



Metacognition

Metacognition involves the processes of self-monitoring and observation. It is an opportunity for children to check on their efforts and assess their successes and failures. Simply put, metacognition is thinking about one's thinking. It is a particularly important function for helping children to gain some perspective on their decision-making and skill development. Metacognition facilitates reflecting on the impact of one's actions on others by checking on how one has done. It involves asking oneself questions that facilitate defining problems, developing solutions, and assessing successes.

Home and School Situations Requiring Metacognition

- Understanding personal strengths and weaknesses in academic subjects, athletics, or other extracurricular activities
- Achieving an awareness of how one's behavior can impact others
- Being able to evaluate preparedness for a quiz or performance on a test
- Following household or classroom rules
- Articulating feelings when dealing with peers or siblings
- Checking homework or in-class assignments for mistakes
- Identifying the steps needed to successfully write a paper or complete a household chore
- Recognizing consequences for decisions in advance, such as misbehaving at recess or not finishing one's homework

Hints and Strategies to Improve Metacognition

- Help your child to self-evaluate using checklists. Before your child begins a chore or task, discuss how you both will determine successful completion of the task and develop a checklist together to use to determine how effectively the task has been completed. For example, a checklist for evaluating a successfully cleaned bedroom might include items such as: I made my bed; I put my dirty clothes in the laundry basket; I put my toys in the bin; I put my papers in my desk drawer. You and your child should both complete this checklist after having finished the task and discuss why you each rated the items as you did. Be sure to praise your child for accurate self-evaluations and brainstorm ideas for improving accuracy in the future.
- Ask your child to try and predict the outcome of a situation. Teach her to think about the different factors and obstacles affecting successful completion of tasks, such as an upcoming science project, a soccer game, or a musical performance. Keep track of these predictions in a journal to serve as a direct reminder for your child and to be used for later comparisons. After the activity has been completed, discuss your child's predictions and identify possible reasons for any inaccuracies.

- Model self-verbalization skills by expressing your thoughts and problem-solving strategies aloud. This will allow your child to identify otherwise hidden metacognitive strategies. For example, verbalize statements such as, “This reminds me of the time when we tried to do this” or “I need to think about what worked and didn’t work the last time we did this.” Encourage your child to use similar self-instructional strategies to aid in problem-solving tasks, such as putting a puzzle together, solving a math problem, or brainstorming for an art project.
- Provide cues to help your child identify and acknowledge her own strengths and weaknesses. This can be done by making a list, collage, or voice recording of her strengths and weaknesses. It is important for your child to recognize that although she may have weaknesses in some areas, she has strengths in others. Being able to identify those strengths and weaknesses is important in developing accurate self-perceptions, as well as positive self-esteem.
- Have your child explain to you how to succeed at one of her favorite videogames or board games. This will allow your child the opportunity to practice reporting how she thinks about her step-by-step problem-solving strategies in a game. In many games it is important for players to be able to recognize their current score and how it reflects their performance and capacity within the game. When your child can identify errors of omission and commission in game play, this will allow her to practice identifying strengths and weaknesses.
- Use your child’s video game playing as an opportunity to help her reflect on her strategic thinking. A good opportunity would be when your child talks about having “beaten a level.” When this occurs, ask her to think about how she figured out what to do. Ask her to also identify the mistakes she previously made and to then reflect upon how she learned from them. The concept of metacognition revolves around an individual being able to step back and think about their thinking. Help your child to understand that this same type of stepping back and trying to find a new way to “beat a level” is something she can try in many situations at home and at school.
- Next time your child asks for something outrageous or asks to do something that is out of the ordinary, do not say “no.” Instead, say “Let’s think about that” and encourage your child to step back, consider what she is asking for, and point out the pros and cons of this activity or acquisition. If you determine this request to be unfeasible, encourage your child to formulate an understanding of what your thoughts are and how she might be able to otherwise accomplish what she is looking to do or have.

Books Metacognition

Cooper-Kahn, Joyce, Ph.D. and Laurie C. Dietzel. (2008). *Late, Lost, and Unprepare: A Parents’ Guide to Helping Children with Executive Functioning*. Bethesda, MD: Woodbine House. [Chapter 16]

Cox, Adam J., Ph.D. (2007). *No Mind Left Behind: Understanding and Fostering Executive Control--The Eight Essential Brain Skills Every Child Needs to Thrive*. New York, NY: Penguin Group. [Chapter 8]

Dawson, Peg, Ed.D. and Richard Guare, Ph.D. (2009). *Smart but Scattered*. New York, NY: The Guilford Press. [Chapter 21]

Larkin, Shirley. (2009). *Metacognition in Young Children*. London, England: Routledge.

Richard, Gail J. and Jill K. Fahy. (2005). *The Source for Development of Executive Functions*. East Moline, IL: Lingua Systems.

Websites and Articles on Metacognition

LearningWorks For Kids (<http://www.learningworksforkids.com/EF/metacognition.html>): The premier resource for executive function information, offering a detailed explanation of metacognition, tips for parents, and activities to improve this skill.

U.S. Department of Education (http://www.education.com/reference/article/Ref_Dev_Metacognition/): A site which offers additional strategies for developing metacognition, tips for creating a metacognitive environment, and a list of additional resources to consult on this topic.

Purdue University (http://education.calumet.purdue.edu/vockell/EdPsyBook/Edpsy7/edpsy7_meta.htm): An excerpt from an educational psychology textbook which thoroughly explains the skill of metacognition and qualities of children who are well-developed in this skill.

University of Buffalo. (<http://www.gse.buffalo.edu/fas/shuell/CEP564/Metacog.htm>): A more technical overview of metacognition that addresses many areas of metacognitive research.

Games and Activities That Can Practice Metacognition

- **Big Brain Academy and Brain Age**
These games offer your child the opportunity to test her "brain" abilities and calls for the player to make accurate self-assessments in order to succeed.
- **Rock Band**
Games, such as Rock Band, which have distinct roles (i.e. drummer, guitarist, singer) will allow for your child to begin to recognize the strengths and weaknesses of themselves and others.
- **Athletics**
Have your child predict how fast he can swim a lap of the pool, how high he can jump, or how far he can kick a soccer ball to practice achieving accurate predictions.
- **Chess, Checkers, and Connect Four**
These types of strategy games allow for a discussion with your child which includes evaluating what kind of approaches were successful and what new approaches you might try when you next play this game.
- **Programming a cell phone**
Have your child help you set different ring tones and/or pictures for people in your phonebook and discuss how this could be useful in identification of a caller.
- **Observe people interacting at the grocery store or in the mall**
While observing strangers, have your child describe her perceptions of these people and then discuss how your child formed this impression (i.e. facial expressions, body language, verbal cues).