

TEACHERS: Habits of Mind Explanation

 <p>Thinking About Your Thinking (Metacognition) <i>Know your Knowing!</i> Being aware of your own thoughts, strategies, feelings and actions and their effects on others.</p>	 <p>Persisting <i>Stick to it!</i> Persevering with a task through to completion; remaining focused. Searching for ways to reach your goal when stuck. Not giving up.</p>	 <p>Managing Impulsivity <i>Take your time!</i> Thinking before acting; remaining calm, thoughtful and deliberative.</p>	 <p>Striving for Accuracy <i>Check it again!</i> Doing your best. Setting high standards. Fact checking and finding ways to improve.</p>
 <p>Listening with Understanding and Empathy <i>Understand others!</i> Devoting mental energy to another person's thoughts and ideas. Making an effort to perceive another's point of view and emotions.</p>	 <p>Thinking Flexibly <i>Look at it another way!</i> Being able to change perspectives; generating alternatives; considering options.</p>	 <p>Questioning and Posing Problems <i>How do you know?</i> Having a questioning attitude; knowing what data are needed & developing questioning strategies to produce those data. Finding problems to solve.</p>	 <p>Thinking Interdependently <i>Work together!</i> Working with and learning from others in reciprocal situations. Teamwork.</p>
 <p>Thinking & Communicating with Clarity and Precision <i>Be clear!</i> Striving for accurate communication in both written and oral form; avoiding over-generalizations, distortions, deletions and exaggerations.</p>	 <p>Applying Past Knowledge to New Situations <i>Use what you learn!</i> Accessing prior knowledge; transferring knowledge beyond the situation in which it was learned.</p>	 <p>Gathering Data Through All Senses <i>Use your natural pathways!</i> Paying attention to the world around you. Gathering data through all the senses: Sight, Sound, Smell, Taste, and Touch.</p>	 <p>Creating, Imagining, and Innovating <i>Try a different or new way!</i> Generating possibilities; playing with new ideas.</p>
 <p>Taking Responsible Risks <i>Venture out!</i> Being adventuresome; living on the edge of your competence.</p>	 <p>Finding Humor <i>Laugh a little!</i> Finding the whimsical, incongruous and unexpected. Being able to laugh at one's self.</p>	 <p>Responding with Wonderment and Awe <i>Become intrigued!</i> Finding the world awesome, mysterious and being intrigued with phenomena and beauty.</p>	 <p>Remaining Open to Continuous Learning <i>Learn throughout your lifetime!</i> Having humility and admitting when you don't know and are curious to find out. Resisting complacency.</p>

 THE INSTITUTE FOR HABITS OF MIND • www.habitsofmindinstitute.org

By Art Costa, Bena Kallick, and Allison Zmuda

There is a growing recognition that mastering subject-area knowledge alone will not be sufficient to prepare students for their futures. Students will need deliberate practice and focused attention to grow their capacity as efficacious thinkers to navigate and thrive in the face of unprecedented change.

Habits of Mind are a universal framework for thinking and are as essential now as when we first introduced them 30 years ago. *Habits of Mind* are dispositions people use when confronted with problems and situations to which the answers are not immediately apparent. When we draw upon these intellectual resources, the results that are produced are more powerful, of higher quality and of greater significance than if we fail to employ those intellectual behaviors.



Thinking About Your Thinking (Metacognition)



Do you ever find yourself talking to yourself? How do you take note of what is going on inside your head? Thinking about your thinking is something that we all do, even if we are not aware of it happening. When we become more metacognitive, we grow our inner awareness by becoming more self-observing.

It is our ability to plan a strategy for producing what information is needed, to be conscious of our own steps and strategies during the act of problem solving, and to reflect on and evaluate the productiveness of our own thinking. Planning a strategy before embarking on a course of action assists us as we keep track of the steps in the sequence of planned behavior at the conscious awareness level for the duration of the activity. It facilitates making temporal and comparative judgments, assessing the readiness for more or different activities, and monitoring our interpretations, perceptions, decisions, and behaviors.

Invite your students to verbalize their thinking by using metacognitive prompts, such as:

- How am I thinking about this?
- What kind of thinking will be called for in this situation? For example, Analyzing? Comparing? Creating?
- How effective is the strategy that I am using? What changes might be needed?
- Did my efforts succeed? What could I have done differently?





Persisting

Do you ever give up in despair when the answer to a problem is not immediately found? Do you or your peers ever say, “I can’t do this,” or “it’s too hard?” Do you sometimes write down any answer just to get a task over with as quickly as possible or find yourself easily distracted from a task rather than sticking with it? These are typical problems that we all experience from time to time. What we often don’t realize is that we can be in control of those behaviors—if we want to!

Persisting is persevering in a task through to completion and looking for ways to reach your goal when stuck. Students who persist apply strategies to help them stick with it, such as:

- ***Breaking the problem apart*** into steps and accomplishing each step that leads to the final outcome.
- ***Reviewing the ground rules, directions, or criteria for success.*** Finding something missed along the way or assuming understanding and discovering the misunderstanding.
- ***Seeking assistance and input from others.*** Sometimes others may have had experience with similar problems or can see a different array of solutions.
- ***Using self-talk to hang in and stick with the task.*** Remember the Little Engine that Could: “*I think I can, I think I can, I think I can.*” Envision what it will look like and feel like to be successful.



Managing Impulsivity



Do you ever find yourself just blurting out what comes to mind? After you say it, do you regret it? Do you find yourself thinking, “I really shouldn’t have said that. It isn’t what I really meant.” Perhaps you find yourself jumping in to do some work before you read the directions. Then you realize that, had you read the directions, you would have known that you did not have to do one thing but you did have to do another.

Managing impulsivity means thinking before acting: you work to remain calm, thoughtful, and deliberate when working through a problem or developing an idea. Helpful strategies that can help your students become more intentional:

- **Focusing on your breathing** to settle down. Find other strategies to help keep your emotions under control.
- **Rewinding the situation** to examine it with a more deliberate eye. Reflect on what, where and why this is happening that is causing the feelings that you are having.
- **Considering your options.** Think about what actions you could take and what possible advantages or disadvantages might happen as a result.
- **Reframing possibilities.** Believe that you can change the way you react when others push your buttons, seeing it as an opportunity to learn about yourself, finding new ways to stay in control of your emotions.

Striving for Accuracy



Are we striving for excellence? Where have we set the bar for ourselves? Are we each putting our best foot forward to push ourselves to make progress toward our goals? The work we produce is a reflection of our character.

Striving suggests that we are committed to producing the best that we can at this time in our learning. It means that we are open to feedback because we recognize that striving does not mean error-free or “A” work. People who are constantly striving for accuracy focus on growing their craft through each product: working to attain the highest possible standards and pursue ongoing learning in order to bring a laser-like focus of energies to task accomplishment. They take the time to check over and refine their products, reviewing the rules or constraints they have to follow, and applying criteria to guide their path to quality work.

When striving for accuracy, here are some strategies that may be helpful:

- ***Check your work with someone else.*** Seeing or hearing your work from the lens of another helps to see what changes are needed for clarity of meaning.
- ***Study criteria and related descriptors that explain what quality looks like.*** If you are unclear on the explanation or need further clarification, seek additional guidance so that you can recalibrate or rework as needed.
- ***Give yourself time to step back.*** Fast-approaching deadlines or wanting to get a task off your plate may limit your striving for accuracy and precision. Consider how to plan out your time so that you can revisit the work with fresh eyes to look for exactness, correctness, precision, accuracy, and fidelity.

Listening with Understanding and Empathy



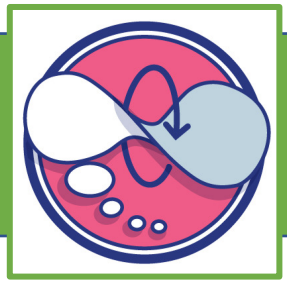
Do you struggle to devote mental energy to another person's thoughts and ideas, putting your own values and judgments aside? Do you rehearse what you are going to say next when someone is talking? When you are listening fully, you are paying close attention to what is being said beneath the words — what others are saying as well as the essence of what is being said. You listen not only for what someone knows, but also for what they are trying to represent through their facial expressions, body language, voice intonation and eye movements.

This is a very complex skill requiring the ability to monitor one's own thoughts while, at the same time, attending to the words of others. As you are listening to another person, these strategies may slow your mind down so that you can hear beneath the words to their meaning:

Use the 3 P's listening sequence to better understand another person's thinking.

- ***Pause:*** Wait for a few moments. Has the other person really finished? Sometimes waiting is the most helpful thing to do. In that quiet space the other may clarify or reframe their point of view, solution, or idea.
- ***Paraphrase:*** Summarize what you heard them say. A brief explanation that represents what was told to you. This is ***not*** the time to add your thinking, inferences, or new ideas.
- ***Probe:*** Ask questions to promote clarity and precision of the other person's point of view, solution, or idea. A few probing questions are:
 - *Why do you think that is the case?*
 - *What's another way you might...?*
 - *How might your assumptions about... influenced your thinking about...?*

Thinking Flexibly



Do you ever find yourself fixed in your way of looking at a problem? Perhaps you, or someone you are working with, stops thinking and just says, “my mind is made up, don’t confuse me with more facts.” Have you ever known someone who has difficulty in considering alternative points of view? Thinking flexibly is part attitude (openness to a new idea) and part action (knowing how and when to expand horizons and consider using new ideas and information).

Flexible thinker’s minds are open to additional information or reasoning, even if it challenges existing beliefs. They know what they know and see the need to open themselves to other options and alternatives to consider. They are able to work with people from different cultures and who represent diverse perspectives because they recognize the distinctness of other people’s ways of experiencing and making meaning. They can draw upon a repertoire of problem-solving strategies and practice style flexibility, knowing when it is appropriate to think broadly and globally and when a situation requires detailed precision.

Work with your students to think more flexibly by asking themselves:

- ***In what other ways might I think about this? What is another perspective?***
- ***What else might I try when I get stuck? How does stepping back and looking at the big picture (the whole) open my eyes to new ideas?***
- ***When and why should I change my thinking and my actions?***

Questioning and Posing Problems



How do we use questioning to demonstrate our interest in what our students are thinking? Asking questions and posing problems are signals of your genuine curiosity and commitment to wanting to understand what students may be experiencing. An attitude of curiosity acknowledges that there are usually many different contributing factors to a situation, and that we don't yet know all of them.

Questioning and posing problems pushes everyone to think more deeply about the issue at hand. It requires having a questioning attitude, knowing what data are needed, and developing questioning strategies to produce those data. Continuing to push your thinking using questions (e.g., *Why does this problem exist and need solving? What is the real problem here? Am I getting to the root cause? What questions do we need to ask?*) often leads to deeper and better questions that become more worthy of attention.

If we approach others with curiosity instead of certainty, it is important for us to use an invitational tone when questioning — one that invites thinking. It is easy for a student to feel defensive and shut down rather than feeling comfortable sharing their thoughts.

Here are some strategies that invite your student's thinking:

- **Use tentative language** that implies that you do not know the answer to what is being asked:
 - How might we...
 - When could...
 - Perhaps it might be...
 - What do you imagine an alternative might be...
- **Use plurals** to indicate that there might be more than one answer to the question or approaches to a solution:
 - What are some strategies...
 - What are some of your goals you are considering...
- **Use invitational sentence stems** before asking a question to offer a suggestion about the kind of thinking you think would be most helpful:
 - As you analyze this problem...?
 - As you consider...?
 - As you evaluate...?
 - As you compare...?



Thinking Interdependently



How does our interaction with others influence what we are thinking? Human beings are social beings — we congregate in groups, find it therapeutic to be listened to, draw energy from one another, and seek reciprocity. Thinking interdependently means knowing that we will benefit from participating in and contributing to ideas, inventions, and problem solving.

As students collaborate and remain open to others' perspectives, their thinking can be enhanced by the interchanges with others. Listening, consensus-seeking, giving up an idea to work with someone else, empathy, compassion, group leadership, knowing how to support group efforts, altruism ... all are behaviors indicative of those who profit from thinking interdependently. Interdependent people envision the expanding capacities of the group and its members, and they value and draw on the resources of others to enhance their own personal competencies.

Here are several questions to openly reflect on and clarify with students as they are learning how to present and justify the ideas, and test the feasibility of possible solutions and strategies as you work toward a common goal.

- ***How can we work best together?***
- ***How can I best contribute to this group?***
- ***How am I affecting the group? How is the group affecting me?***
- ***How can we avoid “group think”?***



Thinking and Communicating with Clarity and Precision



Have you ever worried that what you were attempting to communicate would not be understood or appreciated? Or that your effort to add detail might distract the reader, viewer or listener from the main idea? Language and thinking are closely entwined: enriching the complexity and specificity of language simultaneously produces effective thinking. When people strive to communicate, they work to be accurate in both written and oral form by taking care to use precise language, defining terms, using correct names and universally understood labels, and analogies.

The following strategies may be helpful for your students to keep in mind when paying attention to thinking and communicating with clarity and precision:

- ***Do a mental rehearsal.*** Inside your head, practice what you are going to say before you say it. Engage your own internal dialogue by asking questions and developing answers to help clarify and direct your skills as a speaker and listener.
- ***Avoid overgeneralizations, deletions, and distortions.*** Ex. *Everybody has one. Teachers don't understand me. I like it more.* Instead, support statements with explanations, comparisons, quantifications, and evidence.
- ***Slow down when you are emotional.*** When you get angry or exasperated, your rational brain closes down and your emotional brain takes over. Take a deep breath and give yourself a chance to think before you say something.
- ***Become a spectator of others' language as well as your own.*** Listen to the words chosen, choices made to elicit feeling/mood, and details provided to support explanation or claim.
- ***Seek feedback from others*** to continue to improve communication as well as craftsmanship. Checking for understanding and adjusting language, evidence, and tone demonstrates respect for the audience as well as keeping your purpose in mind.

Applying Past Knowledge to New Situations



Have you ever worked to make sense of something new by making an analogy or a connection to something in your past? When confronted with a new and perplexing challenge, making analogies (e.g., “when I see this, it is just like this” or “the way this operates is just like the way XX operates”) or connecting (e.g., “This reminds me of ...” or “this is just like the time when I ...”) helps people abstract meaning, carry that understanding forward, and apply it in new situations.

Students are often fascinated by learning how the brain works. When they know how the brain works to find associations, they may be more likely to seek connections to the topic at hand. These connections help them to understand and remember what they are learning so that they can call upon it in the future.

Some strategies students might use to draw forth applying past knowledge could be:

- ***When beginning to learn something new***, reflect on prior learning by asking themselves questions such as: *What do I already know? How does what I know apply here? What are some experiences that I relate this to?*
- ***During the learning***, actively make connections by asking themselves questions such as: *What will be important ideas that I will take away? What can I do to remember the key ideas?*
- ***After the learning experience is over***, extend thinking by asking themselves questions such as: *How might I transfer what I have learned to another situation?*

Gathering Data Through All Senses



Where does curiosity come from? Remember when you were little and fascinated by small things such as weeds growing out of cracks in the sidewalk, worms burrowing their way through the dirt, or smells of the ocean? Learning about the ways that your brain gathers and stores information can help as you are learning. All external information gets into your brain through one of these sensory pathways to sharpen mental functioning:

- **gustatory:** the tastes you gather through your mouth.
- **olfactory:** the smells you inhale through your nose.
- **tactile:** the sensations you feel through your skin.
- **kinesthetic:** the positions you take through your movements and posture.
- **auditory:** the sounds you hear through your ears.
- **visual:** the sights you see through your eyes.

Those whose sensory pathways are more open, alert, and acute often absorb more information from the environment. When you recall information from that experience, the brain reactivates or reconstructs the circuit in which it was stored. The more sensory modalities that were activated, the more triggers the brain has for reactivating the circuit. This suggests that concrete experiences you encounter that activate several of the senses can enhance your recall of the information at a later time.

Encourage students to experience the world through as many different avenues as possible. Try using one or more of the following strategies with your students:

- ***Pay attention to the world around you.*** Ask yourself: *What am I noticing in my environment? What details capture my attention?*
- ***Deliberately use your senses when you are trying to remember something.*** For example, draw (or find) a picture that captures the idea. Act out a historical event to capture the feeling or mood.
- ***When engaging in a new topic or problem,*** ask yourself, *What sources of data should I consider? How is what I am experiencing impacting my thinking?*

Creating, Imagining, and Innovating



Ever find yourself doubting whether you are creative?

Many people assume that creativity is a rare commodity that someone is either born with or not and that it is reserved for the elite among us: artists, writers, and composers, or the likes of Miles Davis, Steve Jobs, or Frida Kahlo.

Everyone has the capacity to generate novel, original, clever or ingenious products, solutions, and techniques—if that capacity is developed. Research shows us that we are all born with the capacity to push the boundaries of our thinking. One of the greatest joys of early childhood is to witness students as they discover the world. *Everything* is new and wondrous at this age. Kids have imaginary friends, create cities with their blocks, pretend they are superheroes. However, as students get older they become more concerned with being correct or being judged for their ideas. They often start to question their capacity to create, imagine and innovate.

When we are building the capacities for creating, imagining, and innovating we are skillfully learning how to push the boundaries of our thinking. Imagining is generating new ideas without concern for the possible. Creating is giving form to ideas with the goal of taking something that is possible and making it come to life. Innovating is taking an existing system or idea and making improvements — perhaps focusing on simplicity, improved effectiveness, or beautifying its form. Some of these strategies might help students build their skills in small moves and more formal products::

- ***Go ahead, take a risk!*** Encourage students to try something new. If it doesn't turn out the way they hoped, help them understand that it isn't a failure. Rather, it is a rich opportunity to analyze what went wrong, to learn, and to generate alternative strategies. When they are less afraid to make mistakes, they start to open up the environment for play and experiment.
- ***Brainstorm unexpected ideas.*** Albert Einstein once said, "If at first an idea doesn't seem totally absurd there's no hope for it." Instead of feeling stuck, encourage students to think outside the box. When they are imagining, we move toward the fantastical or the "seemingly" irrelevant in order to create new insights rather than taking an "obvious" direction.
- ***Don't take yourself too seriously.*** Humor has been found to liberate creativity and provoke such higher level thinking skills as anticipation, finding novel relationships, visual imagery, and making analogies. When you and your students are having fun with ideas, you begin to see possibilities. You begin to take on new and interesting ways of seeing.
- ***The power of play.*** Pretend play gives children opportunities to work through situations in their real lives that may be causing anxiety or concern. It can be an ideal training ground for the development of creativity.

Taking Responsible Risks



Have you ever had an idea but didn't follow through because you were more worried about being wrong or feeling foolish? Do you sometimes hold back in situations because you are afraid of losing? Have you ever taken a risk and it was a total disaster? Risk-taking situations require a leap into the unknown. They are typically complex and nuanced, requiring tolerance for ambiguity.

People who are willing to take responsible risks accept confusion, uncertainty and higher risks of failure as part of the normal process and they learn to view setbacks as interesting, challenging, and growth producing. However they are not just behaving impulsively. Their risks draw on past knowledge, are thoughtful about consequences, and have a well-trained sense of what is appropriate. It is only through repeated experiences that risk taking becomes educated. They know that all risks are not worth taking.

Encourage your students to take a responsible risk by applying one or more of these strategies:

- ***Develop the capacity to live with some uncertainty.*** Be challenged by the process of finding an answer rather than by avoiding what you don't know.
- ***Be patient with yourself.*** Think about necessary resources you might need (e.g., time, feedback, conducive space) to sustain a process of problem solving, investigation, or creation.
- ***Live on the edge of your competence.*** If you want to grow your brain, work on problems and ideas that are hard. It may feel miserable, but when you struggle and make mistakes it may be the best time for your brain to grow. Ideally this work is done in an environment where mistakes are openly analyzed to promote flexible thinking and perseverance.

Finding Humor



What did the green grape say to the purple grape? ... Breathe!

In what ways does having a good laugh affect you? Finding humor has been found to liberate creativity and provoke such higher level thinking skills such as anticipation, finding novel relationships, visual imagery, and making analogies. People who engage in humor can see situations from a new vantage point or come up with the unexpected. Having a whimsical frame of mind, they thrive on finding incongruity and discontinuities; perceiving absurdities, ironies and satire; and are able to laugh at situations and at themselves.

While they poke fun of themselves and others, they do so with a sensitivity to others' feelings. They develop a heightened sensitivity to when humor will serve a purpose and when it is a distraction.

Take a look at some of these strategies to help your students in developing their capacity to find humor:

- ***Lighten the mood by using humor*** when telling a story.
- ***Go hunting for humor*** together for example in joke books, cartoons, or on social media. Ask your child, *"What was it that made you laugh?"*
- ***Appreciate the element of surprise.*** Whether you are finding humor or creating humor, every good joke disrupts expectations by changing the momentum of the story.

Responding with Wonderment and Awe



Have you ever witnessed a young child react to a magician's sleight of hand, or exclaim in delight over the appearance of a rainbow in the sky? Are you still thrilled at the sights and sounds of a fireworks display? When the world around us sparks our interest and ignites our sense of wonder, we are inspired to learn, to explore, to imagine possibilities.

Because every thought and action is accompanied by emotions, they have their origins in the brain. The center for emotions in the brain is the amygdala. Those feel-good neurotransmitters (serotonin, endorphin, dopamine) are released whenever we experience such good feelings as rapture, intrigue, amazement or fascination. But many of us never learn to tap into the source of our passions because we fail to discover what inspires us.

Strategies to help provide experiences that trigger that sense of amazement and wonder:

- **Use a visible thinking routine** such as [See, Think, Wonder](#) to help students understand the power of shared thinking, collaboration and reflection and how it can spark interest and excitement in others.
- **Explore new places.** Take a walk outside, go to a museum, listen to music, watch a TED talk. Whether these are virtual or physical experiences, be open to observe, explore, and give yourself time to settle into the surroundings.
- **Keep a notebook or journal.** Make a list, draw, photograph, or describe experiences or ideas that you have found to be delightful, magical, or wonderful.

Remaining Open to Continuous Learning



What is the answer to the question, “are we done yet?” Life is a continuous journey of learning. No matter how much we know, there is always something new to learn. It is helpful to show your students that there is humility in saying “I don’t know,” and that we can open ourselves up to the challenge of moving into a new territory. However, this does not necessarily stop with just acquiring more knowledge about a topic. It might also result in helping them expand their networks of expertise. We also might reflect with them on their process of learning — to what extent are they investigating and constructing with an open mind?

Remaining open to continuous learning develops an intrinsic joy in learning something new or following an arc of inquiry. It can motivate your students and often provides them with intellectual and emotional satisfaction. Here are some strategies that could guide a quest for learning:

- ***Have humility and pride when admitting you don’t know.*** Reframe this as a launch for exploration, curiosity, and mystery rather than a limitation.
- ***Ask questions and seek connections.*** Deep learning is fueled by an inquisitive mind, developing capabilities for effective and thoughtful action.
- ***Continue to help your child discover who they are and how they see the world.*** Ask questions, such as: *What motivates you to keep learning? What do you still wonder about? How will you remain open to new ideas? Or new learning?*
- ***Seek feedback to grow your student’s thinking.*** Consider who your students might consult with to grow their ideas. Perhaps it is someone you trust who can take the time to understand and help you critique your thinking.
- ***Ask an expert.*** Brainstorm with your students some possible experts in the field who could provide guidance. In preparation, it would be helpful to review or help develop questions with your child to frame the conversation.
- ***Be a model for your students.*** Your child is always watching you. Share some of the new things that you are learning. Let them know that you, too, struggle at times. Invite them to join you in pursuing something that you are becoming interested in.
- ***Continue to discover who you are and how you see the world.*** Ask questions, such as: *What motivates me to keep learning? What do I still wonder about? How will I remain open to new ideas? Or new learning?*

