

Inquiry-Based Art Instruction: A Framework for Developing Creative and Critical Thinking

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Critical and Creative Thinking

Critical thinking is thought focused on how to solve a well-defined problem when several alternative solutions to the problem exist (Ennis, 2002; Paul, Elder, & Bartell, 1997; Perry, 1999). For example, citizens' thoughts focused on what type of public sculpture to build in front of a new town hall would involve critical thinking.

Zimmerman (2009) has described creative thinking as the ability to generate new ideas or products by someone who solves a problem in a novel way. Gnezda (2011) extends this definition to apply specifically to art by suggesting that, "Creators have to move back and forth between creative and critical thinking modes... as they manipulate their media and solve ideational and construction problems" (p. 48).

Inquiry-Based Art Instruction

Psychologist Jerome Bruner (1960) is one of the first researchers to write about inquiry-based instruction. He wrote that:

Mastery of the fundamental ideas of a field involves not only the grasping of general principles, but also the development of an attitude toward learning and inquiry, toward guessing and hunches, toward the possibility of solving problems on one's own. (p. 19)

Educational psychologist Alison King has researched inquiry-based instruction and instructional techniques that stimulate critical thinking in both K-12 and college students (King, 1990, 1992, 1994, 1995, 2002; King, Staffieri, & Adalgais, 1998). Her work has focused on a technique for developing students' critical thinking by utilizing "question stems" as discussion starters. King's research has shown that question stems facilitate higher order critical thinking by requiring students to reflect upon and reconcile various perspectives and solutions for open-ended problems. King (1994) states that students are required to think deeply when responding to inquiry-based, open-ended prompts using question stems such as, "What are the implications of...? explain why... explain how... what is the counterargument for?" (p. 24). Developing thoughtful rejoinders to these open-ended

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questions and considering the varied responses of fellow classmates enables students to reconcile and link the new ideas (Lampert, 2006). In a similar way, using questions in art classes is of paramount importance in developing students' higher order thinking skills about art and about life. Art lessons that pose open-ended art problems require students to use creative and critical thinking as they produce art.

I have researched critical thinking in art for several years, and through my research (Lampert, 2006, 2008, 2011) I have discovered that inquiry-based pK-12 art lessons can lead to gains in students' ability to think critically, a higher order cognitive process (King, 1994). Instruction in how to make art identical to the teacher's sample is unlikely to stir the mind of a student to think critically and creatively. However, using inquiry-based art lessons—questions about art and artmaking—has been shown to stimulate critical thinking in students.

Implementing Inquiry-Based Art Instruction with Elementary Students

I put inquiry-based art instruction into practice in an afterschool art program I designed. In the program, eight undergraduate honor students and I implemented an inquiry-based art curriculum for 10 under-served students from nearby urban elementary schools. The children ranged in age from 8 to 10. Most of the children typically had art class for less than an hour per week in their elementary schools. With our program, we supplemented that instruction with 3 additional hours of afterschool art classes a week. We met with the children for 12 weeks, two afternoons a week, for 1.5 hours each session.

In each lesson we presented the students with open-ended art assignments. For example, in one lesson the children were challenged to design their own school using cardboard juice containers that they cut up and embellished with a wide variety of materials. One child created cardboard ramps on the outside of his school, and another used construction

paper swirls on the roof of her model school. As motivation to begin artmaking, the undergraduate students showed the children a PowerPoint presentation of various unusual buildings. After the artmaking, each child talked about the school they had designed. This lesson required that the children think for themselves about how to use the materials they had to construct a model of a school. By viewing all of the completed models, the children saw many ways to design a model of a school. This lesson provided the children with several opportunities to think and use creative and critical thinking to solve an open-ended art problem. Each student solved the problem differently.

Impact of Inquiry-Based Art Instruction on Students' Critical Thinking

I used a pre-test/post-test method for gathering quantitative data from the program; and I use my own and the undergraduates' written reflections as qualitative data. Most of the lessons in the afterschool program were completed over a period of two instructional sessions. After the first session, we took time out and asked the children to take a critical thinking test geared for elementary students (Bracken, Bai, Fithian, Lamprecht, Little, & Quek, 2003). The university office of community programs suggested I offer the children the incentive of free art supplies to take the test and all of them did so. The answers to the test were not known to the children or the undergraduates. At the end of the program, the children took the test again. The outcome of a *t*-test showed a statistically significant increase ($p = .020$) in the children's average critical thinking skills scores over the course of the program. This gain in critical thinking ability in the children occurred after just 12 weeks, and it paralleled the gains we observed in the children's ability to communicate their ideas with words and images. Several undergraduates noted in their final reflections that by the end of the program the children were far more comfortable with problem solving and analysis when it came to choosing materials and discussing artwork (Lampert, 2011). ■

Highlights

- Critical thinking is thought focused on how to solve a problem when several alternative solutions to the problem exist.
- Creative thinking requires that creators move back and forth between creative and critical thinking as they make art.
- Inquiry-based art instruction poses open-ended art problems to students. This type of instruction requires students to use creative and critical thinking to find their own solutions to the art problem.
- Inquiry-based teaching strategies pose questions to challenge students' thinking about art and artmaking, as opposed to teaching strategies that give directions to students about how to make art.
- Using critical and creative thinking helps students understand that there are multiple perspectives about art and about life.

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