

# Studio Thinking

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THE REAL BENEFITS OF VISUAL ARTS EDUCATION

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# Making the Case for the Arts

## WHY ARTS EDUCATION IS NOT JUST A LUXURY

Arts education has always been in a tenuous position in the United States. All too often the arts have been considered a luxury in our schools—an arena for self-expression, perhaps, but not a necessary part of education. This attitude has been exacerbated by the federal No Child Left Behind legislation that was passed in 2001 to improve school performance by setting standards of accountability. With mandated, standardized tests in mathematics, reading, and language arts administered each year, the focus of schools shifted to raising test scores in these areas, since negative consequences resulted for schools if scores did not achieve specified levels. Because No Child Left Behind emphasizes accountability in literacy and numeracy and not the arts, even though the arts are included in the Act as a mandated subject area, the result is even less support now for the arts in many of our schools than there had been in the past.

In reaction to the increasingly weakened position of the arts in our schools, arts advocates have tried to make the case that the arts are important because they improve students' performance in traditional academic subjects that "really count," such as reading and mathematics. Believing that educational decisionmakers won't accept arguments based on the inherent value of arts learning, arts advocates have skirted the fundamental question of the core benefits of studying the arts and fallen back on instrumental justifications for arts education—what we see as possible "bonus" effects of arts education. Few seem to care that these instrumental arguments are made with little empirical or even theoretically plausible basis.

Our position is that before we can make the case for the importance of arts education, we need to find out what the arts actually teach and what art students actually learn. In this book we describe what students are meant to learn when they study the visual arts seriously. We chose the visual arts as our laboratory, but we could as well have chosen music, dance, or drama. It is our hope that others will extend this kind of study to the other art forms. We present the case here that the visual arts teach students not only dispositions that are specific to the visual arts—the craft of the visual arts and an understanding of the larger art world outside of the classroom (Efland, 1976, 1983)—but also at least six dispositions that appear to us to be very general kinds of habits of mind, with the potential to transfer to other areas of learning. The word *disposition* is one we have taken from the work of David Perkins and his colleagues (Perkins, Jay, & Tishman, 1993; Tishman, Jay, & Perkins, 1993; Tishman, Perkins, & Jay, 1995). It refers to a trio of qualities—skills, alertness to opportunities to use these skills, and the inclination to use them—that comprise high-quality thinking. Our Studio Habits of Mind are dispositions that we saw being taught in the studio classrooms; we believe these dispositions are central to artistic thinking and behavior.

Based on our work to date, we cannot yet say whether the dispositions we identified in arts teaching and learning do or do not transfer to other fields. We have not conducted studies to test this possibility. However, the work described here is an important step toward demonstrating transfer from learning in the arts to learning in non-arts disciplines, if

and when such transfer occurs. Only when we have established the kinds of dispositions that the arts teach can we then address the questions of whether, to what degree, and in what ways these dispositions are learned and whether they transfer to other areas of the curriculum, including ones considered by some to be more "basic" than the arts.

### THE FAILURE OF INSTRUMENTAL ARGUMENTS

Let's take a look at a few of the most prominent instrumental claims for arts education that have circulated in recent years. A 1995 report by the President's Committee on the Arts and Humanities claimed that "teaching the arts has a significant effect on overall success in school," and noted that both verbal and quantitative SAT scores are higher for high school students who take arts courses than for those who take none (Murfee, 1995, p. 3). In the first few pages of *Champions of Change: The Impact of the Arts on Learning*, an influential publication from the Arts Education Partnership and the President's Committee on the Arts and Humanities, we read that "learners can attain higher levels of achievement through their engagement with the arts" (Fiske, 1999, p. viii). And former Georgia Governor Zell Miller handed out classical music tapes to all parents of newborns, arguing that music improves spatial reasoning and would therefore improve math and engineering skills (cited on "All Things Considered," National Public Radio, January 13, 1998). These are strong claims; and we wondered whether the research evidence supported them.

In a project called REAP (Reviewing Education and the Arts Project), we examined these instrumental justifications for arts education (Winner & Hetland, 2000). We conducted 10 meta-analytic reviews. A meta-analysis combines and averages the results of similar studies to yield a general result. It also compares groups of studies matched by variables that may influence results (e.g., who teaches, the duration of instruction, parental involvement, study design). We combined groups of studies appearing since 1950 that tested the claim that specific forms of arts education result in learning that transfers to specified forms of non-arts learning (e.g., reading, mathematics, verbal/mathematics test scores, spatial reasoning).

Our findings were controversial. They revealed that in most cases there was no demonstrated causal

relationship between studying one or more art forms and non-arts cognition. We did, however, find three areas where a causal relationship was conclusively demonstrated:

1. Classroom drama improves reading readiness and reading achievement scores, oral language skills, and story understanding (Podlozny, 2000).
2. Listening to classical music improves performance on some spatial tests in adults. However, since the effect is transitory, lasting only 10–15 minutes, this finding has no direct implications for education (Hetland, 2000a). Unfortunately, people like Zell Miller jumped from this finding to the conclusion that if babies listen to classical music, their SAT scores will show lasting positive effects 18 years later!
3. Classroom music programs in which children experiment with instruments, improvise, and move to music improve performance on some paper and pencil spatial tests (Hetland, 2000b). However, little is known about how long the effect lasts or its relationship to performance in school subjects.

We also reported a number of areas for which no clear causal implications can yet be drawn. We found inconclusive evidence that music improves mathematics learning (Vaughn, 2000) and that dance improves spatial learning (Keinanen, Hetland, & Winner, 2000). We found no evidence that studying visual arts, dance, or music improves reading (Burger & Winner, 2000; Butzlaff, 2000; Keinanen et al., 2000).

That leaves our most controversial finding. We amassed no evidence that studying the arts, either as separate disciplines or infused into the academic curriculum, raises grades in academic subjects or improves performance on standardized verbal and mathematics tests (Winner & Cooper, 2000). This finding was based on an analysis of experimental studies—ones that measured children's academic performance before and after arts training and compared their growth with control groups that did not get as much arts training. Given the studies available in the research literature, our analysis showed that children who studied the arts did no better on achievement tests and earned no higher grades than those who did not study the arts.

This finding has confused many people because there is in fact a correlation in the United States be-

tween how much arts students have studied and the level of success they demonstrate on the SAT: SAT scores increase steadily as students take one, two, and three years of arts courses in high school, and they rise more sharply with four years of arts courses (Vaughn & Winner, 2000). But we cannot conclude from this that the arts courses *cause* the scores to rise. The first lesson in any statistics class is not to confuse correlation with causality. There are various other possible explanations for this arts-SAT correlation besides the possibility that studying the arts causes SATs to rise. For example, academically strong students may choose to take more arts courses than academically weak students, because they know that profiles for college admissions are enhanced by demonstrating a wide breadth of interests (here, arts are not causing SAT improvement). Or, parents who value academic achievement in their children may also value the arts and thereby encourage their children to work hard and take arts courses. In this scenario, *parents* are causing both arts involvement and SAT improvement, but the arts play no causal role in SAT scores.

A study in Britain underscores the problems in jumping to a causal conclusion based on this correlational evidence. The British study found just the opposite of what has been reported in the United States—in Britain, the more arts courses students took in secondary school, the *worse* they performed on their national exams (Harland, Kinder, Haynes, & Schagen, 1998)! Of course, researchers in the United Kingdom did not use this as evidence that studying arts *causes* low achievement, because this was not part of their ideology. They realized that in their nation, academically weak students are counseled into the arts, and this is a likely explanation for the negative correlation between arts study and exam scores. The situation is different in the United States: Here we advise weak students to take lower level classes or remedial academic classes, but not to take the arts.

We concluded that the instrumental claims about the effects of arts education on learning in other subjects go far beyond the evidence, a point supported by the Rand report, *Gifts of the Muse: Reframing the Debate About the Benefits of the Arts* (McCarthy, Ondaatje, Zakaras, & Brooks, 2004), and also made in Britain by Adrian Ellis (2003). Anger greeted our report. Some characterized us as enemies of the arts, arguing that publishing our research would destroy quality arts education for children in the United States. One scholar told us that we should

never have asked the question, but having done so, we should have buried our findings.

We were shaken. Our goal had been to find the truth behind the claims, and to change the conversation from glib and superficial arguments for transfer, that in the long run may weaken the case for arts education, to a more thoughtful consideration of what the arts really offer. Arts advocates told us to give up—they called our approach an “arts for arts sake” argument, a tack they insisted was both elitist and doomed to fail. Advocates, they told us, must do what works—and that meant arguing for the arts as a vehicle for strengthening the kinds of basic skills stressed by No Child Left Behind and making this case *whether or not* there was evidence to support it.

Our response? First, justifying the arts only on instrumental grounds will in the end fail, because instrumental claims for the arts are a double-edged sword. If the arts are given a role in our schools because people believe that arts cause academic improvement, then the arts will quickly lose ground if academic improvement does not result, or if the arts prove less effective in improving literacy and numeracy than high-quality, direct instruction in these subjects. When we justify the arts by their secondary, utilitarian value, the arts may prove to have fewer payoffs than academic subjects. Arts educators cannot allow the arts to be justified wholly or primarily in terms of what the arts can do for mathematics or reading. The arts must stand on what they teach directly. If along the way we find that the arts also facilitate academic learning in other subjects, then we have a wonderful side effect. But in justifying arts programs on an instrumental basis, we devalue the arts and fall prey to the anti-arts or arts-as-frills strain that accompanies the back-to-basics movement in the United States.

Second, we have never said that studying the arts does *not* transfer to academic learning. Arts learning may or may not transfer, depending on what is taught and how (Salomon & Perkins, 1989). But the research on transfer to date does not allow us to conclude that transfer of learning occurs. In the words of David Perkins (2001) commenting on the REAP meta-analyses, “it is important to stand back from their findings [about lack of transfer] and ask whether the game is essentially over. . . . Some would say that it had never really begun” (p. 117). We agree with Michael Timpane, former university president and former federal education office policy director, who was paraphrased as follows:



Arts education research today is at an early stage of its development. . . . [in the future, it may become clear that it is similar to] research on reading [a generation ago], where the accumulation of studies over time gradually honed the understanding of educators and policymakers as to the best policies and practices. (Deasy & Fulbright, 2001, p. 34)

The most glaring oversight in the studies conducted thus far on arts transfer is that researchers have failed to document the kinds of thinking that are developed through study of the arts. If the arts are to retain a place within public education, arts educators must answer the questions of what the arts can teach and what students can learn from the arts. Only when we have determined and can document levels of what students actually learn when they study an art form does it make sense to look for transfer of that learning to other subjects. Many of the studies we meta-analyzed did not carefully report what and how teachers were teaching in the arts compared with control classrooms or programs, nor did they assess what students learned. Without knowing how teaching in arts classes differs from teaching in control conditions, nor the level of learning achieved by that arts instruction, one cannot responsibly predict why, what, or how learning in the arts might transfer outside of the arts.

The field of arts education, while passionate, is vague about these questions. So also is the public's understanding of what is learned in the arts. Just ask someone what students learn in art classes, and you are likely to hear that they learn how to paint, or draw, or throw a pot. That's true, but it only tells us what they do, not how they learn to think. This reply is analogous to saying that students learn writing skills in writing class. Of course students learn artistic craft in arts classes. But we must ask what else they learn. Does experience in the arts change students' minds so that they can approach the world as an artist would? Students must be given the opportunity to think like artists, just as they should also be given the opportunity to approach the world mathematically, scientifically, historically, and linguistically. The arts are another way of knowing the world—as important as the other disciplines to our societal health.

## THE FRAMEWORK OF STUDIO THINKING

In the study described in this book, we set out to discover what excellent visual art teachers teach, how

they teach, and what students learn in their classes. We looked closely at what goes on in five excellent, but very different, arts classrooms. (See Appendix B for details on how we conducted our research.) Despite the debates and the rhetoric about the importance of the arts in education, surprisingly, no other formal studies had, to our knowledge, directly examined the kinds of teaching and learning that actually occur inside the visual arts classroom. A few pioneering studies have investigated in careful detail what goes on in non-arts classrooms (e.g., Lampert's *Teaching Problems and the Problems of Teaching*, 2003; Stigler & Hiebert's *The Teaching Gap*, 1999; and Stevenson's *The Learning Gap*, 1994), and we have followed in the traditions set by these three books.

Based on what we found in our study, we developed the framework we call *Studio Thinking*. This framework describes two aspects of the art classroom: (1) How these classrooms are structured, and here we describe three *studio structures*, and (2) what is taught in these classrooms, and here we describe eight *studio habits of mind*.

### Studio Structures

The visual art teachers we studied organized their instruction by using many variations on a few basic patterns of time, space, and interactions. Three of these patterns focus on learning: Demonstration–Lecture, Students-at-Work, and Critique. A fourth focuses on management: Studio Transitions, when students move from one structure to another, or prepare to start or end art class. We included Studio Transitions as a Studio Structure only because, when poorly executed, transitions eat up valuable learning time, and when well-run, they may also provide a few more moments for focused, one-on-one interactions between teacher and students. An overview of the three learning structures is presented in Figure 1.1, and they are discussed in more detail in Chapter 4.

### Studio Habits of Mind

We also observed a “hidden curriculum” in visual arts classes, and we argue that this is their real curriculum. We came to the conclusion that, in addition to two basic arenas of learning—teaching the craft of the visual arts (e.g., techniques, tool use), and teaching about the art world beyond the classroom (e.g., art history, visual culture, the world of

**Figure 1.1. Three Studio Structures****Demonstration-Lectures**

- Teachers (and others) deliver information about processes and products and set assignments
- Information is immediately useful to students for class work or homework
- Information is conveyed quickly and efficiently to reserve time for work and reflection
- Visual examples are frequent and sometimes extended
- Interaction occurs to varying degrees

**Students-at-Work**

- Students make artworks based on teachers' assignments
- Assignments specify materials, tools, and/or challenges
- Teachers observe and consult with individuals or small groups
- Teachers sometimes talk briefly to the whole class

**Critique**

- Central structure for discussion and reflection
- A pause to focus on observation, conversation, and reflection
- Focus on student works
- Works are completed or in progress
- Display is temporary and informal

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galleries, curators, critics), at least six other important kinds of general cognitive and attitudinal dispositions are developed in serious visual arts classes. These dispositions are central to learning in many subjects, and they may well transfer to academic subjects.

The dispositions that emerged from our study bear some striking similarities to those that Elliot Eisner, in his book *The Arts and the Creation of Mind* (2002), has argued that the arts teach (e.g., learning to attend to relationships, flexibility, and the ability to shift direction, expression, and imagination).

Our research sets the stage for informed studies of the transfer of arts learning. However, whether or not transfer of learning occurs from arts instruction, the kinds of thinking developed by the arts are important in and of themselves, as important as the thinking developed in more traditionally academic subjects.

In our study we witnessed teachers striving to instill all eight "Studio Habits of Mind" (or dispositions). We observed that whenever teachers were helping students develop technical skills (the habit of mind we refer to as Develop Craft: Technique and

Figure 1.2. Eight Studio Habits of Mind

**Develop Craft**

*Technique:* Learning to use tools (e.g., viewfinders, brushes), materials (e.g., charcoal, paint); Learning artistic conventions (e.g., perspective, color mixing)  
*Studio Practice:* 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 and other mental states conducive to working and persevering at art 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**

*Question and Explain:* Learning to think and talk with others about an aspect of one's work or working process  
*Evaluate:* Learning to judge one's own work and working process, and the work of others in relation to standards of the field

**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 and accidents

**Understand Art World**

*Domain:* Learning about art history and current practice  
*Communities:* 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



Studio Practice), they were also inculcating one or more of the other seven habits of mind. These habits of mind are dispositions that are used in many academic arenas and in daily life: the dispositions of *Observation, Envisioning, Reflecting, Expressing, Exploring, Engaging and Persisting, and Understanding the Art World*. Once taught in the arts studio, these dispositions might transfer to other contexts of learning. (An overview of the Studio Habits of Mind is presented in Figure 1.2, and they are discussed in detail in the chapters in Part II.)

These habits of mind are important not only for the visual arts but for all the arts disciplines, as well as for many other kinds of study. Similar mental habits are deployed in the serious study of dance, music, theater, science, mathematics, history, literature, and writing. For example, students must learn a great deal about tools and materials in a science lab, and this kind of learning is analogous to the art studio habit we call *Develop Craft*. The disposition to *Engage and Persist* is clearly important in any serious endeavor: Students need to learn to find problems of interest and work with them deeply over sustained periods of time. The disposition *Envision* is important in the sciences (e.g., generating hypotheses), in history (e.g., developing historical imagination), and in mathematics (e.g., imagining how to represent space and time algorithmically). *Express* is important in any kind of writing that one does, even in analytical non-fiction and historical narratives. *Observe*, or its corollaries, listen and attend, is required across all disciplines. The disposition to *Reflect* (becoming aware of one's decisions and working style, becoming able to assess one's work and that of others) is also important in any discipline. Similarly, *Stretch and Explore* emphasizes the need to experiment and take risks, regardless of the domain of focus. *Understand the Art World* has its parallels in other disciplines, in which students are asked to identify links between what they do as *students* in a particular domain and what *professionals* in that domain do, have done, and are doing. Good science, history, English, and mathematics teachers (as well as teachers of any other subject) propose problems to think about that are currently being grappled with by contemporary practitioners and engage their students in understanding how the work and thinking taught in classes operate in the world beyond the classroom.

However, we urge our readers to be cautious in interpreting these comments. Just because a habit learned in the arts is also used in other disciplines, it does not follow that learning one of these habits

in the arts classroom actually strengthens that habit when the student enters a science, mathematics, history, literature, or writing classroom. It may work the other way around, with habits learned in academic subjects transferring to learning in the arts. Alternatively, the same habits could be learned separately in each kind of classroom. To do so, however, explicit efforts to link subjects must be made regularly if transfer is to occur reliably (Salomon & Perkins, 1989). The transfer from arts to academics hypothesis remains just that—a hypothesis to be tested. But with these studio habits identified, we can now test plausible hypotheses.

For example, it seems reasonable to suggest that the habits of both observing and envisioning may transfer to a science class. If students were explicitly taught to think about habits of mind that they had acquired in arts class and to try to use them in biology class, for example, these dispositions might indeed transfer. In short, for each of the habits identified as learned in the arts, we can now think carefully about how and where this habit might be deployed outside of the arts and then test for such transfer. The first step is to assess how well each habit has been learned in a parent domain (art is the "parent" if learning transfers from art to another subject); the second step is to determine whether the strength with which a habit in the arts is learned predicts how well the habit is used in a target domain, outside of the arts (e.g., mathematics or reading). This is a logical way to go about testing for transfer.

The model we present here of visual arts learning is consistent with, but does not replace, the National Standards for Arts Education (from the Consortium of National Art Education Associations) or the many state standards that have been developed for learning in the arts. The standards specify a particular group's stance (e.g., a state or a national arts association) about particular levels and types of student achievement in the visual arts. In contrast, our Studio Habits of Mind identify more general cognitive and attitudinal dispositions that allow students to meet these standards. Thus our findings complement the standards and allow us to unify learning in the visual arts from the earliest to the most advanced levels of education, and across national and local contexts.

## CONCLUSION

There are promising signs emerging today in arts education that the role of arts learning in and out



of schools may be growing stronger. California recently reinstated state-wide support for arts in public schools with \$105 million in funds designated in 2006 and intended to be reallocated annually, along with a \$500-million, one-time allocation to build infrastructure for the arts and physical education (e.g., buying kilns, presses, computer arts equipment). Parents want their children to be inspired and not just memorize facts, and they are coming to realize that the arts play a critical role in inspiring children (Bostrom, 2003). The Wallace Foundation funded the Rand Corporation's report that argues against instrumental claims for the arts (McCarthy et al., 2004) and has commissioned a report by Harvard Project Zero on what counts as quality in arts education today. And there is renewed interest among private funders in establishing what the arts in themselves do (the Dana, Ford, and Hewlett Foundations are currently funding such initiatives).

We hope that this book provides arts educa-

tors, advocates, and researchers with some arguments they need to lobby for strengthening the arts in our schools. Arts teachers, those who prepare arts teachers for licensure, and principals and curriculum directors can use our findings in conversation with one another, with beginning teachers, and with teachers of other disciplines, so that the understanding of arts' role in teaching disciplinary thinking becomes clearer to all educators. Our findings should help art teachers refine their teaching practices, help arts advocates explain arts education to decisionmakers, and help researchers explain proposed studies to funders. Non-arts teachers have much to learn from how excellent arts teachers personalize instruction, engage in just-in-time interventions as they circle the room while students work, and stimulate students' critical and self-reflective skills during regular critique sessions. Finally, the Studio Thinking Framework lays the foundation for more precisely targeted and plausible transfer studies.