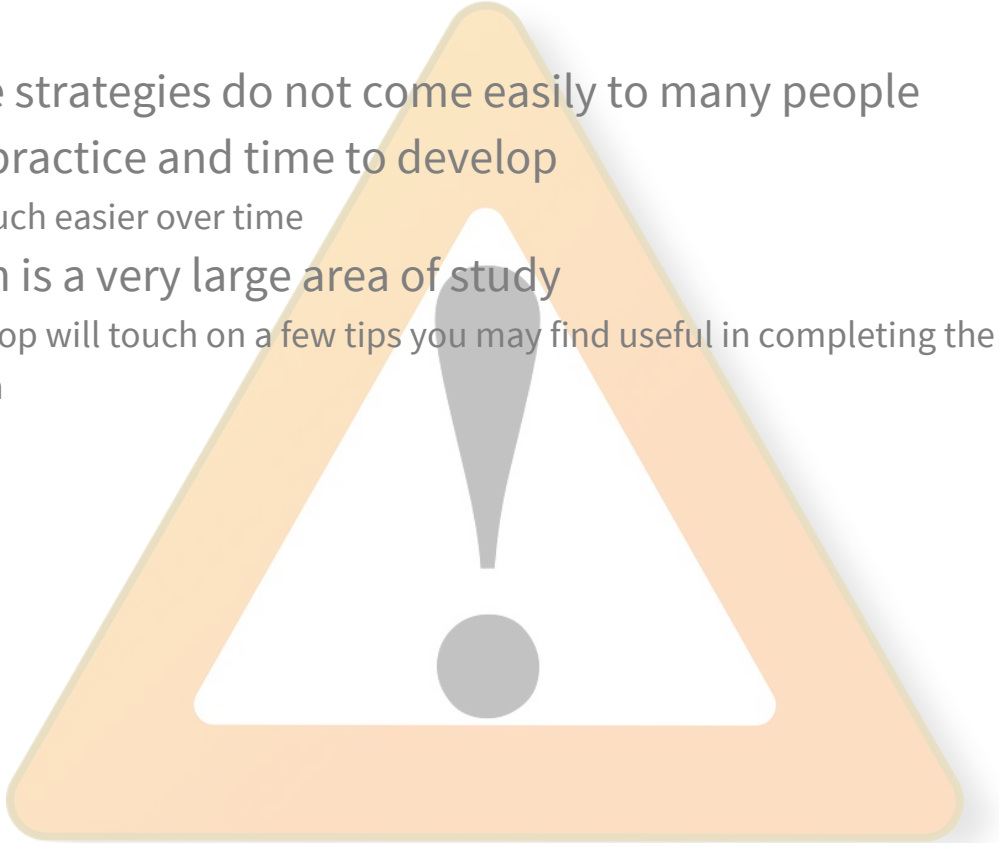
# Metacognitive Strategies for Research

Effectively conducting research for the completion of a dissertation is probably one of the most time-intensive and challenging problems of your entire academic career. This workshop will provide you with a few strategies for increasing your metacognitive skills and facilitating your path for successful completion of your dissertation research.

# Warning

- Metacognitive strategies do not come easily to many people
- They require practice and time to develop
  - They get much easier over time
- Metacognition is a very large area of study
  - this workshop will touch on a few tips you may find useful in completing the research for your dissertation



# Session Objectives

- Recognize common metacognitive strategies that promote a “growth mindset”
- Explain or visualize your thought processes with respect to your dissertation research
- Identify sources of confusion as opportunities for self-awareness
- Employ a research journal as a tool for monitoring thought processes
- Engage in reflexive thinking regarding your research journey

# Metacognition: What is it?

Metacognition is often defined as “thinking about how you think”. That is, being mindful of your own thought processes and understanding how you take in and process information in order to solve problems.

# Why are Metacognitive Strategies Important?

Research studies show:

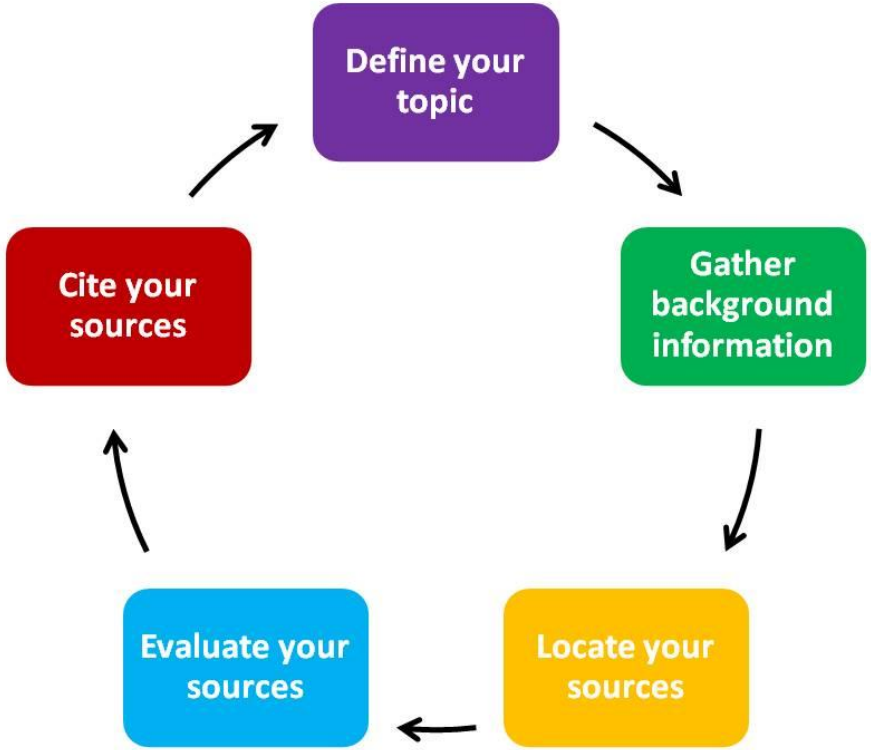
- Metacognitive strategies can help with reading comprehension
- Helps make better decisions regarding course of action for research and study
- Those who use metacognitive strategies have higher rates of recall and spend less time reviewing

Dabarera, C., Renandya, W. A., & Zhang, L. J. (2014). The impact of metacognitive scaffolding and monitoring on reading comprehension. *System, 42*, 462-473.

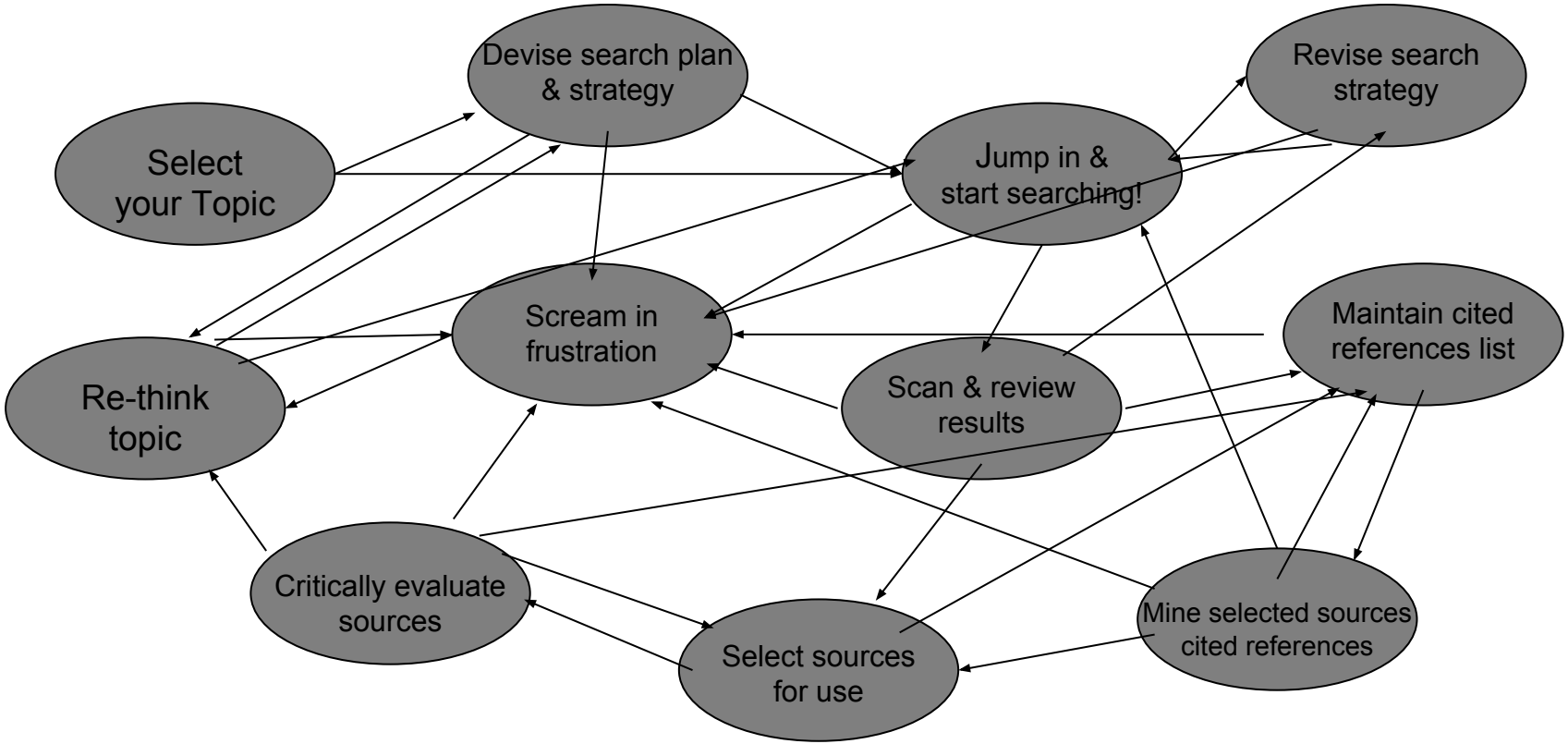
Leopold, C., & Leutner, D. (2015). Improving students' science text comprehension through metacognitive self-regulation when applying learning strategies. *Metacognition and Learning, 10*(3), 313-346.

# Metacognition and the Research Process

# Research Process



# The (Real) Research Process

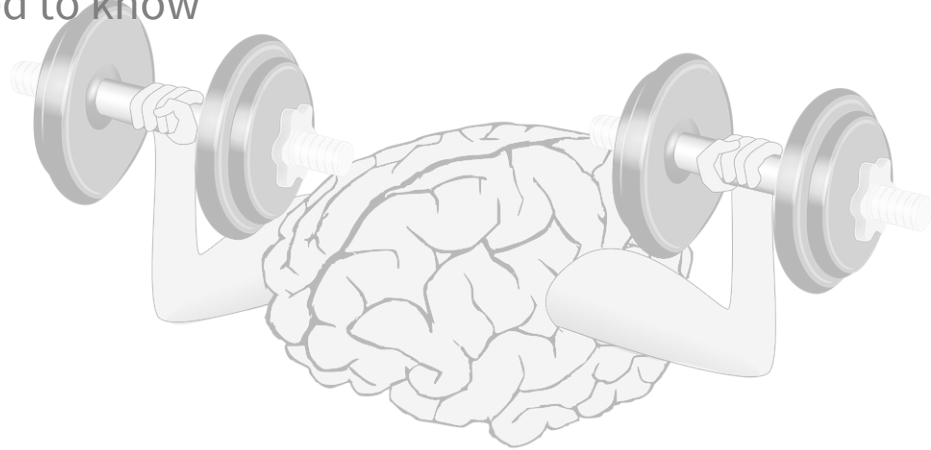


# Metacognitive Strategies to the Rescue!

# Metacognitive Strategies for Growth Mindsets

The process of learning is not fixed. You can influence your own ability to learn and understand just by cultivating a few habits.

- Verbalize/visualize your thinking process
- Activate your background knowledge
- Reflect: What you know vs. what you need to know



# Verbalizing/Visualizing Your Thought Processes

Why would we do this?

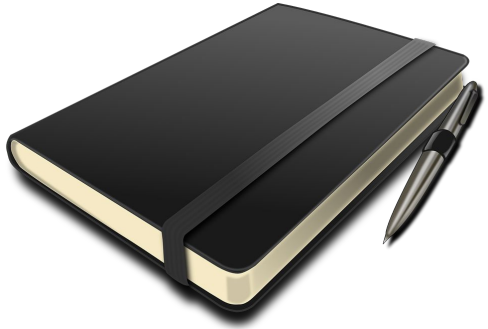
- Many people read words accurately, but don’t derive anything more than a superficial understanding of the words (weak concept imagery).
- “Talking it out” or drawing a concept map helps to fully engage the individual in the process.
- Helps to understand:
  - What you know
  - What you don’t know
  - What you want to know

# Turning Confusion into Self-Awareness

- Identify what aspects of a text, process, or problem are the sources of confusion
- Identify where the breakdown in understanding lies
- Identify the reason for the lack of understanding
  - Missing information?
  - Gaps in knowledge?
  - Lack of context?

# Using Research Journals

- Record all your thoughts about the material you're reading
- Use any format you feel comfortable with
  - Online: Evernote, Word, GoogleDocs
  - Record your questions and documents connections
- Provides a permanent reference to your thoughts on your topic
- Record of evolution of your research over time
  - https://anujacabraal.wordpress.com/2013/07/03/keep-a-research-journal-it-is-important/



# Using Reflexive Thinking

Reflexive thinking is reflecting upon yourself as a researcher

- Examine, identify and acknowledge the assumptions and preconceived ideas you bring to your research topic
- Think about how it can impact your research behaviors.
  - What articles you select for use
  - Which research avenues you decide to pursue

# After You Leave...

- Take another look at your research
- Identify a key concept, and try mapping it out
- Question your current understandings/areas of confusion
- Try to make connections you didn’t see before
- Identify areas for clarification


THANK
YOU
GRACIAS
ARIGATO
SHUKURIA
DANKSCHEEN
JUSPAXAR
GOZAIMASHITA
EFCHARISTO
TASHAKKUR ATU
YAQHANYELAY
SUKSAMA
EKHMET
MEHRBANI
GRAZIE
MAAKE
KOMAPSUMNIDA
PALDIES
BOLZÏN
MERCI
TINGKI
BÏYAN
SHUKRIA

# Hands On Exercises

- Critical/close reading: verbalization
- Creating a knowledge map: restructure and reorganize
  - http://lifehacker.com/how-to-use-mind-maps-to-unleash-your-brains-creativity-1348869811
  - GoConqr (https://www.goconqr.com/en)
  - Coggle (https://coggle.it/)
- Visualization: translate into a pictorial representation
- Research diary
- Reflexive thinking