

Appendices

Habits of Mind are approaches to learning that focus on traits, thought process, etc. that are exemplified in learning practices such as those set forth in the engineering process and the mathematical practices.

Habits of Mind include the following:

Persisting - Have students identify characteristics of persistence shown by individuals in well-known events, or imagine what might have occurred if more or less persistence was shown in a given scenario.

Managing Impulsivity - Model the use of patience in the classroom, including wait time during discussion, or using helpful sentence stems that reflect intentional choice (such as "After reviewing all of the possible solutions . . .").

Listening with Understanding and Empathy - Identify the most common "listening set-asides" in conversation so that students can begin to recognize common "errors" that occur in everyday communication. These errors might include comparing, judging, placating or giving advice instead of really listening and understanding a message.

Thinking Flexibly - Use [RAFT assignments](#) (Role, Audience, Format, Topic) where students must consider a situation, letter, speech or poem from a perspective other than their own, or that of the original speakers.

Thinking about Thinking - Ask students to map out their own thinking process. This can be done simply at first, e.g., diagramming the relationship between a want and a need, a gesture and a *need* to gesture. Then make it increasingly complex -- mapping out how characters from books or thinkers in history might have arrived at certain starting or stopping points in thought.

Striving for Accuracy - Use "three before me," a strategy that insists on any important assignment being checked by at least three other people before being handed in.

Questioning and Posing Problems - Create a "parking lot" area in the classroom -- stocked with post-it notes -- where students can post questions that may not fit into the pace or format of a given class. Then highlight the better questions periodically, or use them as jumping off points for discussion or even lesson planning.

Applying Past Knowledge to New Situations - Use question stems like "What do you remember about . . . ?", "When have you ever seen anything like this?" or "Tell me what you know about . . . " Whether you consider this activating schema, prior knowledge, or simply getting students more comfortable and in tune with what they already know, it can be a huge boost to the learning process.

Thinking and Communicating with Clarity and Precision - Remind students to avoid the vagueness and abstraction -- and imprecision -- of terms like *always, never, all, everybody, teachers, celebrities, technology, they, we, should* and *must*. Post these kinds of words or phrases where students can be reminded of them -- and know to avoid them. And hopefully know *why* they should avoid them.

Gathering Data Through All Senses - Playfully allow students to "cite" sources from sensory data in addition to traditional textual sources. Also consider including the compelling use of such data in a rubric for formal assessment.

Creating, Imagining, Innovating - Offer persistent sources of inspiring thought, design, art or multimedia through writing prompts, discussion points or simply as a daily class closure. This models not only creativity, but also expertise, and is readily available on YouTube, Pinterest and Instagram.

Responding with Wonderment and Awe - Don't just allow opportunities for student choice in topics, formats or learning pathways -- insist on it. Refuse to move the class forward until they are bringing their own passions into the learning experience.

Taking Responsible Risks - Create an environment where failure is analyzed, not punished.

Finding Humor - Point out humor where it is not immediately apparent, especially in stories and examples from your own life. This can help establish the "relativity" of "things," which supports more accurate analysis. Humor makes everything better.

Thinking Interdependently - Using digital and social media [imposes at least a topical need for interdependence](#) from the beginning. The more thinking is published and shared, the more opportunity there will be for cognitive interdependence, though even opportunities aren't guarantees that it will happen.

Remaining Open to Continuous Learning - Intermittently revisit old ideas, writing and projects to identify areas for development, improvement or revision. This is especially natural in digital domains, where [content is more fluid](#) -- updated, shared, hyperlinked, curated, reformatted into more or less visual terms, then shared again.

The [Habits of Mind by Art Costa and Bena Kallick](#)

<http://www.edutopia.org/blog/habits-of-mind-terrell-heick>

<http://www.teachthought.com/learning/what-are-the-habits-of-mind/>

Studio Habits of Mind include the following:

Develop Craft: Learning to use tools, materials, artistic conventions; and learning to care for tools, materials, and space.

Engage and Persist: Learning to embrace problems of relevance within the art world and/or of personal importance, to develop focus conducive to working and persevering at tasks.

Envision: Learning to picture mentally what cannot be directly observed and imagine possible next steps in making a piece.

Express: Learning to create works that convey an idea, a feeling, or a personal meaning.

Observe: Learning to attend to visual contexts more closely than ordinary “looking” requires, and thereby to see things that otherwise might not be seen.

Reflect: Learning to think and talk with others about an aspect of one’s work or working process, and, learning to judge one’s own work and working process and the work of others.

Stretch and Explore: Learning to reach beyond one’s capacities, to explore playfully without a preconceived plan, and to embrace the opportunity to learn from mistakes.

Understand Arts Community: Learning to interact as an artist with other artists i.e., in classrooms, in local arts organizations, and across the art field) and within the broader society.

Winner, E., Hetland, L., Veenema, S., Sheridan, K., Palmer, P., Locher, I., et al. (2006).

Studio thinking: How visual arts teaching can promote disciplined habits of mind.

See more at: <http://www.artsedsearch.org/summaries/studio-thinking-how-visual-arts-teaching-can-promote-disciplined-habits-of-mind#sthash.IuvIzjT2.dpuf>.