

# **It's the Thought That Counts!**



fostering student thinking  
in the art classroom

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## Why Teach Thinking in Art?

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*We must become a nation of people who think for a living.*

• Jaime Escalante

In an era when imagery is becoming our most prominent means of disseminating information, and thinking and learning have received national recognition as "bridges to the future," the arts can be envisioned as central to the life-learning process, allowing individuals to develop as thinking, contributing members of the 21st century.

Although the filling of students' minds with the facts is continually important, the teaching of and emphasis on developing their thinking skills has become imperative. Students today need skills that adapt not to isolated islands of information or content but to situations in new, more global contexts. Learning experiences must be provided that allow and encourage connections. The increasing knowledge bases of all learning areas challenge teachers to see content not as material to cover, but as ideas to relate and transform.

Art, a universal language, provides a natural means for thinking to become visible--for giving visible form to internal perceptions and making possible the valuing of unique perceptions of the mind's eye. The quality of one's thinking becomes both important and significant, whether related to making or responding to works of art. The process of creative forming yields a product previously unknown or thought, resulting from a unique interaction of hand, eye, mind and medium. The process of aesthetic inquiry, yields meaning and judgment about an art work's value and purpose resulting from the focused attention of the discriminating viewer.

Art is thinking in action involving insight and vision. Wisdom results when visions are maximized and internalized. Thinking skills are shortcuts to discriminations and determinations that edit decisions in our information-cluttered world. A verification of the essential role of the arts in education is appropriate. A verification of the cognitive basis for the arts is essential.

As art is taught and various learning strategies are employed, involvements emphasizing cognitive thinking skills reinforce and emphasize the commonality and existence of similarities of learning in all content areas. Since thinking is essential in all areas of learning, teachers of all content areas must infuse existing curricula and instruction with strategies that more fully develop students' intellectual potentials.

*from Amster, S. & Roland, C. (1987), "Art: Thinking in Action," Viewpoints: Dialogue in Art Education, Normal, IL: Illinois State University. Spring 1987, 2-9.*

# How do we learn to think?

Many teachers equate thinking with *higher order thinking*, *critical thinking*, or *creative thinking*. It is recommended, however, that thinking initially be viewed in its broadest sense--as an umbrella under which various kinds of thinking occur. Consider, for example, the following definitions.

*Thinking is the deliberate exploration of experience for a purpose.*

• Edward de Bono

*Thinking in its broadest sense, is the search for meaning.*

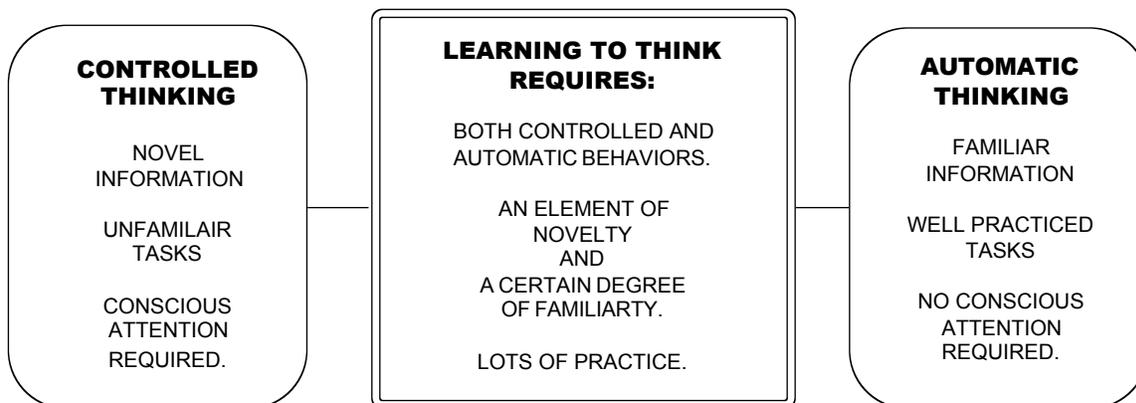
• Barry Beyer

Both of these authors characterize thinking as intentional, purposeful, and goal-oriented. From this perspective, thinking involves *controlled* processes and conscious attention. The amount of attention required depends upon the individual's experiences with a given task and its degree of novelty. The more novel or unfamiliar a task, the more attention it requires to complete it.

There is also thinking that is *automatic* and which requires little, if any, conscious control or attention (Anderson, 1984; Glaser, 1988). An individual employs *automatic thinking* when engaged in activities that are very familiar and well practiced such as walking, reading, or driving a car. The relationship between *controlled* and *automatic thinking* is important to consider in the classroom for two reasons.

First, it helps to clarify the type of learning structure that students need in order to actively engage in thinking. Tasks which have a certain degree of novelty, but which are not totally outside the students' experiences seem to foster the best results (Kuhn, 1986). Too much novelty in a task renders it ineffective because students have no relevant past experience to draw upon as a frame of reference. On the other hand, tasks which are relatively familiar to students are generally processed automatically without much cognitive energy expended. Hence, learning activities intended to encourage thinking in students should involve some blend of *controlled* and *automatic* behaviors. Good teachers know this from experience. The introduction of elements of novelty into a learning situation tends to add to the intellectual excitement among students.

Second, if students are to develop proficiency in any newly introduced thinking skill they must do it often enough for it to become *automatic* and a part of their cognitive repertoire. A major goal of teaching thinking is to produce individuals who know when to use a particular thinking operation and who do so on their own to generate knowledge (Beyer, 1987). Such a desired outcome is likely to occur by providing students with instruction in how to execute a thinking skill or strategy effectively and with multiple opportunities to practice using it--both under the guidance of the teacher and on their own initiative.





# What are thinking skills?

As teachers begin the process of infusing thinking skill instruction into their classroom practices, they often begin by selecting and defining a set of *thinking skills* to focus on. This process often leads to a rather narrow list of cognitive skills such as classifying, inferring, categorizing, and so on.

A precise definition of *thinking* as well as detailed descriptions of *thinking skills* are useful to accommodate the forces of accountability which dictate that teachers be explicit in writing specified learning objectives for schooling. Moreover, experts suggest that students can benefit from direct instruction and practice designed to improve specific thinking skills. Nonetheless, we need to consider that *good thinking* often engages a variety of mental operations, dispositions, and tactics that are interdependent and which can not be easily separated in distinct, easily identifiable categories. Consequently, a concern for fostering thinking means that we must address the totality of thinking if the goal of improving student thinking is to become a reality. This means not only teaching thinking skills *per se*, but also fostering a willingness or tendency to use those skills in productive and probing ways. Consider, for example, the following list of *intelligent behaviors* compiled by Arthur Costa (1991):

## **Intelligent Behaviors**

*persistence*  
*decreased impulsivity*  
*empathic listening*  
*cooperative thinking*  
*flexible thinking*  
*metacognition*  
*checking for accuracy*  
*drawing on past knowledge and applying it to new situations*  
*question and problem posing*  
*risk taking*  
*a sense of humor*  
*precision of language*  
*use of all senses*  
*ingenuity, originality, insightfulness, creativity*  
*a sense wonder, inquisitiveness, curiosity and efficacy as a thinker*

These 14 characteristics of intelligent behavior are not meant to be complete, rather they are suggestive of the skills and dispositions that teachers should strive to develop in the *thinking classroom*.

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*Time and energy devoted to clarifying definitions of thinking skills and abilities are well spent.*

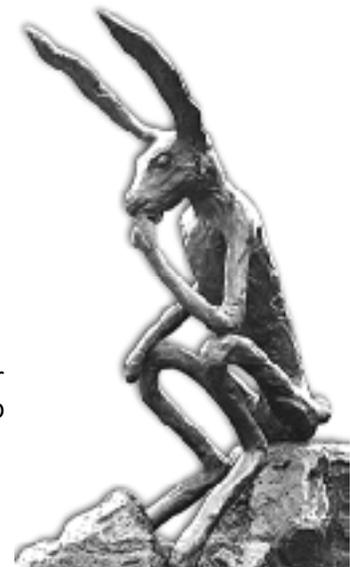
• Arthur L. Costa

*Thinking Skills are thinking patterns or forms employed efficiently in accordance with circumstances.*

• The Branco Weiss Institute for the Development of Thinking

*Good thinkers can be characterized by their thinking dispositions—their adibing tendencies to explore, to inquire and probe into new areas, to seek clarity, to think critically and carefully, to be organized in their thinking, and so on.*

• The Thinking Classroom  
1995



# Teaching for Transfer

One thing that all experts concerned with thinking in education agree on is that any organized program designed to foster thinking in students must address the problem of transfer (Tishman, et al., 1995; Fogarty, et al., 1992; Glaser, 1988; Nickerson et al., 1985). Studies have shown that skills or knowledge learned in one context do not automatically transfer to contexts that differ from the setting in which they were initially developed. For transfer to happen, research suggests, an individual must recognize the wide applicability of a particular skill, principle or concept and when a particular situation calls for the use of them (Khun, 1986). Researchers refer to this as conditional knowledge or "knowing when" and where to access certain facts, apply particular rules and use specific cognitive strategies (Alexander & Judy, 1988).

There is general concern today that we need to do a better job of helping children "conditionalize" their knowledge by teaching them how to transfer their learning from one subject area to another and from inside the classroom to outside the school. In order to maximize the possibility that transfer will occur, a variety of tactics should be employed (Beyer, 1987; Sternberg, 1987; Nickerson et al., 1985).

First, ensure that a high degree of correspondence exists between the context within which students learn and the situations which they will eventually encounter outside of the classroom. This means that teachers should select content and skills for students to study and practice with an eye toward application outside of school. For example, it is questionable how much of the knowledge that students acquire in learning to analyze *classical works of art* would transfer automatically to analyzing *contemporary works of art*. Prior experiences with both may exert a more powerful influence on students' thinking.

Second, help students apply their thinking and knowledge to the widest variety of contexts possible. To illustrate, art historians and art critics typically classify (i.e., categorize or group) works of art according to similar characteristics. Classifying things helps us to make sense of a very complex world. It is an important cognitive skill that students could practice doing in a variety of ways in art. Students could be given a pile of art postcards and asked: *Put works together that you think ought to go together based on a good reason*. Following the sorting activity, each group is given a chance to share the strategies they used and to compare their tactics with those used by other groups. On other occasions, students could practice grouping art reproductions according to various standard classification schemes (e.g., subject matter, style, period, media and so on) and sorting other kinds of data into categories (e.g., words related to the art elements and principles). In order to generalize this skill beyond the classroom, students could also be asked to identify ways the things they encounter in their daily lives are classified (e.g., names in a telephone book, baseball cards, clothes in a bedroom, sections of a supermarket, and so on).

Third, stress the importance of transfer and offer specific guidance and encouragement with respect to it. In art, for example, students could be shown how the principles of design permeate the arts and the world around them. To make this learning more long lasting, students should be encouraged to find these relationships themselves (e.g., in magazine pictures, in natural forms, in architecture, and so on). What else is this like? Can you find an example of this? How is this like something you've seen before? As often as possible, students need to be encouraged to make connections between what they learn in art class and what they experience in other settings.

Lastly, encourage students to think about their own thinking and how they go about doing it. Experts agree that one of the best ways to facilitate transfer of learning is by increasing students' awareness of their own cognitive processes and of their own performance as thinkers. Asking children to step back and look at what they are doing engages them at a *metacognitive* level, thereby increasing the chances that they will develop self control of their intellectual processes and recognize when to use them later on.

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*What students are asked to relate to in school [is] increasingly artificial, cut off from the human experiences subject matter is supposed to reflect.*  
• John Goodlad

# The Role of Knowledge in Thinking

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*The more knowledge one has—the more food one has for thought—the richer one's mental life.*

• Raymond Nickerson

A central theme of cognitive research focuses upon the interdependence of thinking and knowledge. There is considerable evidence to show that the amount of knowledge one possesses in a domain has a substantial impact on how one thinks in that domain. Studies involving individuals with varying levels of expertise consistently reveal that experts and novices solve problems in fundamentally different ways (Anderson, 1984; Glaser, 1988, 1984; Khun, 1986; Kitchener, 1983). Compared with novices, experts interpret and structure the demands of a problem more effectively because they bring a well-developed knowledge base to bear on that task. Experts usually encounter familiar problems, and consequently, they often rely on automatized thinking. This allows them to spend more time dealing with the novel aspects presented by the problem. Along this line, reports on individuals known for their creative achievements show that they are not only great thinkers, they also know a lot about their fields (John-Steiner, 1985). Thus, it seems that as knowledge in a domain develops, the context in which effective thinking can function becomes available (Resnick & Klopfer, 1989).

Preparing students to think like experts in the four disciplines of art appears to be an important mission of art education today (Clark, et al. 1987). To accomplish this goal, teachers need to consider how to best approach the chasm that exists between what children know about art on the one side and what trained adults know about art on the other. It might be assumed that when working with children, we should begin by ensuring they acquire an adequate knowledge base in art. But, art instruction that is highly didactical in nature will not serve our purpose well. When the emphasis is on giving out information and instructions rather than on discussion and challenge, children have little chance to make sense of it all. Instead, children should be enabled to create knowledge and meaning themselves as they experience new information. "To know something is not just to have received information but also to have interpreted it and related it to other knowledge" (Resnick & Klopfer, 1989 p. 4). Accordingly, a primary challenge facing teachers is to determine how the content of art can be taught in ways that foster and stimulate children's mental elaborations of their own emerging knowledge structures. One thing is certain—thinking takes time.

Cognitive researchers concur that teachers should spend more time having students actively using knowledge and less time having them simply acquiring more facts and concepts. This means that an art curriculum designed to foster thinking will cover few topics in depth rather than many in a fleeting fashion (Mattil et al., 1961). Such coverage makes it possible for teachers to help students gain access to new information; examine its structure; question it; link it to other ideas; and relate it to their own present knowledge, beliefs and experience. The underlying assumption being that by providing more time for students to explore a subject more deeply they will build better knowledge structures which can be used to interpret new experiences; to solve new problems; to think and to reason; and to learn independently later on (Resnick & Klopfer, 1989). In this respect, an art curriculum organized around conceptual clusters involving students in the essential ideas, problems, questions and values which illuminate art as a field of inquiry might greatly facilitate their development as thinkers.