



Metacognition: thinking about thinking



Context

Students often lack the metacognitive skills they need to be fully successful in their own learning. The process of thinking about their one's own thinking can be tricky for all students, and especially students with attention disorders such as ADD or ADHD.

And yet, research has shown that students who engage in these type of thinking are often more prone to self-assessment and positive improvements.



Presentation

Metacognition is the awareness of one's own thought processes and an understanding of the patterns behind them. The term comes from the root word meta, meaning "beyond". Metacognition can take many forms, such as reflecting on one's own ways of thinking and knowing when and how to use particular strategies for problem-solving.

Metacognitive skills falls in 3 categories:

1 Planning

The planning phase asks individuals to question what they want to learn, what existing knowledge they can use to help them learn, what they need to focus on to learn and what time frame they have to achieve comprehension.

2 Monitoring

The monitoring phase occurs throughout the learning process. During this phase, learners ask questions relating to how well they're retaining information, whether to slow or quicken the pace and whether they need to seek additional guidance to help them learn.

3 Evaluation

During this phase, learners evaluate their ability to learn. They question whether what they learned could help them in other areas, determine weak areas where they need additional work and reflect on what they should've done differently to maximize their learning experience.



Strategies

Use the syllabus:

The syllabus is a roadmap for students to sense how the course is structured. Help your students navigate the reasons why, and how each topics is connected to each others, what are the key themes, what prior knowledge is needed, etc.

Use prior knowledge:

Guide your student's through they own prior knowledge of the topic you are trying to teach them. Ideally, provide revisions or reminder lessons to ensure that the knowledge base is strong.

 **Talk Aloud:**

Encourage your students to talk aloud, with themselves, their peers, tutors or parents. Verbalizing one's thoughts can help make sense of concepts and ideas. It can also help as a way for student's to test themselves, explaining the step processes of some lessons and more.

 **Ask yourself questions:**

Guide your students to the key questions they should ask themselves when thinking about their comprehensions.

 **Organise your thoughts:**

Provide resources for students to use graphic organizers or concept maps to help them visualize their knowledge.

 **Test yourself:**

Provide your students with practice tests and self-testing that they can do at home to ensure that their understanding is good.

 **Take some time:**

Teach your students to take timeout of in their learning process when they are struggling. This will allow them to take a step back and ask themselves why they are 'doing' things a certain way.

 **Find a learning style:**

Help your students find what type of learners they are (visual, aural, kinethic, etc.) so they know how to best approach their learning.

 **Examples****During classes:**

- What are the main ideas of today's lesson?
- Was anything confusing or difficult?
- If something isn't making sense, what question should I ask the teacher?
- Am I taking proper notes?
- What can I do if I get stuck on a problem?

Before a test:

- What will be on the test?
- What areas do I struggle with or feel confused about?
- How much time should I set aside to prepare for an upcoming test?
- Do I have the necessary materials and a quiet place to study, with no distractions?
- What strategies will I use to study?

After a test:

- What questions did I get wrong, and why did I get them wrong?
- Were there any surprises during the test?
- Was I well-prepared for the test?
- What could I have done differently?
- What strategy did I use to solve this problem that was helpful?

 **Resources**

Discover some additional resources:

- <https://www.edutopia.org/article/how-metacognition-boosts-learning>
- <https://learningcenter.unc.edu/tips-and-tools/metacognitive-study-strategies/>
- <https://www.indeed.com/career-advice/resumes-cover-letters/metacognitive-skills>