

## **Designing Effective Projects: Beliefs and Attitudes Habits of Mind**

### **Characteristics of People with Habits of Mind**

In spite of the claims of many commercial programs on improving thinking, most experts in the field agree that there are few thinking skills that can be applied generically to all subject areas (Wegerif, 2002). Analyzing a poem is different from analyzing statistical data, and solving a problem about the disposal of toxic waste is very different from figuring out where to put furniture to create a comfortable flow from room to room. Nevertheless, certain attitudes and beliefs do support thinking in all disciplines. Arthur Costa and Bena Kallick (2000) call these attitudes Habits of Mind, and they transcend all traditional subject areas and apply equally to all ages.

Costa describes five characteristics of people who exhibit the Habits of Mind that make people good thinkers.

#### **Inclination**

Inclination means that, in general, people are inclined to want to think carefully about the problems they confront in life. They may, of course, make quick decisions at times, but usually they're likely to use whatever resources they can to use good thinking strategies.

#### **Value**

This characteristic is similar to inclination, but is more related to the emotions of a thinker. Thinkers who value thinking critically believe that such practices as weighing different alternatives, examining the credibility of evidence, listening to opposing viewpoints are worthwhile. They believe that this kind of thinking is important, even ethical, and is worth considerable effort to do. For example, a Year 5 student putting together a presentation on immigration takes the time to interview local immigrants because she wants to tell the truth about their experiences. People who value thinking invest their time and money in tools that help them think carefully. They buy informational books and learn how to use software that enhances their thinking. They make time to look up data and to seek out experts. They show their respect for thoughtful problem solving in both the big and small decisions of their daily lives.

#### **Sensitivity**

Having a repertoire of thinking strategies and skills, even being very accomplished at using them, is of little value if a person doesn't notice when a particular type of thinking is appropriate for a specific task. For example, a student working on a research report should realize that categorizing her notes will help her come up with a structure for the paper. Recognizing the right mental tool for the job is important for efficient and effective thinking, and this demands sensitivity.

#### **Capability**

Teachers have the most control over the ability of their students to perform appropriate thinking skills. While students may not choose to use the thinking skills they have, no amount of inclination, value, or sensitivity will help someone who doesn't have the capability to perform the kinds of thinking that problems demand. Students of all ages can develop their abilities to compare and contrast objects and ideas, create categories to organize facts, and use logical arguments to persuade others. This area is the responsibility of the teacher, and although some students can develop the thinking skills they need on their own, many students will not develop these skills without instruction.

#### **Commitment**

Thinking is hard work. Sometimes it means sacrificing long-held beliefs and practices. Sometimes it means admitting a mistake and starting over. A commitment to deep and careful thinking means a person is continuously learning new skills and knowledge. For example, proficient lower

secondary school students develop their mathematical skills not just for a grade but because they want to be better at math. Commitment means not just wanting to learn, but doing the work necessary to make learning happen. People with a commitment to thinking are willing to do what it takes to achieve their intellectual goals.

## **Habits of Mind**

Costa and Kallick have identified sixteen Habits of Mind that are important for effective thinking. Individuals who have these habits not only *can* think deeply, but they choose to do so. These Habits of Mind are shaped by our intelligence, our personality, and our experiences; and they help us access the mental abilities to solve problems when we need to.

### **Persistence**

Successful thinkers and students do not give up when projects are challenging. They work their way through problems by trying different strategies or using self-motivation techniques.

### **Managing Impulsivity**

Good thinkers are deliberate. They think things over before they take action. They make a plan, predict consequences, and anticipate problems. They spend adequate time figuring out a problem before they begin to solve it.

### **Listening to Others with Understanding and Empathy**

Good thinkers are good listeners. They are interested in what other people have to say, and they listen closely to make sure they understand them correctly. They keep their opinions on hold until they have heard everyone out, recognizing that others may have ideas and information that will help them solve problems and make decisions.

### **Thinking Flexibly**

Flexible thinkers change their minds when they are exposed to new, accurate, and critical information, even if that information contradicts deep-seated beliefs. They can see the big picture and the significant details. They can synthesize information from a variety of sources at the same time as they evaluate their credibility. They can draw on a number of different strategies and adapt and modify them when necessary to accomplish specific tasks.

### **Metacognition**

Metacognitive thinkers have control over their thinking because they are aware of how they think. They plan how they are going to solve a problem and monitor how well they are doing with their plan. When they finish a project, they look back and think of what they can learn from the experience.

### **Striving for Accuracy and Precision**

A sense of craftsmanship is critical for good thinking, a respect for quality and accuracy, and a desire to make things as efficient, beautiful, or clear as possible. Good thinkers are aware of the prevailing criteria for quality in the field they're working in, and they work as hard as they can to produce work that matches the criteria.

### **Questioning and Posing Problems**

True inquisitiveness is what drives deep thinking, the kind of wondering that draws the thinker into a complex problem. Adept thinkers find problems where others are satisfied with the status quo, and they are aware of the gaps in their knowledge.

### **Applying Past Knowledge to New Situations**

Effective thinkers use their experiences and the knowledge they already have to help them understand new concepts by noticing similarities and making connections. They say things like, "This reminds me of when I..." or "This model looks a lot like..." They often describe ideas in metaphors and analogies that help them create a framework for unfamiliar ideas.

### **Thinking and Communicating with Clarity and Precision**

Costa describes thinking and language as two sides of a coin. Fuzzy language, he warns, reflects fuzzy thinking. It is not enough that students have good ideas; they must be good at communicating those ideas to others, and this requires careful attention to the structure and the language of explanations and descriptions.

### **Gathering Data through All Senses**

Part of being a flexible thinker is using a variety of methods to get at the truth. Good thinkers use sight, sound, taste, touch, and smell to enhance their ideas and expand their way of thinking about the world around them.

### **Creating, Imagining, and Innovating**

Creative people see things from different perspectives. They push the limits of what is expected and take risks. Creativity involves more than just coming up with unusual ideas, however; it also involves being critical of one's own work, inviting criticism from others, and working constantly to refine technical expertise and make better products.

### **Responding with Wonderment and Awe**

Good thinkers enjoy the mysteries they see around them in the world. They search for problems to solve and take pleasure in making up puzzles on their own. They find something wonderful and awe-inspiring in everyday occurrences as well as in once-in-a-lifetime events.

### **Taking Responsible Risks**

People who are adept thinkers have an almost uncontrollable impulse to move outside of their comfort zones. Responsible risk-takers use their experiences and their knowledge to gain a sense of whether a particular course of action is worth the risk. They eagerly take on new responsibilities and enthusiastically learn new games and skills.

### **Finding Humor**

Creative thinkers have what Costa calls "a whimsical frame of mind." They notice the absurd and the ironic in the world around them and often have a unique perspective on everyday situations. They love to play with language and thrive on making original analogies and metaphors. They don't take themselves too seriously and bring out the fun in work.

### **Thinking Interdependently**

In the 21st century, problems have become so complex that no one person can solve them alone. As Costa and Kallick (2000a) explain, "No one has access to all the data needed to make critical decisions; no one person can consider as many alternatives as several people can" (p. 11). Working successfully with others requires that students be proficient at giving feedback, both praise and constructive criticism. It also demands that they seek out and accept feedback on their own contributions to the group's efforts.

### **Learning Continuously**

Intrinsic motivation to be a better thinker and a better person is the key to lifelong learning. People with this Habit of Mind are always undertaking new projects and acquiring new skills. While they may feel certain about their point of view on a topic, they are never so certain that they cannot take in new information and change their minds. They view problems as opportunities to learn and continue to practice all the Habits of Mind throughout their lives.

Teaching the Habits of Mind means teaching beyond the subject matter of the day. It means approaching every learning activity as a step to independent, lifelong learning. While students can often be persuaded to complete activities through punishments and extrinsic rewards, these kinds of motivators diminish authentic motivation in learning tasks and can extinguish the desire to pursue learning outside of the classroom. By modeling the attitudes and beliefs that support critical and creative thinking and by creating a classroom culture that prizes a love of learning, students will not be limited to what they can learn in school. They can make any experience a

learning experience.

## References

Costa, A. L. (2000a). *Components of a well-developed thinking skills program*. Seattle, WA: New Horizons. [www.newhorizons.org/strategies/thinking/costa2.htm](http://www.newhorizons.org/strategies/thinking/costa2.htm)\*

Costa, A. L. (2000b). Habits of mind. In A. L. Costa, (Ed.), *Developing minds: A resource book for teaching thinking*, (pp. 80-83). Alexandria, VA: ASCD.

Costa, A. L. & Kallick, B. (2000a). *Describing 16 habits of mind*. Alexandria, VA: ASCD.

Costa, A. L. & Kallick, B. (2000-2001b). *Habits of mind*. Highlands Ranch, CO: Search Models Unlimited. <http://www.habits-of-mind.net/>\*

Wegerif, R. (2002). *Literature review in thinking skills, technology, and learning*. Bristol, England: NESTA. [www.nestafuturelab.org/research/reviews/ts01.htm](http://www.nestafuturelab.org/research/reviews/ts01.htm)\*