

# Metacognition

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## Intro to Metacognition

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### What Is Metacognition?

Metacognition is thinking about thinking, typically to improve or control thought. Students with better metacognition perform better in school, work, and social groups. Here is an example of how living with metacognitive skills can impact your life:

*When Rollo was in college, he had difficulty paying attention in lectures. He asked his friends what they did to pay attention in class. He tried their advice of taking notes, drinking lots of caffeine, recording the lecture, but found they only helped a little. Eventually, Rollo realized he didn't care about what the professor was saying, but he did care about how he could apply the concepts to his personal projects. This made the lectures interesting, and helped him learn the material.*

Rollo applied metacognition by:

1. **Identifying** the problem: He couldn't pay attention
2. **Learning**: he talked to his friends
3. **Trying**: doing new things
4. **Reassessing**: reviewing what worked and why

It's easy to miss how mistakes relate to each other. Struggling to do your homework? It might be related to motivation, attention, or time management. You can promise yourself to 'try harder next time' but unless you take time to recognize the pattern and look for solutions, the underlying problem will remain. Understanding why you're making mistakes and addressing them early helps you improve in many aspects of life, including this course. Metacognition takes practice, so in this course we'll practice explicitly. However, we also encourage you to practice this in other classes and in life in general.

## How to Use Metacognition

1. **Identification:** What do you want to do? Have you done this in the past? What is this most closely related to? How did it go? Does this happen a lot? What about in other parts of your life?
2. **Learn:** Think about what happened last time. Look up suggestions online. Ask a friend. Ask a mentor.
3. **Try:** Try whatever you think is best.
4. **Reassess:** Did it go better or worse than last time? Why do you think that? What are you going to do differently next time?

## Practice in This Course

Metacognition is helpful, but only if you actually practice and apply it. As such we're incentivizing these in this class. To gain practice with metacognition, you will be asked to write and submit metacognition journal entries for several different activities or experiences during the course of the semester. All metacognition journal entries will be submitted via Gradescope. You can submit a pdf or type your answer directly into the text boxes.

## Questions and Format

Your metacognition journal entries should have the following main parts: *Plus, Delta and Kaizen*

- The date
- The topic and/or name of content/speaker
- Plus
  - What was great about the exercise, class, assignment, or speaker?
  - Did you learn anything that you didn't know before?
  - Was there anything that you knew before, but really resonated with you during this activity or you gained a deeper understanding of it?
- Delta
  - Is there anything that could be improved?
  - Were there any statements that you disagreed with?
  - Were there questions that weren't addressed that you think should be addressed?
  - Was there anything you are confused about or didn't understand?
- Kaizen: What will you do because of this in-class activity or topic?
  - Do you plan to look up a definition?
  - Do you plan to look up a webpage or other resource to learn more?
  - Do you feel like you need to review material from this course or a previous course?
  - Do you plan to talk with course staff or other professors about this topic?