Arts Integration Frameworks, Research & Practice »

A Literature Review » April 2007

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We need not look upon art as qualitatively apart from the rest of life. Instead, we need to see it as a refinement, a clarification, and an intensification of those qualities of everyday experience that we normally call complete.

(Jackson, 1998, p. 8)
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INTRODUCTION

In this literature review, we attempt to describe what has been written between 1995 and 2007 regarding arts integration. We have unavoidably encountered specific issues and trends that continue to shape the field. We have examined the range of practices labeled as arts integration as described in published and available materials. Terms such as “interdisciplinary,” “arts-infused,” or “cross-disciplinary,” not to mention “thematic” and “arts-based,” kept our conversations challenging. We have included some international resources although our emphasis is on arts integration in the United States.

What This Review Includes
The literature is limited to reports, books, articles, and research summaries that explicitly name arts integration or, in some cases, interdisciplinary, as the focus. While topics such as the role of teaching artists, arts partnerships, the preparation of arts teachers and classroom teachers, school reform, budgets for the arts, and political considerations relevant to the arts are all highly pertinent, they are not the focus of this review and will only be discussed as they relate explicitly to arts integration. We cannot claim to have uncovered every source on the topic, but we believe that we have examined most of the relevant work in the field to date. Ideally, this review will contribute to continued dialogue and increasing rigor in research and practice with respect to how, when, and to what degree arts integration becomes an accepted and well-defined element of the curriculum.

The review begins with the Historical Context regarding curriculum integration and related educational or curricular approaches to teaching and learning that are relevant to arts integration. No curricular movement exists in a vacuum; arts integration stems from or is related explicitly to other methods that purport to engage students in learning. We also include an overview of the position statements of Professional Arts Education Organizations regarding arts integration and a summary of State Standards regarding arts integration and general arts education. Then, we introduce selected Definitions and Theoretical Frameworks for “arts integration” programs and practices.

We describe the Research related to arts integration teaching and learning as it exists in published and available studies and reports. Research includes meta-analyses, compendia, case studies, and dissertations that may incorporate quantitative and qualitative methodologies. Because extensive meta-analyses have been reported and discussed in Critical Links: Learning in the Arts and Student Academic and Social Development and Reviewing Education and the Arts Project (REAP), we have chosen to summarize relevant research from those two compendia and refer the reader directly to them for further investigation. We then present other relevant research and evaluation studies, particularly from 2003 to the present, which are not included in either of the two compendia.

The review also includes annotations of books and articles targeted for classroom teachers, arts specialists, and teaching artists, that represent Methods and Practices in arts integration. The Conclusion section synthesizes the trends and questions that emerged during this investigation that we offer as possible future areas for research and practice. It is our hope that this review will encourage those committed to arts education to communicate their goals, innovations, evidence of efficacy, and research-based teaching approaches to afford all young people access and experience in and through the arts.

What This Review Does Not Address
For the purposes of this review, discussions of curricular approaches such as thematic units, literature-based units, or problem-based learning projects are not specifically addressed, because arts processes, vocabulary, and elements are often not an explicit focus for these descriptions. The review does not address initiatives where the arts are a casual or unintended byproduct of learning and teaching rather than an explicit goal. It does not investigate projects described in the literature in which the arts are used only as a culminating project (i.e., a mobile to demonstrate children’s understanding of the planets).

Additionally, while attempts were made to be inclusive, this literature review does not incorporate the vast number of privately and publicly funded project initiatives that have been implemented over the past 20 years for the simple reason that many of the project evaluation reports are not published and articles or books are not available that describe the work for a larger audience. Due to time constraints, we were not able to search in depth the studies and practices internationally, although a few are included in the scope of this review. We know that much of the work on arts integration has been done in these arenas and regret that not more of these stories can be included here.

We also encountered many conference proceedings and presentations related to arts integration and chose not to include most of them in this review. Ideally, this review can serve as a springboard to encourage current and future project directors and researchers to expand the audience of their work.
Arts Education

There have long been advocates for arts education in the public schools. Utah founded the first state arts agency in 1899 and by the middle of the twentieth century, civic organizations such as museums and symphonies regularly began to schedule educational activities as part of their missions (Remer, 2003). The New Deal provided public support of the arts, which resulted in artists working with schools, but the primary opinion, despite Dewey and the Progressives, was that the arts were enrichment or primarily for the wealthy or talented.

Public support engendered through the Kennedy administration’s appointment of a special consultant for the arts was extended during the era of Johnson’s Great Society. In 1965, the Rockefeller Brothers Fund produced a set of recommendations calling for the nurturing of children’s appreciation for great art. The formation of the National Endowment for the Arts (NEA) spearheaded support for artists in schools initiatives in the 1960s, which contributed to a burgeoning interest in arts integration.

The economic downturn of the mid to late 1970s, followed shortly by the publication of A Nation at Risk, worked to undo many of the Johnson administration’s efforts to advance the arts. The NEA shifted its focus and began emphasizing professional development of teachers and artists working in schools.

Arts Integration

The idea of arts integration is related to structural, conceptual, and philosophical notions that are connected to curricular movements in schools. In the early twentieth century, the organization of the secondary school curriculum as a series of distinct subject areas, while persistent, was also consistently challenged (Cruikshank, 2000). In 1918, the Cardinal Principles of Secondary Education report recommended the organization of the curriculum around major themes, including health, fundamental processes, and civic education. Integrated curriculum, as well as “correlated curriculum,” “fused curriculum,” and “project curriculum” all were touted as improved means to prepare young adults for adult life (Cruikshank, p. 179).

William Heard Kilpatrick, a collaborator and colleague of John Dewey, outlined the “project method,” which was a precursor to later integration approaches.
The general term curriculum integration has been applied since the 1960s, particularly in middle schools (Beane, 1997). Arts integration proponents have drawn upon the work of Beane, as well as Heidi Hayes Jacobs (1989, 1997, 1998) and Robin Fogarty (1991). Beane has advocated moving the subject-centered school curriculum structure toward a full integration model. He explains,

"Imagine for the moment that we are confronted with some problem or puzzling situation in our lives. How do we approach the situation? Do we stop and ask ourselves which part of the situation is language arts, or music, or mathematics, or history, or art? I don’t think so. Instead, we take on the problem or situation using whatever knowledge is appropriate or pertinent without regard for subject area lines. (Beane, 1997, p. 7)

Teaching Artists and Arts Partnerships

The availability of teaching artists to schools and classrooms—most obviously in urban areas—has also contributed to arts integration. Teaching artists, who are typically not certified teachers but who do practice an art form as a profession, are considered integral to success in some models for arts integration. The term “teaching artist” has its roots in the early 1970s and was coined by Jane Dunbar of the Lincoln Center Institute to avoid the use of the clinical term “resource professional,” according to Eric Booth (2003). Although teaching artists also work in schools in non-integration models, including performance, artists-in-residencies, and guest instructors in an art form, they are familiar partners in regular education classrooms where they plan with classroom teachers to integrate at least one art form and one non-arts content area.

Arts integration, as a curricular area, provided rich opportunities for teaching artists to define and refine their work with children and teachers in schools. The arts integration movement afforded content specialists in areas such as reading, math, science, and social studies, to discuss, experience, plan, and teach with arts specialists in schools. Arts integration encouraged classroom teachers to explore whether, how, and to what degree the arts could play a role in their classrooms.

Teaching artists find themselves in a field without formally recognized certification, working with in-school arts teachers or classroom teachers, teaching in their own art domain, but perhaps also entering the world of science standards or literacy benchmarks. Meanwhile, boards of education, principals, and state legislators are pressing for reading, mathematics, science, and social studies achievement, often placing the arts in schools at risk.

Arts integration gained attention in the 1960s and 1970s when arts partnerships became common structures for engaging community organizations and public schools, particularly in large urban areas (Remer, 1996). In 1999, the Arts Education Partnership (AEP) published Learning Partnerships: Improving Learning in Schools with Arts Partners in the Community (Dreeszen, Aprill, & Deasy) at the request of the U.S. Department of Education and the National Endowment for the Arts. This was followed by a 2002 publication, Teaching Partnerships: A Report of a National Forum on Partnerships Improving Teaching of the Arts (Arts Education Partnership, 2002). These two publications reflected a growing trend for describing the nature of partnerships involving public schools, arts organizations, and universities. While not all partnerships reflected in these documents focused on arts integration, the proliferation of sustained partnerships contributed to the discussion of arts education that involves classroom teachers as well as arts specialists and teaching artists.
In 1992, a Consortium of National Arts Education Associations published a Joint Statement on Integration of the Arts with Other Disciplines and with Each Other that served as a position statement for the American Alliance for Theatre and Education (AATE), the The National Association for Music Educators (MENC), the National Art Education Association (NAEA), and the National Dance Association (NDA).

While affirming that all students should be provided with sequential and comprehensive instruction in all specific art disciplines and that these programs should be taught by qualified art, music, theatre, and dance teachers, this position statement also noted that "integrated" courses may be "valid and useful when well designed and well taught" (1992). The document offered cautions regarding integrated programs that have little coordination or synthesis, and affirmed that such programs cannot substitute for discrete programs of high quality. The Joint Statement does endorse the possible appropriateness of arts instruction as a means of enriching the teaching of other subject matter but cautions against the exclusive use of the arts for this purpose, to the detriment of arts-specific instruction.

The development of the Arts Education Assessment Framework by the National Assessment Governing Board (National Assessment Governing Board, 1997) marked the third time that music and the visual arts had been addressed in a national assessment (in this case, as part of the National Assessment of Educational Progress). The framework team considered a series of questions, including one particularly relevant to this literature review: Should the definition of the arts be cut sharply into four strands (dance, music, theater, and visual arts)? The proposed assessment consists of a series of exercises...
for all students in the sample, at least one special study, and a series of background questions. Both processes (creating, performing/interpreting, and responding) and content were considered to be “applied” in combination and “integrated” at various levels.

In 2001, the Consortium of National Arts Education Associations, including AATE, MENC, NAEA, and the National Dance Education Organization (NDEO), published To Move Forward: An Affirmation of Continuing Commitment to Arts Education. This policy statement commented on the balance of needs for standards-based arts education with respect to the generalist teacher and the arts specialist, as follows:

1. **THE GENERALIST TEACHER**

   **A.** While many elementary school teachers serve as a general source of instruction in their schools, they should not be relied upon to serve the role of an arts specialist effectively.

   **B.** Where generalist teachers are serving this role, their preparation needs to evolve an understanding of all four of the arts fields. Their training should also include instruction on how to effectively work with arts specialists when those opportunities arise.

2. **SPECIALIST ARTS PREPARATION**

   **A.** Specialist teachers in the four fields are best served by a preparation that involves work with faculty in their arts discipline as well as faculty familiar with teaching methodologies.

   **B.** Recognize that expansion is necessary in teacher preparation, especially in dance and theatre, if the standards of NSAE are to be met. Arts specialist teachers must work to become more proficient at communicating their art to their fellow faculty. Additionally, the arts specialist teachers must learn to work with other curriculum specialists. (pp. 2-3)

Then, in 2002, the Consortium published a document titled Authentic Connections: Interdisciplinary Work in the Arts. The stated purpose of the document was to “assist and support educators in interdisciplinary work and to clarify how the arts can be taught with integrity through the interdisciplinary arts content standards.” (p. 3). Despite the intentional use of the term “interdisciplinary,” the Consortium’s work in this document affirmed “meaningful connections, high quality examples from the arts and other disciplines,” and “in-depth learning,” and addressed similar goals associated with the literature regarding arts integration. The definition posed for interdisciplinary education also echoes definitions for current arts integration practice: “Interdisciplinary education enables students to identify and apply authentic connections between two or more disciplines and/or to understand essential concepts that transcend individual disciplines.” (p. 3). The Authentic Connections publication represents a collective initiative across arts education professional associations to publicly acknowledge the presence of interdisciplinary curricula projects, programs, and curricula in schools. The document affirmed the importance of the national standards in arts disciplines and urged planning and implementation of programs that utilized these standards as norms for practice.

Because this Consortium chose to use the term **interdisciplinary**, arts specialists have used the term for programs and curriculum that could also be labeled **integration**. This is especially true of articles published in arts association journals and books. We have therefore included some of those references using the term **interdisciplinary** in this review.

Many non-arts professional associations offer standards consistent with curriculum integration designs. The National Council of Teachers of Mathematics (NCTM) document notes Standard 4: Knowledge of Mathematical Connections: “Candidates recognize, use, and make connections between and among mathematical ideas and in contexts outside mathematics to build mathematical understanding.” (http://www.nctm.org). The National Science Teachers Association (NSTA) Program Standard B includes the following: “The program of study must emphasize student understanding through inquiry. The program of study in science should connect to other school subjects” (http://www.nsta.org). The National Council for the Social Studies organizes standards by strands, one of which is culture and diversity. The Standard and Indicator relevant to this review state:

**STANDARD:** Social studies programs should include experiences that provide for the study of culture and cultural diversity, so that the learner can: (INDICATOR) describe ways in which language, stories, folktales, music, and artistic creations serve as expressions of culture and influence behavior of people living in a particular culture. (http://www.socialstudies.org).

The National Council of Teachers of English and the International Reading Association jointly issued a set of 12 standards, 1 of which pertains to this review: Standard 11 reads: “Students participate as knowledgeable, reflective, creative, and critical members of a variety of literacy communities.” (http://www.ncte.org).

The most definitive statements with respect to integration come from the National Middle School Association (http://www.nmsa.org). The 2005 National Middle School Association’s Positive Statement on Curriculum, Instruction, and Assessment describes three elements of quality curriculum for the middle grades. NMSA supports curriculum for students that is relevant, challenging, integrative, and exploratory.

According to the website, an integrative curriculum focuses on coherent ideas and concepts irrespective of arbitrary subject boundaries and enables students to see connections and real-world applications.” More specifically, integrative learning opportunities:

- Engage students in rigorous, in-depth study.
- Address reading, writing, and other fundamental skills within all subject areas.
- Enhance critical thinking, decision-making, and creativity.
- Require students to reflect on their learning experiences.
- Enable students to apply content and skills to their daily lives.
- Cultivate multiple intelligences and students’ individual learning styles.

Since 1995, state and federal budgets have made it possible for districts and state departments of education to develop and implement standards in the arts. To date, every state except for Iowa has adopted standards for the arts. Twenty-seven states have mandated standards for arts education and twenty have set voluntary standards (see Tables 1 and 2 on p. 9).

The practice in schools, however, does not always make scheduling and structural accommodations...
for interdisciplinary implementation (Detels, 1999). Instead, as Detels notes, “they assign all responsibility for teaching the arts to single-disciplinary specialists in the various arts disciplines, as if schools commonly have specialists in all four disciplines, and as if students commonly take courses in each of those areas at every level—which is far from the case” (p. 121).

Many disciplinary specialists do see how standards can support cross-disciplinary boundaries while still maintaining instruction within an art form. Rosenbloom (2004) cites music standards 8 and 9 as a rationale for studying high school social studies topics, such as the French Revolution, as an interdisciplinary project in which the music teacher engages students in listening to and analyzing “La Marseillaise.” Music scholar Janet Barrett (2001) further explains:

Interdisciplinary connections can open up possibilities for comprehensive study while preserving the integrity and validity of musical experience. It is not surprising, then, to find many examples of “relationship standards” in national, state, and local proposals for curricular reform. The National Standards for Music Education include two versions of this idea: “Understanding relationships between music, the other arts, and disciplines outside the arts” (Content Standard 8) and “Understanding music in relation to history and culture” (Content Standard 9). Similar standards from other disciplines also address music, such as this excerpt from the Curriculum Standards for the Social Studies that applies to the early grades: “Describe ways in which language, stories, folktales, music, and artistic creations serve as expressions of culture and influence behavior of people living in that culture.” These statements remind us that, although educational institutions segment knowledge into separate packages called “subjects,” deep understanding often depends upon the intersections and interactions of the disciplines. (p. 27)

In all four major arts disciplines—visual art, drama, dance, and music—there are seven states with explicit standards and indicators that underscore the importance of interdisciplinary connections among the arts and other disciplines (see Tables 3 and 4). Arizona offers one example of options for integration, as described in state standards (see Table 5).


Table 5: The 2005-2006 State Arts Education Policy Database, www.aep-arts.org

<table>
<thead>
<tr>
<th>Arizona State Standards Related to Arts Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CREATING ART</strong></td>
</tr>
<tr>
<td>Students know and apply the arts disciplines, techniques, and processes to communicate in original or interpretative work.</td>
</tr>
<tr>
<td><strong>ART IN CONTEXT</strong></td>
</tr>
<tr>
<td>Students demonstrate how interrelated conditions influence and give meaning to the development and reception of thoughts, ideas, and concepts in the arts.</td>
</tr>
<tr>
<td><strong>ART AS INQUIRY</strong></td>
</tr>
<tr>
<td>Students demonstrate how the arts reveal universal concepts and themes. Students reflect upon and assess the characteristics and merits of their work and the work of others.</td>
</tr>
</tbody>
</table>

The term “arts integration” has also evolved over the past 15 years as school districts, state arts councils, and arts organizations have experimented with various models of implementation. Some programs and schools have chosen not to use the term at all, although descriptions of the curriculum appear to belong in this domain. Much work in the arts professional journals that could be termed integrative is labeled interdisciplinary, perhaps because, as noted in this review, the term evokes less controversy and challenge from within the arts professions. Some of that work is included in this literature review.

The term “integration” comes from the Latin word *integrare*, which means to make something whole, a root also used, for example, in the word *integer*, meaning “whole number” (Grumet, 2004). Terms such as *arts-infused curriculum* (Ingram & Reidell, 2003), *learning in and through the arts* (Ramford, 2006; Bloomfield & Childs, 2000), *learning with the arts* (Goldberg, 2006) and *arts as a vehicle for learning* all represent slightly different iterations familiar to readers of arts integration project and program reports.

Current interest in arts integration has not appeared to produce a consensus on the theory or practice of integration, much less a universally held definition of the term (Parsons, 2004). Practitioners sometimes speak of *interdisciplinary studies*, a *multidisciplinary curriculum*, and *integrated learning* in relatively interchangeable terms. An Arts Education Partnership 2002 National Forum on the topic produced the document *Creating Quality Integrated and Interdisciplinary Arts Programs* (Deasy, 2003), in which Richard Deasy referred to arts integration as “the effort to build a set of relationships between learning in the arts and learning in the other skills and subjects of the curriculum” (p. 2). He noted that the term means different things to different
people in different situations and contexts. The report synthesized the views on arts integration from 13 invited partnerships and revealed that various programs and initiatives across the United States had different points of emphasis for arts integration. Some affirmed the importance of assessing how and what students learn as elements of arts integration practice; others defined arts integration specifically as differentiated instruction; for others, professional development was a key element that defined arts integration as an integration of people rather than of specific content.

Despite the lack of consensus on any one definition, there appear to be categories of definitions that are synthesers of definitions-in-action. For this review, we have created three categories arts integration as learning “through” and “with” the arts; arts integration as a curricular connections process; and arts integration as collaborative engagement.

**ARTS INTEGRATION AS LEARNING “THROUGH” AND “WITH” THE ARTS**

Phrases such as learning in and learning through the arts also represent a locus of controversy in this field. Those who have attempted to define arts integration often have pointed to the potential for the transfer of learning between the arts and other subjects (Rabkin & Redmond, 2004, 2006). There is continuing debate about the appropriate methodologies for measuring such transfer and how/which arts concepts and skills should be examined with respect to transfer to and from other content skills and concepts (Burnaford, 2006, Bradley, 2002; Burton, Horowitz, & Abeles, 1999; 2000; Catterall, 2002a, 2002b, 2005; Decuy, 2002; Eisner, 1998, Helrand & Winner, 2000; Horowitz, 2005; Ingram, 2003; Keinanen, Helrand, & Winner, 2000; McKean, 2000; Mogu, Burger, Helrand, & Winner, 2000; Myers & Scripp, 2007; Perkins & Salomon, 1988, Rabkin & Redmond, 2004; Scripp, 2002; Vaughn, 2000).

A body of literature has been created among researchers who are interested in how learning occurs in and through the arts (Butzlaff, 2000; Catterall, 1998, 2002a, 2002b, 2005; Decuy, 2002; Helrand & Winner, 2004, Keinanen, Helrand, & Winner, 2000; Mogu, Burger, Helrand, & Winner, 2000; Perkins & Salomon, 1988, Rabkin & Redmond, 2004; Scripp & Subotnik, 2003; Winner & Cooper, 2000 Winner & Helrand, 2010). While it can certainly be argued that any experience one has will cause some neural transformation, it is also reasonable to assume that extended learning or training in the arts creates an environment where there is more of this active relationship between what Catterall (2005) identifies as conversation and silence. Conversation refers to the external conversation that occurs as students and teachers discuss a work of art, its symbols, its historical significance, and its importance to the current classroom discourse. Silence refers to the internal conversation that occurs as student-artists wrestle with form, with ideas and meaning, and with how to execute ideas that are forming in their minds. It is in this silence that most neurological processing and, therefore, neurological change likely occurs.

Catterall proposes the following: “The Rosetta stone for understanding transfer from learning in the arts to other domains may emerge as the internal conversation that occurs as student-artists wrestle with form, ideas and meaning, and with how to execute ideas that are forming in their minds.”

**ARTS INTEGRATION AS A CURRICULAR CONNECTIONS PROCESS**

Much has been written about arts integration as a means to connect certain elements of curriculum across content fields. A curricular focus on a “big idea” or “shared concept” larger than specific concepts in any one content domain may represent a more unified and complex approach to curriculum design (Brown & Nolan, 1989; Burnaford, 2007; CAPE, UK 2005; Chancer & Reter-Zedrow, 1997; Elland, 2002; Eisenkraft, Helbel, Johnson, & Radcliffe, 2006; Eisner, 2002; Masson & Sterdy, 2006; Weis & Lichtenstein, in press; Wilhelm, 2005; Wilhelm & Edmiston, 1998). Often, those who implement arts integration stress the importance of using the vocabulary and language of the art form when making curricular connections (Weis & Lichtenstein, in press). Common language is a partial litmus test for ensuring cognitive development and conceptual understanding of the art form. State standards that articulate arts integration as an approach toward the teaching of both arts and non-arts curriculum usually underscore the need for clear objectives and outcomes in both the arts content and the identified non-arts topic or subject.

Those who describe arts integration in this way emphasize the need for genuine authenticity in identifying a common concept or unifying idea and guarding against false or superficial integration claims that are not consistent with the disciplines involved (Kelner & Fynn, 2006; Nixon & Akerson, 2002). Nixon and Akerson refer to the goal of mutual integrity of the disciplines as equal development that contributes to cognitive growth in academic areas addressed. Burnaford, Aprilll, and Weis (2001) describe the process of such common concepts or ideas as the elegant fit.

The literature includes discussions of the importance of real-world content and application as a characteristic in arts integration that links curricular areas (Burnaford, Aprilll, & Weis, 2001; Goldberg, 2006). The use of inquiry by teachers, artists, and students as the basis for arts integration extends that framework for integration when real questions guide both the design and the implementation (Amul, 1993; Balick, in Wolf & Balick, 1999; Blasingame, Erickson, & Woodson, 2005; Brown & Nolan, 1989; Burnaford, 2007; CAPE, UK 2005; Chance & Reter-Zedrow, 1997; Elland, 2002; Eisenkraft, Helbel, Johnson, & Radcliffe, 2006; Eisner, 2002; Masson & Sterdy, 2006; Weis & Lichtenstein, in press; Wilhelm, 2005; Wilhelm & Edmiston, 1998).

**DEFINITIONS FOR ARTS INTEGRATION**

Since transfer has been at the heart of much recent research into arts learning, as well as recent criticism of arts integration, Catterall suggests a “central theory” that may suggest research programs with respect to arts learning and transfer:

1. Arts learning and experiences, to varying degrees, reorganize neural pathways, or the way the brain functions. Extended and or deep learning in the arts reinforces these developments.

2. The development and re-organization of brain function due to learning in the arts may impact how and how well the brain processes other tasks. (p. 7)
could and should use the processes often embodied in the art forms as tools for learning and engaging students. Yenawine (2005) noted that learning to look is a process of stages, just as learning to read is a process of employing a series of gradually more complex steps. He compared the concepts of reading readiness, reading level, and reading for comprehension as they might be applied to visual literacy in the world of art. Seeing those parallels across disciplines enables viewers and readers not only to become more skilled but also to be more capable of making meaning (p. 846). Scheggen (Weiss & Lichtenstein, in press) described the need to create a “studio environment” for arts integration, borrowing from the visual arts, in order for such processes to be experienced.

Popovich (2006) stressed the importance of students’ interests in curriculum that is integrative. She compared the curriculum theories focused on phenomenology, postmodernism, autobiographical text, and interdisciplinary integration that view the individual’s experiences as a central source of curriculum. Popovich also noted that having students conduct original research is a central framework for arts integrative curriculum. Process portfolios which document students’ research on a big idea through a variety of means, including sketches, online resources, observations, and reflective journaling, are part of integrative arts learning.

Claire Detels (1999) represents another theory regarding the purpose and general results of arts integration in school settings:

Single-disciplinary specialization in the arts has led to extraordinary levels of complexity and virtuosity in the areas of research and practice, but it also has had the effect of isolating the specialists who teach about the arts from each other and from contacts and influences from other academic disciplines. (p. 119)

Arts integration is often defined as a process of collaboration. Just who is involved in the collaboration differs according to the program or research project. Eric Booth (2003) suggests the need for a teaching artist from the community as the heart of arts integration. In this model, the teaching artist participates in integration, not only of content but also of the community he/she represents. Because arts partnerships are often involved in integration processes, the role of community becomes central to the conversation about the focus and structure for the content in arts integration.

Others describe arts integration as a process involving in-school arts specialists (music or art teachers, for example) and classroom teachers. Still others have proposed that arts integration is possible and productive for classroom teachers alone to embrace, without the mutual support of arts specialists or teaching artists. Regardless of who is involved, many have affirmed the need for collaborative planning and inclusion of parents and community in order to engage students (Biedler, 1999; Grumet, 2004; Heath, 2001; Hefferen, 2005; Mason & Steedly, 2006; Myers & Scripp, 2007; Stokes, 2003; Strand, 2006; Werner, 2003).

The fact that arts integration is engaging for students is much discussed in the literature. Grumet (2004) explains:

You will find animation and engagement as kids make pilgrim hats at Thanksgiving. You will find interest and attention as they gather around the dancer who is visiting their school for a three week residency. But their interest in making things is too often contained within these experiences and not intertwined with their academic subjects. In contrast, these integrated arts programs have rescued the arts from educational cul-de-sacs where they have been sequestered. . . . And they have rescued the academic curriculums from their dead ends in the flat, dull routines of schooling that leave students intellectually unchallenged and emotionally disengaged (pp. 49-50).
Discussion about integration is not limited to PreK-12 schooling. As part of the Harvard Interdisciplinary Studies Project, Mansilla and Gardner (2004) commented on the increased attention to interdisciplinarity, while simultaneously raising awareness of its often dubious quality. They pose three core “symptoms” of quality interdisciplinary work based on an analysis of current institutional interdisciplinary programs and practices: consistency, balance, and effectiveness.

Ross Miller (2005), Director of Programs for the Office of Education and Quality Initiatives with the Association of American Colleges and Universities (AAC&U), affirms the importance of quality in assessing student learning in higher education integrative learning experiences.

He notes that at the college level, integration can involve knowledge and skills from different disciplinary areas, the consideration of multiple perspectives in problem solving, adapting skills across contexts, and reflecting on connections (pp. 11-12). Miller underscores the value of Mansilla’s foundations for assessing integrative learning:

1. Disciplinary grounding (Have appropriate disciplines been selected and are the concepts used in accurate ways?);
2. Integrative leverage (Has a new understanding been generated that would not have been possible using a single discipline?);
3. Critical stance (Is the goal of the work significant and does the integration withstand critique?)

(Mansilla, as cited in Miller, p. 13).

Both of these criteria for quality are or could be applied to arts integration initiatives at all academic levels.
Arts Integration is instruction combining two or more content areas, wherein the arts constitute one or more of the integrated areas. The integration is based on shared or related concepts, and instruction in each content area has depth and integrity reflected by embedded assessments, standards, and objectives.

Integrated instruction is often designed, implemented, and evaluated in collaboration with other teachers, arts specialists, community artists, and institutions; and delivered, experienced and assessed through a variety of modalities: artistic processes, inquiry methods, and intelligences.

Integrated (or interdisciplinary) learning uses the knowledge and methods of several disciplines in combination to explore a central concept, object or issue as a framework for building student competence. The arts can enrich and deepen student understanding in this educational framework. Knowledge and study of the arts develop the abstract thinking skills necessary for complex and imaginative problem solving.

Curriculum integration is a way of organizing studies around real-life issues that are significant to both young people and adults, and applying content and skills from many subject areas and disciplines at the same time. Curriculum integration is a teaching approach that enables students and teachers to identify and research problems and issues without regard to subject-area boundaries, providing students the experience in a learning setting that will prepare them for effective teamwork in the future.

Integrating curriculum with the arts involves:

- Organizing instruction that is often drawn from life experiences—allowing students to question and engage in real-life issues
- Combining subject areas—not separating them. Students learn and use skills from all disciplines and across disciplines to become knowledgeable about personal and global issues
- Developing skills and applying knowledge in more than one area of study

In an integrated curriculum, education through the arts allows students to learn how to analyze, evaluate and draw reasoned conclusions from what they see and hear. They learn to reflect on the meaning of their perceptions and experiences. They learn to convey ideas, feelings, and emotions by creating their own visual art and by performing dance, music, and drama. Knowledge and experience in the arts provide children the capacity to expand their reasoning ability, to make connections, and to think creatively.

Integrated arts lessons can be extremely rich and deeply layered learning experiences for students who experience them. Teachers report that with an integrated curriculum that includes the arts, students have moments of exhilaration, personal transformation, and academic or life choice change. Teachers and artists who have successful experiences report profound changes in their approach to individual students, to learning, and to the classroom in general. Many teachers, parents, students, and administrators believe that integrating the arts makes classrooms better learning environments. The arts provide a window to understanding the connections among all subject areas. (reprinted by permission of the author)

The Southeast Center for Education in the Arts (SCEA) at the University of Tennessee has proposed a comprehensive definition for arts integration (http://www.utc.edu/SCEA). The characteristics provided by SCEA summarize the key elements in definitions provided by practitioners, evaluators, and researchers. SCEA has also situated arts integration in the larger context of curriculum integration, as we have chosen to do. No single definition accurately characterizes the field; however, the elements identified by SCEA are consistent with the literature in this review.
THEORETICAL FRAMEWORKS FOR ARTS INTEGRATION

Frameworks, models, and planning guides are often the bases for the implementation of arts integration and are profoundly affected by issues such as beliefs about roles for the arts in schools, experience and training in the arts, roles in schools and communities, and available resources. Models for arts integration are often compared to traditional approaches to arts-specific curriculum designs. Four approaches to arts curriculum are examined by Krug and Cohen-Evron (2000):

1. using the arts as a resource for other disciplines;
2. enlarging organizing centers through the study of the arts;
3. using the arts to interpret ideas or themes in other subjects; and
4. understanding life-centered issues through a combination of the arts and other subjects.

Boix Mansilla’s (1998) discussion of interdisciplinary learning notes that there are three necessary elements: “an emphasis on knowledge use; a careful treatment of each discipline involved; and appropriate interaction between disciplines.”

Arnold Aprill (2001) calls for a new model of curricular integrity which needs to move away from “core” subject to education as a “whole” and a model of integrated instruction. Aprill asserts that arts integration must be viewed as a domain of knowledge that can stand side-by-side with other content areas.
Howard Gardner’s multiple intelligences theory has provided teachers and teaching artists with a framework for integrating the arts in the regular education classroom (1983, 1993, 1999). Gardner’s original list of intelligences, including logical-mathematical, linguistic, musical, spatial, bodily-kinesthetic, interpersonal, and intrapersonal, provides teachers with a straightforward planning tool for the purposes of arts integration. The multiple intelligences approach has been extended well beyond the arts and has been the impetus for designing whole schools around approaches that address students’ capacities.

Eunier refers to the concept of integrated arts that represent one four curricular structures (2002):

1. focus on a particular historical period or culture;
2. focus on the similarities and differences between and among the art forms themselves;
3. identification of a major theme or idea that can be explored through the arts and other fields as well; and
4. access through the process of solving a problem that has roots in the arts and other content fields.

Sample units, projects, and programs representing these structures can be found in the literature.

Liora Bresler (1995) describes four arts integration “styles”: subservient, co-equal, affective integration, and social integration. The “subservient” style has been the target of often intense criticism from arts communities and there is evidence that such practices exist (Mishook, 1983, 1993, 1999). Bamberger describes music, mathematics, and sciences as disciplines that share structures and strategies. Shared structures include hierarchies, periodicity, units, ratio-proportion, symmetry, pattern, and constants-variables. These subject areas also share strategies such as counting and measuring, parts/wholes, similar/different, parsing/chunking, classifying, and naming (p. 32). Common structures and strategies can become the organizing principles for planning and implementing integration.

Browen (2007) suggests a set of questions to consider before initiating arts integration: What is the content? What is appropriate instruction? Who provides the instruction? What strategies are implemented? How will assessment occur? She notes,

“Arts integration is like a weaving wherein the design may repeat a pattern or be variable. Just as the warp and weft strings are integral parts of a woven whole, the arts are an integral part of the curriculum and are valuable in all aspects of teaching and learning.” (p. 72)

The weaving metaphor is common in arts integration discussions (Blecher & Jaffee, 1998; Chen, 2005; Hansen, Brentorf, & Stuber, 2004; Mantione & Smead, 2003). The weaving metaphor is common in arts integration discussions (Blecher & Jaffee, 1998; Chen, 2005; Hansen, Brentorf, & Stuber, 2004; Mantione & Smead, 2003). Cognitive psychologist Arthur Efland (2002) offers the view of a work of art, not simply as an outlet for personal expression, but also as a reflection of a larger world or cultural environment. An art work can therefore become the locus for the integration of knowledge of what is within and what is part of the outside world. Efland notes.

“Works of art might serve as cognitive landmarks to orient learners as they weave their maps of knowledge and understanding. Such works can serve as places in the web of knowledge where paths of inquiry may cross, and where connecting links between domains become established. The maps of knowledge that individual learners develop for themselves should resemble the hypothetical map of the curriculum.” (p. 164)

Art education principles represented in standards and frameworks necessitate lessons that go deep: mining the concepts behind images, ideas and processes—and broad: making a web of connections between art content,
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of the practitioners and theorists in the arts integration laboratory in schools and schooling has informed many or studio as a metaphor as well as a literal atelier “making learning visible” (Project Zero and Reggio investigate and document their world explorations, thus Cadwell, & Schwall, 2005), in which young children The lessons, guided by writing and visual art goals, serve as the impetus for “Moon model where inquiry” which stems from Discipline-Based Art Education (DBAE). He states that such inquiry is consistent with arts integration because it encourages students to question concepts across the disciplines. The Chicago Arts Partnerships in Education (CAPE) has made teacher and artist inquiry questions the focus of professional development, documentation approaches, and assessment for action research teams in and across schools (Burnaford, 2007). Arts integration and action research are increasingly linked as processes for designing, examining, and assessing both teacher and student learning (Burnaford, 2007; CAPE UK 2015; Mason & Steedly, 2006; Rach, Lanz, Polan, & Marcus, 2003). Cadwell and Zemel (1997) describe a model where inquiry serves as the impetus for “Moon Journals,” in which elementary students observe, write, and draw as they learn about the phases of the moon, time, changes of seasons, and other natural phenomena. The lessons, guided by writing and visual art goals, address the content of the science curriculum through the process of students’ questions. Documentation in and through arts integration can be seen in the Reggio Emilia school (Gandini, Hill, Cadwell, & Schwall, 2005), in which young children investigate and document their world explorations, thus “making learning visible” (Project Zero and Reggio Children, 2003). The Reggio Emilia perspective on the atelier or studio as a metaphor as well as a literal laboratory in schools and schooling has informed many of the practitioners and theorists in the arts integration movement in the United States. The atelier, conceived as a place for observing, documenting, researching, and theorizing about students’ learning, has become part of the framework for designing arts integration in some contexts. “The role of the atelier, integrated and combined within the general framework of learning and teaching strategies, was conceptualized as a retort to the marginal and subsidiary role commonly assigned to expressive education” (Gandini, Hill, Cadwell, & Schwall, 2005). For some, the Reggio perspective gave voice to a broader goal— to reform teaching by adopting the pedagogies of “expressive education” in learning areas beyond as well as in the arts. The Arts Integration Mentorship Model (AIM) from the Center for Community Arts Partnerships at Columbia College builds upon a literacy curriculum, primarily writing, as a springboard for arts integration. Cynthia Weiss, Director of AIM, describes the model as a learning spiral (Weiss, in Weiss & Lichtenstein, in press). The learning spiral engages teachers, artists, and students in asking inquiry questions that, together with the overarching big ideas are driving forces in arts integration. Content goals, including arts goals, demand the learning of shared language and language specific to individual content domains. In the arts integration learning spiral, reminiscent of Bruner’s spiral curriculum (1960), learning occurs through immersion in doing, making, and sharing that in turn engenders new intentions for teaching and learning on the part of all engaged in the process. A common set of models for integrating the arts has emerged from the field of language arts/literacy. Literacy specialists have long been aware of the power of integrating teaching and learning regarding visual imagery and written words, especially as they are interconnected in picture books (Alejandro, 2005; Chu, 2005; Greenberg, 2005; Kieser, 2005; Yolen, 2005). While much of this work is not titled explicitly as “arts integration,” authors suggest ways for classroom teachers to help students notice the pictures, draw meaning, and at the same time learn about the visual representation, artist and illustrator choices, and media. The correlation between subjects is apparent in the instructional materials themselves (e.g., picture books). Claudia Cortett (2003), a literacy specialist, offers a comprehensive guide for teachers who want to integrate the arts and their literary curriculum. She describes the process as teaching with, about, in, and through the arts, and offers teachers detailed lesson plans and principles to integrate drama, visual art, dance, and music. While the reading and writing guidelines are central to this approach, Cortett is also careful to incorporate the requisite fine arts standards in her text. Keltner and Flynn (2006) also propose to develop reading comprehension through drama, and suggest this merging of purposes because the two fields have some “natural links” (p. 2). There appears to be some research to support and endorse the use of drama in conjunction with the teaching of reading (Podolzny, 2000; Wagner, 1998, 2002), with proposed connections Cynthia Weiss calls parallel processes that can be identified and assessed in multiple disciplines. Rosenblum (2004) proposes three philosophies of interdisciplinary curriculum as arguments for and against the practice in schools, particularly in the field of music. The purist philosophy represents the view that music study should never be diluted or devalued by attempting to integrate it with other subjects (Freiberg, 1995; Gee, 2003). There are those in the arts community who feel strongly that integration is unacceptable under any circumstances. Bennett Reimer explains: “We do not teach music as a way to teach other subjects, just as other subjects are not taught as ways to teach music” (1997, p. 9); and, “While music can enhance a variety of other values, musical values are what we music educators should principally serve. We are the profession that provides those values, which matters so much to human beings” (2004, p. 10). The utilitarian philosophy conversely notes that music is only valuable as it illuminates other subjects, a perspective not evident in arts integration literature. The organic philosophy suggests that it is possible to implement an interdisciplinary curriculum with each subject retaining its particular and individual integrity (Hope, 2003). The organic theory of curriculum is easily identified in many arts integration programs and projects. April (2005) objects to the treatment of discipline-specific arts instruction and arts-integrated teaching as dichotomous practices with different sets of rules rather than a continuum in which varied but connected practices inform and illuminate each other (p. 25). Scripp and Subotnik (2003) call for a framework for innovation “based on comprehensive, interdisciplinary programs that are intended to benefit all children in public schools” (p. 8). This approach does not exclude arts-specific teaching and learning and is in fact dependent upon it as part of a continuum of arts learning. They further suggest a framework as a path of innovation “from performance-based, non-compulsory curricula for the benefit of the talented few toward comprehensive, interdisciplinary programs designed for the benefit of every child in the school community” (p. 9). Brown and Nolan (1989) describe an evolution of integration that often occurs as teachers and students become more familiar with and expert in integrating knowledge and skills (see Table 6 on p. 26). Although not specifically termed arts integration, the Brown and Nolan framework is applicable and could serve as one such continuum for arts learning. Ingram and Searle (2003) in their Summative Evaluation of the Arts for Academic Achievement (AAA) four-year initiative in Minneapolis described five models for implementing arts integration that they observed in the 31 participating schools: 1) Residency Model; 2) Elaborated Residency Model; 3) Capacity Building Model, 4) Co-Teaching Model, and 5) Concepts Across the Curriculum Model” (p. 3). These five models, though not characterized as a strict continuum, could represent a progression of implemen- tation approaches with increasing engagement and participation from within the school and across the content disciplines as participants become more comfortable and familiar with integration.
Snyder (2001) describes the processes of connection, correlation, and integration as current trends in education. She cautions against connection as the most popular, most used, and least meaningful way of linking disciplines (p. 34). From Snyder’s perspective, connection is when one discipline is used in the service of another. Snyder notes that connections, for example, rarely develop musical concepts and skills but they are the most popular approach to helping students realize relationships between prior knowledge and newer experiences. Correlation in Snyder’s conceptual framework occurs when two disciplines share common materials or activities. She notes that with correlation no plan is made to develop important ideas across disciplines to form generalizations (p. 35). When correlation becomes consistent in a school, Snyder comments that many schools begin to seek funding for professional development, teaching artists, and/or arts materials. She notes that in the current climate of testing accountability, correlational curriculum often stops as teachers and students prepare for standardized high stakes tests, usually in mathematics and reading.

Correlational curriculum, in short, is not a systematic, regular part of the curriculum. For Snyder, integration occurs when a broad theme is selected that cuts across content areas so that disciplines can interpret and explore the theme in unique, yet related ways. She notes that when schools truly move toward arts integration, scheduling and school goals also start to change. This view represents a continuum toward integration that is measured, not just through student learning but also through school schedules and explicit goals.

The Music-in-Education National Consortium (MIENC), a national network of universities, arts organizations, school reform foundations, and partnering schools, has responded further to this theory of integration as part of a continuum (Scripp & Subotnik, 2003). For MIENC, the framework of integration is situated in a tension between processes of differentiation and synthesis, maintaining the integrity of the art form as a separate discipline while also affirming the value of teaching for transfer with respect to shared concepts and processes. Each differentiated art form and subject area needs to be learned for its own sake, its particular literature, and its medium of expression before the process of its explicit synthesis with other subjects becomes meaningful. Thus, learning in the context of its integration with other subject areas becomes an optimal condition for ensuring that fundamental concepts and processes shared between an art form and other domains become more deeply and broadly understood (Myers & Scripp, 2007).

This stance, describing the coexistence of arts integration (synthesis) with the need for explicit, defined learning within an arts discipline as taught by qualified and trained arts professionals (differentiation), may be the future of arts integration within a larger vision for arts education in public schools. •
We will discuss the research in terms of categories, including large-scale longitudinal research projects, meta-analyses, single site studies, dissertation studies, and research on arts integration with respect to teacher development. Several prior general reviews have been helpful. John Clinton’s brief review (http://www.sde.state.ok.us/Art/pdf/ResearchArts.pdf) noted correlational studies and causational studies, while Russell and Zembylas (2007) compiled a literature review on arts integration research, limiting their discussion to empirical studies that were published in refereed journals or presented at conferences between 2000 and 2005.

This literature review, while not exhaustive, represents current trends and studies typical of the field and includes qualitative and quantitative studies as well as methodological and theoretical pieces concerned with arts integration. The review may suggest areas for future investigation and will raise dilemmas and challenges for research in this field. A final section will briefly discuss a new international study within which trends across countries for teaching through the arts is one parameter for investigation (Bamford, 2006).

Hornowitz and Webb-Dropsey (2002) identify three issues that are of critical importance to understanding the research in arts education. For any review of arts integration, these questions are especially salient:

First, what is the nature of the arts learning experience, and if we can sufficiently understand it, how are we to capture or measure it? Second, are
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T. MacArthur Foundation, the Arts Education Partnership and the President’s Committee on the Arts and the Humanities. While not all of the studies in Champions describe projects and partnerships that explicitly name arts integration as the implementation approach, all of the projects in the compendium have elements of integration consistent with the definition and theoretical frameworks provided in this literature review. Further, Champions has become a frequently quoted and consistently used source for support regarding arts integration programs and projects. Therefore, we include brief summaries of the studies here.


The research team used data from the National Educational Longitudinal Survey (NELS) to examine the relationships between general involvement in the arts and academic performance. Involvement in instrumental music and mathematics achievement, and between involvement in theater arts and human development (such as increased reading proficiency and an enhanced self-concept). There was a focus on middle and high schools, as the researchers particularly focused on the gains made by economically disadvantaged students (p. 3).

Analyses of the quantitative data (e.g., standardized test scores, academic grades, and dropout rates) showed that the probability of having more arts experiences in school was greater for economically disadvantaged students than for low-socioeconomic status (SES) students. However, students with high involvement in the arts, across the socio-economic strata, performed better in school and stayed in school longer than students with low involvement (p. 6). Also, “the relative advantage for arts-involved youngsters increases over the middle and high school years, and especially between grades 10 and 12” (p. 7).

Low-SES students involved in band and orchestral music programs outscored low-SES no-music students on the criterion-referenced NELS mathematics assessment. Likewise, low-SES students who were more involved in drama activities had greater reading proficiency and a more positive self-concept, and the gaps widened over time, as compared to low-SES students with little or no involvement.

This study, which utilized large-scale national data from 25,000 students over a 10-year span, did not claim to show causation. “The main implication of this work is that the arts appear to matter when it comes to a variety of non-arts outcome…. In addition, although not the main theme of this paper, our data support long-held concerns that access to the arts is inequitably distributed in our society” (p. 17).


In a 6-year study, Catterall and Waldorf examined the impact of the Chicago Arts Partnerships in Education (CAPE) on public school classrooms, on teachers and artists, and on students. The authors used large-scale surveys of students and teachers, along with standardized test data. CAPE was extensively integrated into the public schools. The visual arts and theater proved to be the most popular subjects, and music was least frequently chosen as an integrative subject area. “On teacher survey scales about school climate, quality of relationships with parents, professional development, instructional practices, and relationships with the community, CAPE schools outscored non-CAPE schools in every case, although the differences were small and not statistically significant” (p. 59).

There was a high level of teacher-artist collaboration and teacher buy-in, but low levels of average attendance at the CAPE workshops. Students had positive attitudes about arts-integrated instruction, but there were no differences in student motivation between CAPE and non-CAPE schools. Student achievement on standardized reading and mathematics tests favored CAPE students over a period of years; in 1997-98, some of the differences became significant. The actual data are not reported.

For a subsequent 1998-1999 study, CAPE school student achievement was compared to that of students in all Chicago public schools. On reading and mathematics standardized tests, students in CAPE schools outscored other students on all 52 comparisons. There were strong differences in 6th grade and moderate differences in third grade, using performance growth over a 6-year span. There were no achievement effects in eighth grade, while there were differences favoring CAPE students in high schools, but the sample was too small to make significant comparisons.

To investigate the nature of high quality integrated arts curriculum, the researchers chose to observe and interview 10 teacher-artist pairs known for working successfully. Based on the teacher-artists’ self-reports about “what it takes to succeed,” the authors determined a set of characteristics that would “boost their success in integrated curriculum” (p. 59):

On the teachers’ side, these are willingness to let go of some control, openness to new ideas, flexibility, and risk taking…. On the artists’ side, we would identify organizational skills, punctuality, good listening skills, as
Catterall and Waldorf looked not only at changes in scores on the Iona Test of Basic Skills (ITBS) but also at teacher, student, and administrator attitudes about the CAPE project. A number of trends emerged: 

1. Positive changes in school climate resulted because of CAPE, based on school community surveys. Climate includes qualities such as principal leadership, focus on instruction, positive collegiality, and widespread participation in important decisions.

2. Significant progress was seen in getting support of school principals for CAPE.

3. CAPE succeeded in getting teachers and artists to collaborate, with more success in co-planning than in truly co-teaching.

4. Teachers believed that an arts-integrated curriculum has learning, attitudinal, and social benefits for children (p. 52).


Steve Seidel, a Harvard Project Zero researcher, conducted a student interview study of Shakespeare & Company’s educational program working with elementary, secondary, and undergraduate students, and then regular and special teachers. The research focused on students’ “imaginative, emotional, and intellectual responses” to the Shakespeare texts (p. 82). Students are quoted to provide evidence of learning in four realms: Learning about Shakespeare, about acting, about working in creative communities, and about oneself (p. 85). Seidel interviewed administrators and teaching artists, and observed the entire process from classes to rehearsals to performances, in order to derive a set of principles that guide the work. From those data, Seidel asserted that Shakespeare & Company represents “an important model of rigorous project-based learning” (p. 84).


The Creating Original Opera (COO) project by its very nature integrates reading, writing, music, and acting. In this study, researcher Dennie Palmer Wolf generated qualitative data from observations, interviews, student ethnographies, and collections of student work in four classrooms, and then asked the teachers to identify evidence of student learning that was directly related to their students’ participation in COO. The goal was to find moments of shared problem-solving during the opera work and compare their characteristics with what took place during non-opera classroom interactions (e.g., during a math lesson).

Wolf determined from a process of data analysis, conducted with the teachers, that there was more sustained and coherent collaboration over time when students were engaged in creating the opera than when working in other aspects of the curriculum. The author used analytical tables and verbatim transcripts of classroom dialogue and interview responses to show the specific features of collaborative interactions. In the end, we are left with a key question: “What is it about sustained and coherent collaboration that supports the development of a taste for more than convenient solutions or a capacity for understanding complex meanings?” (p. 98). And, more broadly, we can consider what role “qualitative research can play in providing a deeper, if not yet conclusive, understanding of what effects arts education programs have and why these effects may occur” (pp. 92-93).

North Carolina A+ Schools


The A+ Schools Program is a whole school reform model that views the arts as fundamental to how teachers teach and students learn in all subjects. The mission of the A+ Schools Program is to create schools that work for everyone—students, teachers, administrators, parents and the community. The program was also designed to provide arts-specific instruction in all four art forms at least once a week in a set of pilot schools, during the first 4 years, with a second phased in arts integration initiative over a 3-year period (Marron, 2003). According to the A+ website (http://aplschools.umcg.edu/) the central vision of A+ is to create enhanced learning opportunities for all students by using arts-integrated instruction which incorporates Howard Gardner’s theory of multiple intelligences, as well as other theories of intelligence and recent brain research.

Established in 1995 by the Kenan Institute for the Arts, the A+ Schools Program began with 25 schools, representing the diversity of North Carolina schools and communities, participating in an extensive four-year evaluation. The results of the initial evaluation and the subsequent evaluation in the eighth year attributed the success and sustainability of the Program to the use of the arts in school reform, the professional development, and the statewide network created to support teachers and schools.

There are seven Policy Reports summarizing the 4-year pilot of A+ Schools in North Carolina. The Executive Summary of the seven reports reflects the evaluation based on an extensive data set, including surveys, interviews, and on-site research in the schools (Nelson, 2001). The evaluation was directed by Bruce Wilson, Dickson Corbett, and George Noblit. With respect to this arts integration literature review, findings suggested that there was evidence of more institutionalized arts integration in the school curriculums at the end of the 4-year pilot. Two-way arts integration was more evident, meaning that more arts were infused into the core curriculum and more core curricular ideas were infused into the arts (Nelson, 2001, p. 4). “The arts were no longer considered a distraction from the core curriculum. On the contrary, two-way arts integration provided opportunities for students to encounter the central ideas of the curriculum more frequently and more diversely, increasing the chance for all students to master content at a deeper level” (Nelson, p. 5). Curriculums based on the multiple intelligences and thematic integrated units was also more evident at the end of the 4-year pilot. In general, arts were legitimized in the schools and more arts instructional personnel were retained in the schools after pilot funding ended.

During the last 3 years of the A+ pilot, the distribution of A+ schools across the state’s performance categories matched that of schools in the state as a whole. Students in A+ schools achieved gains over the 3-year period equal to those of students statewide in both mathematics and...
and reading. This is compelling, given that A+ served schools with larger proportions of minority students than the state as a whole. Data also indicated increased parental communication, community involvement, teacher collaboration, and substantive assessments through the 4-year pilot.

Upon completion of the evaluation in North Carolina, other states began to express interest in the Program. In 2000 the North Carolina Program began a 4-year process to assist the Kirkpatrick Foundation in Oklahoma City in establishing a statewide A+ Schools Program in Oklahoma (http://www.okaplus.ucok.edu/). Today, the Oklahoma A+ Schools program has 31 schools, with plans to continue adding schools each year. One year after beginning work with the Oklahoma project, the North Carolina program began a similar process with a private foundation to assist in establishing a statewide program in Arkansas (http://www.aphnetwork.org/). Arkansas now has 14 A+ schools, with plans to add schools each year. In 2003, the three statewide A+ Schools programs, North Carolina, Oklahoma, and Arkansas, came together to form the National A+ Schools Consortium to further their mutual interests in guiding the development of future statewide A+ Schools programs.

In addition to the usual measures of student achievement and school success (expected gains in test scores, student and teacher attendance, student discipline, and parental involvement), the A+ Schools Program evaluators identified the unique contributions that the arts make to students’ intellectual, social, and emotional growth. This “value-added” case for the arts in education make to students’ intellectual, social, and parental involvement), the A+ Schools Program in Oklahoma largely revealed changes in three areas: (1) Artists felt they deepened their sense of mission, expanded their professional networks, and learned valuable assessment skills. (2) Teachers, according to participating artists, increased their ability to collaborate, grew in their ability to integrate the arts, and made changes in their practice. (3) Schools, according to artist informants, improved in terms of school climate and the sense of community as a result of the arts integration work (Werner, 2002).

The project funded teams at 31 schools during the first year of implementation and expanded to include 45 schools by the third year. The majority of the teams were in elementary schools, but four middle schools and six high schools were also involved. Schools developed a variety of approaches to integrating the arts through collaborations among classroom teachers, arts partners, and arts specialist teachers. There was also great variation in the art forms and non-arts disciplines that AAA teams chose as the focus of their work together.

In the final year of implementation, 77% of the teachers in AAA schools reported they integrated the arts into their students’ lessons. Elementary teachers were more likely to integrate the arts than secondary teachers—85% versus 70%, respectively. English/reading was the most common focus of arts integration, as it had been throughout the program. In the last year, 38% of the elementary teachers who integrated the arts said they integrated English/reading “a lot.” In contrast, only 16% enhanced by integrating the arts (Werner, 2002, p. 2). A preliminary evaluation conducted in 2004 included 21 teaching artists as informants who participated in interviews and focus groups. This evaluation of the initiative revealed changes in three areas:

1. **Artists** felt they deepened their sense of mission, expanded their professional networks, and learned valuable assessment skills.

2. **Teachers**, according to participating artists, increased their ability to collaborate, grew in their ability to integrate the arts, and made changes in their practice.

3. **Schools**, according to artist informants, improved in terms of school climate and the sense of community as a result of the arts integration work (Werner, 2002).

A preliminary evaluation conducted in 2004 included 21 teaching artists as informants who participated in interviews and focus groups. This evaluation of the initiative revealed changes in three areas:

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**Oklahoma A+ Schools**


A joint research team from the University of Oklahoma and Oklahoma State University formed to investigate the success of the Oklahoma A+ program, modeled after the North Carolina project, over a 6-year span (Barry, Gunzenhauser, Montgomery, & Raiber, 2003). The researchers identified 10 research questions to investigate the impact of the A+ program in its 14 schools. The research is largely qualitative in nature, concerned with school culture, teacher engagement, student attendance and attitudes, and reports of self-efficacy. Scores on the Stanford Nine test showed increases in the maximum scores earned in 9 of the 10 percentile reports on this test, with the tenth category staying at the same level. The minimum scores on 6 of the categories were higher after the first year of the A+ program, with three categories showing a decrease in minimum score. The seven categories of the Oklahoma Core Curriculum Test for fifth-grade students showed mixed results in the 2003 evaluation.

The researchers identified four emergent themes from the data. They looked closely at the teachers’ engagement with the A+ curriculum, curriculum planning, community building, and school infrastructure. Areas noted for improvement included increasing the presence of arts specialists in the schools and developing clearly defined leadership roles.

The second report on the progress of the implementation of the A+ Schools model in Oklahoma largely focused on eight relationships that emerged as essential during the observation of schools and the feedback from teachers and administrators. These “eight essentials” are collaboration, infrastructure, school climate, multiple intelligences, arts, curriculum, experiential learning, and enriched assessment (Gunzenhauser, Montgomery, Barry, & Raiber, 2004). On Oklahoma’s Academic Performance Index (API), there was marked improvement among the 14 schools participating. Researchers reported a clear pattern of increasing improvement for fifth-grade students on the Oklahoma Core Curriculum Test in the 2004 evaluation study.

**Arts for Academic Achievement (AAA)**


Arts for Academic Achievement (AAA) was a study implemented with the Minneapolis Public Schools in partnership with the Perpich Center for Arts Education. Unlike arts integration initiatives that focus on partnerships as a way to restore discipline-based arts instruction to the curriculum, the purpose of the Arts for Academic Achievement project was to strengthen instruction and improve student learning in non-arts areas such as reading and science. In this project, arts integration was not intended to replace the comprehensive, sequential arts instruction already provided by trained arts educators in the district. Instead, the project was based on the belief that students benefit from a curriculum that includes both discipline-based instruction in the arts and non-arts instruction that is
The ArtsConnection project worked with more than 120 New York City public schools in programs that included dance, the visual arts, theater, and music. The teaching artists used a variety of teaching methodologies to work with students, with no single “ArtsConnection teaching model” in effect in the partner schools. The purpose was to “see if classrooms with the strongest arts programming and the most evidence of cognitive, social, and personal development also showed evidence of potential gains in academic areas” (p. 34-35). One of the strongest connections was between drama and English/Language Arts, “particularly in verbal expression and listening skills” (p. 35).

Hefferen summarizes the foundations of ArtsConnection’s model for the simultaneous professional development of artists and teachers. The Professional Development initiatives included Artist Institutes, a Share and Deconstruction Process, Backward Design, study groups, and mentoring to create supportive learning environments for participants (p. 22). Particular processes used to engage artists and teachers that are an outgrowth of the major concepts include: Planning and Reflection Meetings, the Video Description Process, and Lesson Study (adapted from Japanese teacher education practices). Each teaching artist residency in the ArtsConnection project lasted 8 to 15 weeks, with one hour of direct contact with the teaching artist each week for the children involved.

During the first 4 years of the project, careful curricular links were developed between the arts and the classroom core subjects, especially English and social studies. In the last 3 years of the study, the focus was on developing connections between dance, drama, and literacy instruction. Extensive analysis of qualitative as well as quantitative data indicated that cognitive skills such as creativity, elaboration, originality, and the ability to conceive of multiple ways of representing a problem were all enhanced by the experience with the arts. Additionally, students self-reported that they were more confident, and teachers identified positive risk-taking behavior as an outcome of the arts initiative.

In the last year of the study, researchers used observational data to construct and administer rating scales on a self-report survey of teacher perceptions about support for their work, their own practice, and student development. The instrument consisted of 14 variables that had been identified as vital to the success of integrated arts education, which then became subscales. Each subscale was composed of 1-5 items. The researchers analyzed the data by determining mean scores and standard deviations for each item, and mean scores for subscales. The article reported that “overall, teachers responded very favorably” (p. 38). Researchers also examined the correlations between teacher variables and student outcomes, and found that “collaboration between teachers and artists” and teacher “comfort level with the arts” was significantly associated with 6 other subscales.

Of the 14 subscales, there was a mean score of greater than 4.25. “Collaboration between teacher and artist” [Student] expression of ideas or feelings, Cooperative learning, [Student] ownership of learning, and Seeing students from a new light or from a different perspective”. Subscales that had the least positive responses, with a mean less than 4.00, were Student elaboration of their school work and Student writing process.

The ArtsConnection researchers also reported differences related to the level of teachers’ experience with artist residencies. “The most experienced teachers [with arts integration] had higher mean scores in ratings of collaboration with artists, comfort level with the arts, seeing student in a new light, and school leadership. Differences between the groups were greatest in the area of comfort level with the arts” (p. 45). The biggest differences between teachers having greater experience and those having less experience were found in the areas of “elaboration and writing process.” These two areas had the lowest mean subscale scores overall, which suggests that future researchers may want to pay special attention to less experienced teachers’ practices in these areas.

Empire State Partnerships (ESP)


The Empire State Partnerships (ESP) is a collective of 56 cultural organization partnerships involving 54 organizations and 113 schools. The program is funded by the New York State Council for the Arts (NYSCA) and the New York State Education Department (NYSED). The 5-year evaluation study of the program focused on the impact and thematic development of arts teaching and learning; particularly during Summer Seminars, the major professional development initiative in ESP. The partnership was created to fund schools and cultural organizations who design curricular program initiatives that integrate the arts with core curricular areas across multiple grade levels in New York schools (Baker, Bevan, Admon, Clements, Erickson, & Adams, 2004). The report examined data sources that included surveys of program participants, interviews of participants, and observations.

In the introduction to this report, the authors recognize the importance of key leaders in both NYSCA and NYSED who helped overcome a prevailing sense of distinctly separate camps and helped form a sense of community working together toward mutually agreed-upon goals.

Empire State Partnerships started with three key theories to support their belief in arts integration:

1. Learning through the arts allows different learners to approach the subject matter in different ways, thus providing avenues into the content for more students.

2. Allowing students to encounter subject matter in a variety of ways—for instance mathematics taught at the blackboard by a teacher but later encountered again through dance instruction—builds a redundancy that enhances learning.


3

Work brought in by teaching artists not only introduces novelty to the classroom—a stimulating “difference” from the typical classroom presentation—it also serves to stimulate student engagement in new ways. (p. 3)

The group’s initial report on the project identified three elements that required attention: writing and developing grants, professional development for the classroom teacher and the teaching artist, and dissemination of the project. Goals continued to be refined in the 5-year project, with more emphasis being placed on promoting best instructional practices and whole school change as partnerships matured.

Through a survey administered to teachers, teaching artists, and program coordinators, evaluators sought to identify changes that benefited students as a result of the ESP project. Results indicated that students appeared to apply themselves for longer periods of time as well as work more collaboratively in the ESP projects. The results regarding improved standardized test scores were more mixed; generally, the perception was that students were improving while the project was in progress in partner schools. Underachieving students performed better than expected, according to the informants. The most positive results were reported with respect to the project’s impact on students’ self-perceptions of success (p. 43).

The Empire State Partnerships project is an example of a statewide, large-scale project that focused intensely on professional development of teachers and teaching artists as the avenue for successful arts programming, either integrative or arts-specific. Now, we need further research to examine the efficacy of specific approaches toward professional development (e.g., action research, inquiry learning, questioning, project-based learning, or teaching for understanding).

Third Space


Stevenson and Deasy under the auspices of Arts Education Partnership (AEP), sought to examine the question: “How do the arts contribute to the improvement of schools that serve economically disadvantaged communities?” Researchers sought schools with outstanding arts programs in which at least 50% of the students were from economically disadvantaged families. The resulting collection of 10 case studies illustrates how teachers, artists, and communities can use strategies found in arts instruction to improve their schools. The research results indicated the potential for the arts to connect schools to communities. Informants, including students in the case study schools, indicated that learning became more relevant because of arts teaching. Case studies articulated the processes by which schools built and sustained arts programming. The arts were present in both discrete art classes and integrated arts instruction in all 10 case study schools. Discrete arts classes were taught by certified arts specialists with integrated arts being taught by teaching artists. Case study descriptions demonstrated the interaction between both arenas for arts instruction and proposed what students learned and how the arts in both contexts contributed to the school and larger community. (See also the Methods and Practices section of this review.)

ArtsBridge


In response to the need for arts instruction in public schools, the University of California’s Irvine campus developed the first ArtsBridge program in 1996. In 1997, California’s Department of Education called for an educational renaissance to revitalize artistic achievement in its schools. The following year, the state legislature perceived the strengths of the ArtsBridge model and the potential of the eight UC campuses to contribute to this desired renaissance in arts education. Funding was allocated to develop the program across the University of California system. In 2001, a grant from the U.S. Department of Education’s Fund for the Improvement of Postsecondary Education (FIPSE) funded the dissemination of the ArtsBridge model for programs on 11 new campuses. In 2005, the national ArtsBridge America office moved to Lawrence University of Wisconsin and the UC ArtsBridge Office moved to UC San Diego. There are currently ArtsBridge programs on 22 university campuses in 13 states and at the University of Ulster in Northern Ireland.

The basic premise was to engage fine arts students and faculty members from universities to plan and implement arts projects in host schools and classrooms. The research agenda was multidimensional, with central questions that are relevant to this review: “How does ArtsBridge enhance knowledge and appreciation of the arts among classroom teachers and how are the arts used to incorporate instruction in other academic areas? To what degree does service as an ArtsBridge host teacher increase confidence in presenting arts instruction to pupils?” (Center for Arts Research in Education, 2002).

Brouillette and Burns (2005) examined the effects of ArtsBridge America on arts students who participated as guest artists in host classrooms. The study indicated that the transition from student to teaching artist required transformation of abstract procedural knowledge into a more flexible and fully assimilated performance capacity that could be adapted to a wide variety of situations. In addition, ArtsBridge helped university students move from a focus on the individual (self) and domain (arts) to a larger social/cultural sphere (field). Findings indicated that important interdisciplinary connections could be made; mentor relationships developed, and a nurturing environment for the development of creativity built through ArtsBridge program activities.

Keith Fowler (2002), Director of ArtsBridge from 1996-2004, emphasizes the aim of the program to provide “regular, on-going arts education” (p. 5). He notes the initial challenges of asking teachers to commit for four years to the project, noting the need for teachers to be enthusiastic about the arts in order for it to work. The ArtsBridge organizers learned that teachers themselves needed to be the ones to apply to participate rather than being nominated by their administrators. The selection of art forms was also a challenge, with teacher preferences and available university student artists not always a perfect match. As with all curriculum initiatives of this type, Fowler cited the need for time for teachers to plan with university scholars. These lessons learned are valuable for the fields as arts partners further investigate bringing arts programs, including those focused on integration, to scale across all art forms.

In 2006, ArtsBridge was awarded a $250,000 grant from National Geographic for a Mapping the Beat project which brings various forms of cultural music into classrooms as students learn about United States history and geography. The Journal for Learning through the Arts: A Research Journal on Arts Integration in Schools and Communities has become an online repository for documentation of ArtsBridge programs across the country (see also Methods and Practices in this review).

Transforming Education through the Arts Challenge (TETAC)

Arts Integration Frameworks, Research & Practice »

and evaluation data were gathered by Westat, Inc. In 2000, Hutchens and Pankratz described the implementation of a Comprehensive Arts Education model across contexts that incorporates arts specific learning, and with each participating school. The assessment documented and evaluated on the national and local levels the progress of the Challenge project as a whole. TETAC consortium members explored, assessed, and documented ways in which intensive professional development, comprehensive arts education, and systemic school reform could transform schools and their extended communities. Throughout the project, the Consortium collectively documented and evaluated on the national and local levels the progress of the Challenge project as a whole and with each participating school. The assessment and evaluation data were gathered by Westat, Inc. of Maryland, a third-party, independent, national evaluation firm. In 2000, Hutchens and Pankratz described the challenges and questions relevant to designing and implementing a Comprehensive Arts Education model across contexts that incorporates arts specific learning, arts integration, schools, and community resources:

Schools in one site may plan to integrate art across the subject areas in the curriculum, and those in another site may work to institutionalize art as a subject of study in its own right. Schools in one site may have access to local museums and their collections, whereas others may not. Would arts specialists educated in isolation from classroom teachers learn to collaborate? Would classroom teachers understand the value of a curriculum that integrated several subjects? Can traditional school structures be manipulated to allow movement away from isolated planning and teaching events toward more collaboration among project participants? (p. 6)

These questions are part of the challenge of establishing and maintaining quality arts programs and the impact of scale on success. TETAC had multiple goals and outcomes beyond the scope of this review. Joy Frechtling from Westat and Donald Kilren from TETAC wrote about the challenge of reporting large-scale outcomes on a project such as TETAC for the Research Perspectives on School Reform: Lessons from the Annenberg Challenge (2003). Frechtling and Kilren reported that TETAC was intended to address two agendas: one educational and one political (p. 71). While decision making and oversight were carried out at the national level, independent task forces were responsible for implementation. Some schools in the project were already arts-focused, whereas others had no special emphasis on the arts. The evaluation of the project was affected by the uneven implementation and the need for time for schools to embrace the strategies of TETAC. The final report noted that Comprehensive Arts Education does provide a model for integrated arts instruction that is adaptable, although demanding. The lessons learned from TETAC are instructive for large-scale evaluations that are focused on national implementation of any arts education model or program. Further research on how to accommodate local and state norms and mandates while institutionalizing models and practices that extend across sites is needed.

Critical Links


This 2002 report is a compendium of research in arts education with more than 40 summaries of studies in the disciplines of dance (7 studies), drama (19 studies), music (15 studies), and visual arts (4 studies), along with essays and perspectives by leading scholars. Published by the Arts Education Partnership (AEP), with funding from the National Endowment for the Arts and the U.S. Department of Education, Critical Links explores current practices in arts education, examines the effect of the various arts disciplines on students’ achievement and personal growth, and recommends future lines of research. A final essay by James Catterall discusses the concept of transfer with respect to arts learning. The Foreword to Critical Links reminds the reader that compendia “attempt to capture the best work done at a period of time” (p. iv). The study summaries include a set of research questions followed by discussions of the methodologies and concluding with a commentary essay. For each research study reviewed, two readers present a summary of the study and discuss the implications of its results for the field of future research. Richard Deasy, in his introduction, suggests that the purpose of this collection “is to recommend to researchers and funders of research promising lines of inquiry and study suggested by recent, strong studies of the academic and social effects of learning in the arts” (p. viii). We also refer readers to two appendices of An Inventory of Arts-Related Academic and Social Outcomes Found in Critical Links: Appendix A is indexed according to “academic and social area where they have impact, and by study,” and Appendix B is “organized by cognitive capacities and motivations.”

The notion of transfer is a major theme for study in the essays and selected studies included in Critical Links. The Compendium Summary in the document offers an inventory of 65 core relationships titled as The Arts and Academic and Social Outcomes (pp. 152–153). In doing so, this volume became a focal point for general dialogue in the field of arts education since its publication in 2002. As Deasy proposed, the volume prompted further research and documentation of integration programs and approaches that attempt to impact student learning. In 2003, Debra Ingram from the University of Minnesota reviewed Critical Links for the Teaching Artist Journal. She noted that while Critical Links showed incredible detail in describing programs and the details of research findings, and its authors were careful at all times to present their research data in a format that was specific to the study, rather than to generalize those results (Ingram, 2003). Rather than make large claims about transfer or broad claims that involvement in drama causes improvement in reading skills, Ingram reminded readers that the study’s authors hoped to offer correlational results concerning the impact of arts on learning. Ingram asserted that while we are not always able to track down direct causation between exposure to any skill or idea and success in another realm, we can point to consistent...
trends showing that one area improves in the presence of certain stimuli. Ingram’s review showed important distinctions between attempting to show transfer of cognitive skills and attempting to show transfer of affective development. It is the latter connection that proponents of arts integration would have the most success supporting, Ingram claimed.

**Reviewing Education and the Arts Project (REAP)**


REAP conducted a comprehensive search for all studies from 1950-1999 (published and unpublished, and appearing in English) that had tested the claim that studying the arts leads to some form of academic improvement. Searches turned up 11,467 articles, books, theses, conference presentations, technical reports, unpublished papers, and unpublished data. One hundred eighty-eight reports investigating the relationship between one or more arts areas to one or more academic areas met the criteria for the report. Effect sizes were calculated and a set of 10 meta-analyses were conducted. A meta-analysis combines and compares effect sizes across groups of studies that address similar research questions.

Three areas were found in which a substantial number of studies had demonstrated a clear causal link between education in an art form and achievement in a non-arts, academic area. The effect sizes found in these three areas ranged from small to large. Although small or medium differences may seem trivial, they may in fact turn out to be of practical importance.

The results were divided into three groups:

1. **Areas where a reliable causal relationship has been shown are:**
   - a) the relationship between listening to music and spatial-temporal reasoning, b) learning to play music and spatial reasoning, and c) classroom drama and verbal skills.

2. **Areas where the research shows some slight causal link area:**
   - a) learning to play music and mathematics; and b) dance and nonverbal reasoning.

3. **Areas where they found no reliable causal relationship were:**
   - a) arts-rich education and improvement on verbal or mathematics scores; b) arts-rich education and creative thinking; c) learning to play music and reading; d) visual arts and reading; and e) dance and reading.

Hetland and Winner propose directions for further research. They encourage research to build theory to investigate what happens in schools where the arts are given a prominent role and seem to be related to improvement among students. The researchers also advocate the construction of theory-driven experiments to see if the arts provide some motivational entry point for some students that supports improvement. We have included selected meta-analyses from the REAP study relevant to this review on arts integration and refer the reader to the complete REAP study for more information.

**Meta-Analyses Included in REAP**


The researchers proposed two possible mechanisms by which visual art instruction could have a positive effect on reading ability and readiness. The explanation for a cognitive connection is that training in the visual arts leads to increased attention to visual detail and an increased ability to deduce patterns visually. If this is true, we should see improvement in reading skills. In a motivational model, engaging students in projects that integrate visualization with reading and writing skills will motivate them to improve their reading. Each of these hypotheses was tested on younger children who were just beginning to be exposed to reading instruction.

A thorough database and journal search yielded 10 studies that met the criteria of the authors. They conducted two meta-analyses, one on each of the proposed mechanisms, and found no evidence of a causal relationship. Researchers did recognize a positive impact on reading when visual art is integrated as an entry point for students.


Beginning with the hypothesis that instruction in music may help children with reading, Butzlaff conducted a meta-analysis of 94 research studies examining the connection between music and writing. After eliminating studies that did not include random assignment of participants as well as those that identified reading ability before making music assignments, 31 reports were deemed useful in the meta-analysis. Six of these were experimental studies and 25 were correlational studies.

Since learning to read music has some structural similarities to learning to read written text, there may be physical benefits from learning one skill when attempting to master the other. Listening to music requires tonal distinctions be made, while reading requires the development of phonological distinctions. Finally, most early music learning is centered on simple songs where lyrics are learned as well. There are hypotheses that the author presents as possible reasons for linkages between music and reading.

Butzlaff recognizes that the correlational studies do show a strong and statistically reliable link between the study of music and performance on standardized reading/writing tests. He points out that correlational studies cannot support any underlying explanation for this relationship.


Keinanen, Hetland, and Winner examined the relationship between learning in arts and non-arts content in a study to investigate the ways in which dance can enhance academic skills. After meta-analyses of four studies relating dance to reading and three studies relating dance to nonverbal reasoning skills, they
concluded that the evidence does not provide adequate support to conclude that dance instruction improves reading skills. There is evidence that dance participation improves some nonverbal skills such as visual-spatial relationships.


Podlozny surveyed research on the effects of drama instruction on students in the United States, the United Kingdom, and Holland. A search of academic databases and journals yielded 200 experimental studies from 1965 through 2000. The bulk of these studies looked at the relationship between drama instruction and verbal achievement.

The author conducted 7 meta-analyses on a final total of 80 studies, 38 of which were published. She looked at the impact of drama instruction on the following outcomes: oral measures of story understanding, written measures of story understanding, reading achievement, reading readiness, oral language development and improvement, vocabulary development, and writing skills. On all outcome measures except vocabulary development, there was at minimum a moderate positive relationship between drama instruction and the desired output.

The author theorized that since students are asked to process text more actively in their drama settings, they develop the skills identified above in a more rigorous, active manner. Even on the vocabulary measure, there was some indication that drama instruction had a positive impact.


Vaughn similarly sought to find evidence for a very specific type of relationship between music exposure and mathematics achievement in a meta-analysis investigation. After conducting a search yielding 4,000 possible references, the author excluded any studies in which music time was offered as a reward for academic achievement, studies in which music lessons were taught using mnemonic jingles, and studies looking at the relationship between high-achieving math students and musical aptitude. Additionally, no studies were included in the meta-analysis that did not include a measured outcome in mathematics, a control group, and sufficient statistical data provided to compute an effect size. Vaughn was seeking evidence of a unidirectional, causal relationship between exposure to music and improvement in mathematics. Twenty-five studies qualified for the investigation: 8 correlational studies examining whether students who voluntarily study music have higher math scores, 5 experimental studies examining the relationship between music instruction and math performance, and 12 experimental studies looking at the effects on math test scores when music is played in the background while testing.

Vaughn found a highly significant, positive relationship between music instruction (both vocal and instrumental) and subsequent mathematics performance. Vaughn expressed a bit of skepticism regarding these results, noting that while correlation is a necessary condition for claiming causality, it is not a sufficient cause. Students who choose to study music may have other contributing factors that lead to their improved performance in mathematics, or they may simply be in better school environments. A follow-up meta-analysis on students who had received musical training for 4 to 6 months showed no significant evidence of improvement in their math scores.

Vaughn concluded by posing further questions:

1. Do individuals who voluntarily choose to study music (and these may be individuals with high musical ability but I cannot say for sure) show higher mathematical achievement than those who choose not to do so?

2. Do individuals exposed to a music curriculum in school (not voluntarily selected) show higher mathematical achievement as a consequence of this music instruction?

3. Does background music heard while thinking about math problems serve to enhance mathematical ability at least during the music listening time? (p. 163)


Winner and Cooper note three basic arguments for causal relationships between arts study and overall academic achievement:

1. **The cognitive structure argument**—Can cognitive skills learned while working in the arts transfer to success in other academic areas? They argue that, unless such transfer possibilities are made explicit to the learner, this is unlikely to occur. The transfer argument is one that is hard to defend for supporters of the arts, or any other learning experience.

2. **The motivational argument**—The authors discuss how arts learning could motivate students and have a positive impact on their learning in other areas. The ways they identify are perseverance, high standards, bonding, positive mentors, and stress reduction. They also point out that, unfortunately for the arts specialists, if art is present in the schools it is introduced increasingly as a supporting tool in other classes.

3. **The link could be an epiphenomenon**—Winner and Cooper suggest that the schools which show learning growth correlated to arts learning may have a variety of other factors present, along with their commitment to arts, that spur greater student learning.

The report included in the REAP study by Winner and Cooper is the result of a search of seven significant electronic databases. Of the 1,138 results obtained, researchers analyzed 31 studies that met their criteria for inclusion, including the use of a control group or comparison group and some assessment of a non-arts academic outcome. Of their 31 studies, 28 were unpublished, 2 were published in non-peer reviewed publications, and 1 appeared in a peer-reviewed journal. Despite some skepticism, Winner and Cooper conclude that “there is indeed a relationship between arts education and composite measures of academic achievement, and this relationship can be generalized to both new subjects who might have been selected for these studies and to future research studies on this question” (p. 24).
A qualitative inquiry project conducted by two teachers and a higher education professor examined the benefits of integrating visual art and the writing process. Methods included parent, student, and teacher interviews, field observations, and artifact analysis. Participants were a 7-year-old boy and an 8-year-old girl who drew pictures and then wrote about their creations. Findings revealed that the creation of visual art enhanced the writing process. In providing written responses to their visual art, participants took more time to elaborate thoughts, produced strong descriptions, and developed concrete vocabulary. The students’ art work and poetry are included in the article. Other findings and implications of the study are discussed and recommendations for future research are provided.


Middle schools have often been sites for thematic units that have integrated the arts. Bolak, Bialach, and Dunphy describe one such project in an urban school district. The school board approved a year-long integrated arts pilot program for two classes of sixth grade students. Objectives of the pilot were to increase achievement for all students, form collegial teams to transfer best practices and integrate the arts, and improve parent/community participation. Units were project-based and focused on topics such as “Exploring the Universe” as frameworks. At the end of the pilot year, standardized test results showed improvement, particularly for those students with the poorest test records. On the Stanford Achievement Test, participating students’ scores rose by 15% in reading and 18% in math compared to the previous school year. This is consistent with Winner and Hetland’s (2009) observation in the REAP study that test scores do seem to improve when arts learning is in place, although researchers cannot exactly say why this is so.


One study investigated the effects of a comprehensive arts curriculum (Arts IMPACT) on students’ scores on the Ohio Fourth-Grade Proficiency Test. In the Arts IMPACT program, students in two schools in Columbus, Ohio, received weekly arts instruction with specialists in art, music, dance, and drama. The arts team also worked with classroom teachers to plan experiences that integrated the arts into the curriculum in order to reinforce learning in other academics and the arts. Two other schools with demographics similar to the Arts IMPACT schools (family income, school size, and racial composition) were chosen for comparison. Results indicated that the Arts IMPACT schools scored significantly higher on math, science, and citizenship subtests. No significant differences were found on reading and writing subtests. Higher income students performed significantly better than low-income students, regardless of curriculum. It was concluded that the intense arts instruction had either a positive effect upon student achievement or no adverse effect.


Korn-Bursztyn’s case study investigated the growth experienced by teachers and the visiting teaching artists in one large public elementary school in New York City. This school had recently undergone a fairly radical shift in its demographic profile and a 2-year partnership with a local arts organization was drawn up to involve kids in public performances based on their social studies curriculum. The large public elementary school being investigated was in the midst of an extended period of demographic changes. The school formerly had a central core of middle class families, which changed due to an emerging immigrant population. In addition to these changes, the school was experiencing a dramatic change in staff and administration due to a wave of retirements. A new, untenured principal was in place and there was a growing population of younger teachers on the staff. The school had a successful experience in collaborating with a local cultural arts organization and this experience laid the groundwork for a new 2-year partnership between the organizations. The partnership consisted of 10-week residencies with the goal of a final performance that drew on the school’s social studies curriculum. The first year of the residency program saw the artists working with students in grades K–2, while the second year involved children in grades 3–5. Where the teachers in the school had traditionally arranged public events around the arts talents of the children identified as gifted, the teaching artists came in and were able to successfully engage a broader group of the school’s children in the integrating performance.


In a middle school in New York City, this school had recently undergone a fairly radical shift in its demographic profile and a 2-year partnership with a local arts organization was drawn up to involve kids in public performances based on their social studies curriculum. The large public elementary school being investigated was in the midst of an extended period of demographic changes. The school formerly had a central core of middle class families, which changed due to an emerging immigrant population. In addition to these changes, the school was experiencing a dramatic change in staff and administration due to a wave of retirements. A new, untenured principal was in place and there was a growing population of younger teachers on the staff. The school had a successful experience in collaborating with a local cultural arts organization and this experience laid the groundwork for a new 2-year partnership between the organizations. The partnership consisted of 10-week residencies with the goal of a final performance that drew on the school’s social studies curriculum. The first year of the residency program saw the artists working with students in grades K–2, while the second year involved children in grades 3–5. Where the teachers in the school had traditionally arranged public events around the arts talents of the children identified as gifted, the teaching artists came in and were able to successfully engage a broader group of the school’s children in the integrating performance.
focused schools, identified a “subservient” use of the arts to serve the subjects being tested, while other schools, particularly the arts-focused more wealthy schools, maintained a “co-equal” stance toward arts integration. Mishook and Kornhaber also discussed one arts-focused school with a “poor” student population that seemed to move toward a more subservient stance regarding the role of the arts as the study proceeded. This school and others in the country seem to adopt arts integration as a way to improve their standardized test scores. The authors’ findings suggest a relationship exists between a strong arts program and the subsequent chances for success in a co-equal arts integration curriculum design. In addition, Mishook and Kornhaber’s concerns regarding socio-economic status and the implementation of arts integration programs warrant further research.


This cross-cultural study explored the relationship between pictures and words with young children. The authors designed a study to learn what children’s own drawings reveal about their viewing skills and to examine the interplay between visual and verbal literacies in order to determine how two communication systems—visual and verbal literacies—contribute to children’s abilities to extract meaning from picture books. Data were obtained from two groups of kindergarten children that participated in Picture Power, a thematically based read-aloud project that featured a variety of picture books about houses. Our group consisted of 22 children from Philadelphia and the other, 30 children from Fuzhou, China. The results revealed how the children became the audience during picture book reading, experienced the characters’ thoughts, and learned to visualize through the intersection of visual and verbal literacies.


Between 2003 and 2006, Yvette Stack conducted a longitudinal study examining the impact of the ArtsSmarts program at a small K–9 school in Edmonton, Canada. The goals for the project included improved student achievement, attendance, and behavior, as well as changes in teacher practices and increased parent/community involvement. ArtsSmarts was a program intended to infuse arts and culture into the curriculum with support from over 50 teaching artists in visual arts, drama, music, dance, video, storytelling and creative writing. Researchers used mixed methods, with data sources including interviews, project evaluations from students, report card marks, and achievement test scores. Results were mixed; standardized test scores and report card marks during the study declined significantly from the baseline year, while attendance increased only slightly. Changes in teacher practice were becoming evident in Year 3. Overall, 73% of teachers reported positive changes in practice and the parents and community provided evidence of positive response, as seen in improved attendance at performances and other school activities.

The first dissertation we found that explicitly focused on arts integration was completed in 1989 (Jensch). Since then, 29 others have completed dissertation studies that targeted specific elements of arts integration. There is a much greater emphasis on elementary school experience than in any other grade level in schools. Four were primarily quantitative studies (Andrevs, 1997, Matthews, 2001; Ray, 1997; Sunlan, 2004); most were classroom or school case studies (Aulgur, 1997; Backensmith, 2004; Broadwater, 2002; Cerniglia, 2006; Cren, 1993; Feldman, 2003; Humphries Mardinoian, 2002; Lindley, 2002; Morris, 2005; Smar, 2000; Wernier, 2001).

A number of dissertation researchers investigated the impact of arts integration and professional development for arts integration on teachers and artists (Alexandrin, 1999; Barr, 2006; Brown, 2001; Castaneda, 2002; Coryell, 1995; Hill, 1999; Hull, 2003; Jensch, 1999; Richmond-Cullen, 1999; Slater, 2004; Stokes, 2001; Waldron-Guyton, 2004; Wernier, 2003). Three dissertations were part of larger initiatives that studied the impact of arts integration in Mississippi’s Whole School Initiative (Tabersten, 2002), North Carolina’s A + Schools (Gerrell-Penn, 1998), and South Carolina’s Visual and Performing Arts Framework (Gunter, 2000).

Dissertations become integral as initial explorations of methodologies for assessing impact. Einter (2003) has called for more research in the field of arts education regarding teaching and learning processes and outcomes. Dissertations, whether they are discrete investigations or part of a research agenda as a large-scale project, offer the opportunity to examine specific practices in schools and classrooms that are promising and possibly replicable.

Every time that we fly in a commercial airliner, the federal government insists that the flight attendants remind us of a counterintuitive rule that “in the event of the loss of cabin pressure” might save our lives and those of people we love. Before take-off they tell us that if oxygen masks drop out of the ceiling during flight, we are to momentarily ignore the child sitting next to us and put on our own mask first. For me, at least, this always comes as a surprise. I’m quite sure that my first instinct, if I were traveling with a child, would be to reach for her mask and get it situated on her face. This has always been my first reflex as a teacher: first and foremost come my students, then myself. (Seidel, 2005, p. 2)

Some have argued that an integrated approach to arts curriculum requires a more trained teacher than does a disciplinary approach (Parsons, 2004). There is
little research on the effectiveness of arts integration preparation for future or practicing teachers, though there is a call for involvement of higher education in the development of quality training not only for teachers but also for teaching artists working in schools (Detels, 1999). Action research methodologies are also employed in some circumstances as a way of examining arts integration practices (Burnaford, 2007; CAPE UK, 2005).


In Canada, elementary teachers are increasingly expected to deliver arts instruction in their classrooms because financial exigencies have restricted the hiring of specialists. One study examined the effectiveness of an arts partnership between a Canadian university faculty of education and local school boards. In this partnership, university staff and specialist arts teachers together delivered the integrated arts component in teacher education. Findings indicate that specialist art instruction, peer learning methods, and theory/practice integration strengthen such training in the arts. The confidence of beginning teachers to teach the arts can be linked in order to connect prospective art teachers with their communities (see Methods and Practices in Education, 2005). McBee describes a collaboration between university and elementary schools to teach arts integration. The partnership course was designed to augment or replace more traditional methods courses taught in the university setting. Instead, in Damm’s study, the topic of Native Americans was chosen and an 8-week unit of study was developed. The university and elementary students researched the music, art, and dance of Native Americans. Some of the activities included mask making, songs, dances, authentic instruments, and instrument making. The combination of research, application, and presentation linked all the elements and addressed social studies, history, art, science (acoustics), visual art, dance, and music. The model represents a partnership approach to preparing teachers for integration by engaging them with elementary students while they are learning about and designing curriculum.


In this review, the survey was the final portion of the survey, labeled “Integration of Music into the Elementary Classroom.” This section investigated the participants’ intention to integrate music and then asked them to evaluate their confidence level in integrating music into reading/language arts, math, science, and social studies activities. In this last section, the survey included items to address the participants’ intention to use music in one of the four integration styles: subservient, affective, social integration, and co-equal/cognitive (Bresler, 1995). An open-ended statement and question concluded the survey: 1) List specific ideas on how you might include music in your elementary classroom; and 2) What factors might deter your inclusion of music in your elementary classroom? On the final day of class, participants completed this music integration survey a second time.

Researchers were interested to see how participation in the class would alter students’ intentions and confidence in integrating music into certain academic areas (reading/language arts, math, science, and social studies). There was a positive significant change in both areas. With regard to Bresler’s styles of integration, there was a slight decrease in intention to use the affective style (arts used to change mood of the classroom, creative expression, and building self-esteem). There was a lack of significant increase in the social integration style (toward participation in school or community events, program, assemblies, holidays). It is possible that students’ increased awareness of Bresler’s levels helped them understand the difference between using music as a teaching tool (subservient) and integrating music as part of conceptual teaching (co-equal/cognitive).

Bond, K. E., & Ewaro, I. (2005). “If I really see you...”: Experiences of identity and difference in a higher education setting. In M. C. Powell & V. M. Speiser (Eds.), The arts, education, and social change: Little signs of hope (pp. 87-100). New York: Peter Lang.


McBee conducted in-depth interviews with 10 elementary teachers and compared the findings of her qualitative study with an extensive literature review. She concludes that curriculum integration could not really be consistently present in classrooms due to obstacles such as lack of time, lack of materials, lack of congruent standards and assessment tools, and the deeply entrenched view of segmented curriculum. Despite these challenges, McBee’s study did indicate that there are teachers who view integration as a powerful way to impact students’ academic performance, particularly in the area of literacy.
A study involving action research and case study methodologies recounts the results of the researchers teaching the faculty at one school how to support integrating drama through peer mentoring and coaching. Initially, one teacher participated and at the end of the project, nine were involved in the integration. Although the research study proved successful, there was an overall decline in interest and involvement as the study progressed due to participant time constraints, challenges with mentoring and collegiality among the teachers, and logistics.

The limited research regarding teacher development and arts integration suggests the need for more investigation of professional development regarding arts integration processes and approaches that not only affect teacher practices in classrooms but ultimately impact student learning.


McKean conducted a year-long multiple case study of six elementary classroom teachers to investigate teachers’ primary orientations to the creative arts, the production arts, and the academic arts. McKean found that teachers’ childhood experiences and formal education both influence primary orientations. No matter what their orientation, all teachers in the study perceived the arts as vehicles for self-expression. Also, regardless of primary orientation, the arts were seen as enabling the learning of other subjects.


What effect has arts integration had on teacher practice? This question is the basis for a 1999-2000 Arts for Academic Achievement: A vehicle for changing teacher practice. Case studies of eight classrooms where arts integration is practiced, individual teacher interviews, group discussions, and classroom observations were the primary source of reference. Two areas seemed to produce the most significant results. Changes in the way teachers conceptualize how learning can take place within the classroom, and changes in instructional choices. ‘Teacher conceptualization’ included making room for integration, changing the classroom climate, thinking differently about what was displayed or emphasized within the classroom, and using more and varied resources to teach. ‘Instructional choice change’ involved taking more risks, building more connections to the ‘core’ curriculum, and building teaching skills.


Zwirn and Graham designed a collaborative course for in-service and in-service elementary school teachers. The two collaborating professors believe that the arts, especially when integrated with other subject areas, have the ability to foster creative and innovative new ways for students to think about, understand, and represent their knowledge. They noted that their course is especially popular with experienced teachers but that new teachers experience some anxiety approaching this experience. This method courses place an emphasis on students working together to problem-solve through project work, especially creative projects. Rather than placing emphasis on a pre-determined correct answer, teachers are taught to encourage creative approaches toward valid expressions of knowledge, according to the authors.
Part of the literature in arts integration revolves around the stories of schools and classrooms that have embraced the processes for teaching and learning it has introduced, perhaps for the first time, to many teachers and parents. In this section, books and articles are reviewed that demonstrate practice. They are not research descriptions but are intended to either illustrate how arts integration occurs, either with multiple art forms in the classroom or with one art form as the integrative medium. There are also pieces that advocate arts integration based on first-hand experience rather than research.


The author addresses a school administrator audience, noting why and how a long-range plan for arts education that includes integration is important for schools and districts. Appel provides brief research evidence for the value of arts integration and underscores the importance of teacher development in order to be successful. He describes the OCPAC Summer Institute, a collaborative arts education outreach venture involving the Orange County Performing Arts Center, University Extension at the University of California, Irvine; Orange County Department of Education; California Arts Project; and local providers specializing in the visual and performing arts. The Institute provides an in-depth review of standards and frameworks across the curriculum and practical strategies to engage pupils through integrated arts projects in the visual and performing arts.
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There are numerous diagrams illustrating integration between two and then all of the arts disciplines. The book includes many student work samples, including poetry and children's sketches. The teachers use the term integration during immersion workshops (p. 97), some called Artist Workshops and others called Opera Workshops. No arts specialists or teaching artists are involved in these lesson descriptions provided. The activities are intended to be used by classroom teachers.


The authors provide a list of websites through which teachers can access online resources on multicultural art and culture and can take advantage of the opportunity to display and view artwork created by their own students and those from around the world. The authors include a list of websites through which teachers can access online resources on multicultural art and culture and can take advantage of the opportunity to display and view artwork created by teachers collaboratively planning with arts specialists to find meaningful connections across content. Examples of arts-based literacy instruction involving visual art, drama, dance, and visual arts are all systems of communication and could be studied as such in schools. Cowan and Albers introduce art as a system of communication to their students through a series of mini-lessons that involve semiotic text. They discuss semiotic processes that engage students in grades 4-5, by providing examples using visual imagery, dramatization, and other arts experiences as frameworks to build vocabulary, enhance verbal agility, and illustrate student understandings. The article also summarizes recent literacy research that links arts and literacy, and the authors connect their own practice to this research base.

Burnaford, G., April, A., & Weiss, C. (2001). Renaissance in the classroom: Arts integration and meaningful learning. Mahwah, NJ: Lawrence Erlbaum. This text presents a methodology for arts integration based on six years of project examples from 33 partnerships in Chicago. Based on interviews with participants as well as student, teacher and artist work samples, and observations, the authors developed a general framework that was applicable to partnership models involving artist and teacher teams planning, implementing, and assessing standards-based arts integration curriculum. The methodology, informed by examples from projects and programs includes steps for Getting Started by finding the “Elegant Fit,” Moving through the Curriculum using a variety of Parallel Processes, and Going Beyond the Unit to incorporate meaningful assessments and public exhibitions or performances to demonstrate the work. The text also includes first-person accounts by artists and teachers who describe their own development and the learning from arts integration initiatives.

Burrack, F., & McKean, T. (2005). Enhanced student learning through cross-disciplinary projects. Music Educators Journal, 91(3), 45-50. The project focused on one piece of band literature, Daniel Bukvich’s “Hymn of St. Francis,” and sought to deepen the students’ understanding of what they were playing by associating visual art with the music. According to one student, “When the picture mixed with the music, it really brought everything together.” Students were able to better express the music in their playing as well as applying musical elements to their own visual representations.

Cowan, K., & Albers, P. (2006). Semiotic representations: Building complex literacy practices through the arts. The Reading Teacher, 60(2), 124-137. The writers discuss the development of complex literacy practices through the arts. They present social semiotics (meaning communication systems) as a framework for discussing the role of the arts in literacy. Reading and writing are not the only forms of communication: Drama, music, dance, and visual arts are all systems of communication and could be studied as such in schools. Cowan and Albers introduce art as a system of communication to their students through a series of mini-lessons that involve semiotic text. They discuss semiotic processes that engage students in grades 4-5, by providing examples using visual imagery, dramatization, and other arts experiences as frameworks to build vocabulary, enhance verbal agility, and illustrate student understandings. The article also summarizes recent literacy research that links arts and literacy, and the authors connect their own practice to this research base.

The author, a professor at Brock University in Ontario, Canada, works with a fourth-grade teacher to develop an integrative unit that will address stated standards while engaging the students and the teachers involved. Looking through standards for the variety of topics for which the fourth-grade students in his school were responsible, Adrian DeTullio designed a unit on medieval times. Social studies and language arts standards for research and writing were to be utilized, as well as a stated science standard of formulating questions and identifying solutions regarding structural and mechanisms. Finally, the arts were incorporated through a standard of presenting a problem and its solution through drama or dance. Periodically during the 7-week unit, DeTullio would point out explicitly when the students were integrating the curriculum, but for the most part they simply went about their work seeing connections that they might not have seen had they studied their history in isolation from science, writing, and artistic representation.


The authors provide a hands-on guide through the development of an arts integration unit with elementary school children. The unit combined the science of weather by learning about storms, music by examining songs with storm or weather themes, and art and music through the arts. Each chapter, with clustered topics by content (literacy, humanities, science, and mathematics) applies these principles to various projects and concepts. For example, the chapter on literature through and with the arts focuses on writing, poetry, story comprehension, drama, spelling, and journal writing. At the end of each chapter, there is a summary of key elements, a brief overview of the chapter, key questions, and suggestions for further research and study. The book concludes with a chapter regarding the integration of school and community through the arts.


The authors describe a semester-long project that integrated the work in two high school English classes with an after-school community-based program. In the project, students produced visual records of their friends, families, homes, and neighborhood and then translated these images into print texts. They created nine performance pieces based upon their photography and writing. The production was performed at the high school and exhibited were held at Progreso Latino, an education and community service organization building in Central Falls, Rhode Island. As the authors explain, “In the nine performance pieces that make up 'Postcards,' students' photographs are combined with music, dance, and a theatrical performance of their writing portraying personal stories of the immigrant experience” (p. 66).


This informative text, co-authored by a literacy specialist and a classroom teacher, offers six strategies for reading comprehension accompanied by arts-based lessons to make connections for each strategy. These arts activities are intended to be used by classroom teachers and feature a variety of disciplines, including music, photography, and movement. There are no roles for teaching artists or arts specialists and, as the title suggests, the arts are intended to be used in order to address the reading strategies. The book includes an excellent bibliography of children's literature, as well as an Appendix with a Matrix of the Arts, focused on developing "sensory imagery" (156-158).

Nelken, M. (2004a). Chanson in clay: “The sounds of our language are intimate to us, they enter our ears, our bodies. The meanings are decoded with our minds.” School Arts, 103(6), 40-41.

Beginning with recordings of a Navajo song and a French-Canadian song, Nelken has her students listen meditatively to the songs. They discuss impressions of the recordings, whose words they do not understand, from clues about instruments, tone of voice, and pace of the song. They share their impressions with each other before Nelken presents them with the translations of the lyrics of the songs. The unit ends with a public display of student work.


Mary Clare Powell and Vivien Marcow Speiser have edited a collection of project and curriculum descriptions, some of which represent integration in one or more art forms. This collection is particularly representative of a strand of arts integration practices that explicitly claim to also encourage social change and social justice. Powell and Speiser provide case study project examples involving international students in the United States as well as program descriptions from other countries, including Ghana, South Africa, and Thailand. The volume is the ninth in the Lesley University Series in Arts and Education. The chapter written by Speiser and Speiser outlines the value of the arts in mental health and community settings, as well as in education, as a means of working through conflict. The pieces in this volume suggest a wider application of the term “arts integration,” consistent with the research in Critical Links regarding the impact of integration on human development.


Rabkin and Redmond describe Putting the Arts in the Picture as a book that “disaggregates arts integration from conventional arts education, and examines its features as a pedagogical strategy, how and why it works” (p. 9). The text is a series of stories highlighting arts integration projects in the United States, Mexico, and Africa. Valuable insights for educators are provided, such as a summary of the structural characteristics of successful arts integration programs and organizations. The authors...
also challenge the reader to look at alternative ways to think about how we process the world around us. Rubbin and Redmond refer to arts integration as a “change strategy” (p. 8) and provide case descriptions of projects in Chicago, Minneapolis, and Boston.

The authors note that in too many places administrators have allowed “the arts to survive at the margin of education as curriculum enrichments, rewards to good students, or electives for the talented” (p. 60), rather than placing themselves in a position where “they asked how the arts could contribute to making schools work better, particularly for low-income and other struggling students” (p. 60). The authors concentrate on the public display of knowledge that arts learning values, pointing out the importance of engaging arts specialists in the school’s neighborhood. They note the particular nature of arts integration initiatives that do not look the same in all schools but rather “reflect each school’s particular strengths, interests, and available resources” (p. 64).


This book is a compilation of program profiles from 33 states and the District of Columbia representing a variety of artist residency models from school partners identified as performing arts centers. In addition, there are 8 case studies of performing arts centers that represent cross-curricular projects and curriculum. While not all of the profiles could be termed arts integration, most do explicitly connect with school and non-arts curriculum. The Scottsdale Center for the Arts in Scottsdale, Arizona, has a signature program called Cultural Connections that educates young people about diverse cultures through the arts. Cal Performances on the campus of the University of California, Berkeley, offer programs to schools such as African American history through modern dance. The Bushnell Center for the Performing Arts in Hartford, Connecticut, and a local school district have partnered to implement a 10-year program called PARTNERS (Partners in Arts and Education Revitalizing Schools), which began as a pilot program in 8 elementary schools and has expanded to serve 5,000 students in grades K-12 per year. Students are drawn from 33 elementary schools and 4 high schools. The PARTNERS program concentrates on arts-infused projects in the classroom to improve literacy, cultural sensitivity, creativity, and self-confidence.

The Kennedy Center in Washington, D.C., represents a variety of programs across the country, many of which have elements of arts integration. Changing Education Through the Arts is one such partnership with 13 schools in the metropolitan area that helps teachers develop arts integrated curriculum. Since 1975, the Kennedy Center has been promoting professional development for teachers integrating the arts, with more than 1,600 teachers participating each year (p. 47).


Riggins-Newby highlights one urban school’s attempt to incorporate the arts into the academic Standards of Learning that were established for all Virginia schools. The author describes the qualities that make this arts-integrated school, Jefferson-Houston School for the Arts and Education in Alexandria, Virginia, and others, so successful. She points out opportunities for a public display of both academic knowledge and artistic, creative skills. She highlights the professional development opportunities that such schools make a priority, and she makes a concise, clear plea to urban educators to more fully integrate the arts into their students’ lives.


This short piece presents a well-developed integrated unit on Greek history and art. In the process of studying Greek sculpture, students read an adaptation of Homer’s The Odyssey, they studied Greek history as it was associated with Homer’s epic tale, they presented a dramatic interpretation of some of the scenes from The Odyssey, they studied their own bodies in their performance of battle scenes and, finally, this informed their own sculpture design.

In a short, organized, and entirely manageable unit of study, sixth graders were able to tie together their studies in art, history, English, and drama. Many of the fears that teachers often report about the idea of arts integration is that it would be difficult to envision a plan and even more difficult to carry it out. Simple presentations such as this one are powerful arguments in favor of integrating the curriculum as fully as possible, igniting the imaginations of the teachers involved as well as the students.


Ruth Stemberg describes this project for the American School Band Journal in which six school districts (Beaufort County, SC; Cleveland, OH; Corvallis, MT; Northgate, PA; Sycoset, NV; and Twin Ridges, CA) integrated the arts. Each district had distinct focus goals and content fields that were involved. The South Carolina project teachers reported learning new ways to assess student gains and losses beyond the state’s traditional testing structures. Cleveland’s K-8 School of the Arts incorporated the arts integrated approaches with their discipline-based arts education curriculum. Twin Ridges in California was part of the Annenberg Rural Challenge in which seed grants were awarded to teaching artists to work in rural schools with an emphasis on involving children in public art.


Karen Stevens describes two basic styles of educational systems: The routine norm of School as Factory and the newer concept of School as Studios. The student becomes the artist and experiences the arts as an active participant in all disciplines. She proposes a proactive approach to arts education through daily arts experiences instead of isolation and the arts integrated in every subject at every grade level. According to Stevens, the school as a studio of learning and artistic, interpretive expression will help transform education.


This text represents a summary of a research study (see Research section of this review) to address the primary research question, “How do the arts contribute to the improvement of schools that serve economically disadvantaged communities?” The book presents 10 case studies addressing this question: 4 elementary, 2 kindergarten through grade eight schools, 2 middle schools, and 2 high school. Arts integration projects described include the Dream Keepers project done at Central Falls High School as part of the ArtsLiteracy Project at Brown University. Multiple art forms, including poetry, music, theater, and visual art, were engaged with a classroom of students learning English as a second language. Students explored the theme of dreams through the poetry of Langston Hughes, the paintings of Marc Chagall, the music of Miles Davis, and the novel The Long Hot to a New Land, by Joan Sandin.

All 10 case study schools integrated language arts with drama. Fifth-grade students mounted an original opera written with a teaching artist from the Cleveland Opera. These experiences regarding the development of narrative and characterization was consistent with other case study school classrooms in which drama enabled students to better understand character. School officials at Peter Howell Elementary in Tucson, Arizona; Pierce Street Elementary in Tupelo, Mississippi; and Hand

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Middle School in Columbia, South Carolina, all credit the integrated arts programs for the improvement of students’ test scores, including improvement in reading and mathematics (pp. 62-63).


Stokrocki’s book explains the concept of interdisciplinarity and provides examples from this country as well as New Zealand, Turkey, Poland, Germany, Australia, and Israel. The integration programs and units presented have a substantial cultural dimension regardless of the content, which includes projects focused on art and geology, ecology, and aesthetic education, among others. Examples include programs in higher education. Stokrocki’s book provides multiple approaches to integration as well as theoretical frameworks for judging the quality and value of arts integration in the curriculum. Faith Benzer’s chapter includes an array of Internet resources to support integrative teaching and learning.


Subramaniam presents six guidelines for engaging science students specifically with scientific facts and creativity. The first rule aligns artistic thoughts with the specific science concepts being taught. The second step is to have students list skills they need in both areas; next, students explore questioning techniques that will demonstrate comprehension of the scientific and artistic concepts. The fourth process is to name cognitive skills leading to evaluation of the student’s project, which is also tied to the fifth rule that attempts to connect the artistic process to inquiry skills and facts for further discussion. The final step brings both the teacher and student to rubrics in the formative and summative steps of the assessment process. This process could be applied to any art form as it is integrated with topics and concepts in science.


This handbook, as its title suggests, provides blueprints for a versatile arts education model for arts integration. Full of tools, processes and examples from its field sites, the handbook offers the practitioner research-based support for building arts-based and arts-infused learning. This model is powered by the belief that all students can achieve high academic standards in and through the arts. The initiative began in 2002 as a 3-year project funded by the U.S. Department of Education Arts Education Model Development and Dissemination Grant Program. To develop the model, the Minneapolis Public School District worked together with the state of Minnesota’s Perpich Center for Arts Education. Over the years of development, a team of designers synthesized arts-based and inquiry-based learning approaches that were then applied in urban, rural, and small city settings. Supported by a network of artists and educators who continue to work as peer coaches, more than 50 schools, organizations, agencies, and arts partners in Minnesota, North Dakota, and Iowa currently use the Artful Handbook to guide their change process. A network of educators and artists throughout Minnesota and the United States continues to generate and refine methods of artful teaching and learning.


This volume is a collection of chapters written by practitioners describing a variety of interdisciplinary/integrative projects. The collectives of teachers, termed PACE, or Performance Assessment Collaboratives for Education, was organized under a grant from the Rockefeller Foundation. Six sites participated and teachers in those sites created “portfolio cultures” (p. vii) in order to assist middle school students to learn to write nonfiction. The volume’s collection of teacher stories stresses the value of meaningful assessment as part of teaching and learning. For each teacher story, there is a “Response from a Colleague.” The editors stress the depth of art experiences that the middle school students and teachers had in these projects:

At one time or another, all of (the teachers) have encountered (or been caught up in) projects where the arts were shoe horned into some unnatural or trivial union . . . . And although these author-teachers don’t necessarily identify themselves as artists, actors, or musicians, they aren’t interested in having students trace over a photo, make a diorama, or write a rap about the order of the planets. If the arts are coming to their classrooms, these teachers want the very best. (p. 5)


Veteran middle school teacher authors describe a unit on integrated peace-studies. They designed a number of different opportunities for their language arts students to integrate the study of literature with arts skills to explore their world. In one project, each month of the year, the students wrote poetry with some natural phenomenon or weather pattern as a theme (e.g. the gold of the autumn leaves in September, the ice and snow of December, the coming green of March). The students incorporated their poetry into a dance performance to Vivaldi’s “Four Seasons.” The overarching theme in these literature studies was the search for peacemakers in nature.

Another such unit involved a literature study of West African countries. The students learned about the African art form of adinkra, a cloth that can be worn as well as read. The students designed their own “story cloth” with the unifying theme of peace. Wright and Kowalczyk summarize: “In our classrooms, students should be free to celebrate their language and literacy as readers, writers, thinkers, poets, dancers, musicians, artists, and dreamers” (p. 63).
Theatre becomes one of the disciplines within the overall curriculum and the preparation focuses not only on finding connections between the theatre and the chosen content derived from other disciplines, but also on providing opportunities for students to invest the curriculum with their own background, interests, and information. (pp. 23-24)


The writer describes classroom practices and professional development activities that were influenced by her participation in “Teaching Nonfiction through Theatre,” a course that used the topic of Islam to show how arts integration can be used to teach nonfiction. Participation in the course revitalized the writer’s understanding that when teachers can experience teaching techniques as active participants, they can imagine new methods for engaging students as creative participants in the classroom.

In this book, McKean provides a framework for teaching as a teaching artist working in schools. She discusses the value of both content and pedagogical knowledge for teaching artists, while reminding readers of the importance of maintaining artistry in the classroom. The author defines educational terms for teaching artists who may not be familiar with educational jargon. McKean contributes an especially cogent definition for arts integration that incorporates the needs, interests, and modes of learning of the student. She explains the important role that theatre could have in schools that integrate in processes and practices:


The fifth chapter in this book is pertinent to arts integration. The chapter begins with a brief discussion on the customary means of instruction: Discipline-centered or vertical teaching practices, and horizontal methods, referring to integration or teaching across the curriculum. The authors state, “The most effective teachers make judicious use of both models, no matter what their discipline may be” (p. 97). The chapter presents five projects presented in the horizontal method of teaching in order to better demonstrate the means of employing this methodology. This section concludes with a brief summary of the elements required for integration. Authors recommend that the beginning teacher not try to implement the horizontal method until late in the school year. Each chapter concludes with extension activities and special hints and resources that are valuable for the beginning teacher.


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The author, formerly associated with the Baltimore Shakespeare Festival, provides a case study of a unit that integrates literature, history, and theatre. The author was a teaching artist, working with two English teachers to introduce middle school students to Shakespeare. Rather than simply rely on the text to be of natural interest to the students, the guest teacher uses the history of the period and some thoughtful acting activities to “hook” the children. The author discusses the different perspectives of the two participating teachers and reflects on how these perspectives shape the curriculum involving arts integration with a visiting teaching artist.


This text, designed for classroom teachers, is intended to provide teachers, particularly at the middle school level, with a vast range of research-based strategies for improving students’ reading comprehension through drama. The strategies are adapted from drama games, tools, and other approaches, and include descriptions of activities such as role play, tableau, dramatic play, radio shows, and memory circles. Wilhelm’s perspective is consistently geared to help teachers and students make connections across modalities and experiences. His suggestions are grounded in inquiry that stems from student as well as teacher questions. Through this text, Wilhelm articulates the goal of integrating these practical strategies with strong theoretical frameworks that teachers can appropriate and use in their planning. He argues, moreover, that the use of new strategies can reshape teachers’ theoretical thinking. The title aply describes the classroom that adopt these strategies; they are action-oriented and strive for student engagement at all levels in the reading process.


This text offers a rather comprehensive set of experiences for elementary children in dance education, including, but not limited to, dance integration. A chapter titled “Dancing as Kinesthetic Reinforcement of Learning” outlines the application of multiple intelligences to dance and movement in classrooms. The book explicitly provides resources teachers seeking to integrate dance with poetry, storytelling, sculpture, painting, music, and sound effects. The text, written by a dance educator, includes a variety of lesson plans and directions for implementation for classroom teachers. In
the introduction, Dunkin notes that one does not have to be a dancer in order to facilitate the lessons (p. 14). The author claims that the dance lessons can also enhance students’ “creative and learning skills” (p. xiii).


Judith Hanna, writing for a principal audience, offers a rationale for high schools to incorporate dance into the curriculum. She advocates for dance as an “independent discipline” (p. 22) but also suggests the potential for cognitive “transfer of learning” (p. 22) that is possible through dance education, drawing up the application of multiple intelligences as one approach to dance integration. She notes that students “can learn dance, learn about dance, and learn through dance” (p. 23).


Heath’s study of after-school arts programs holds some important ideas for the study of curriculum integration. Concentrating on what she calls the “third environment” for learning (not in the classroom or on the athletic team), Heath points out several important parallels between what works in the after-school arts environment and what works in other collaborative work environments, such as the classroom or the science laboratory.

Heath examines two specific arts forms and their effects: Dance and the visual arts. She sees an emphasis on the process of working through ideas, what she calls the “temporal arc” that moves from planning and preparation to practice and deliberation with sufficient space and time to allow for trial and error learning. Heath also anticipates the primary criticism leveled against the research in support of arts integration. She acknowledges that “almost no evaluations make any systematic effort to examine what happens to similar youth who did not participate” (p. 15).


The University of Hawaii sponsored an MFA candidate to teach a 60-hour dance and drama curriculum at Friends of Ali‘iolani Elementary School where there were no fine arts programs. The K-5 curriculum was designed to help students understand world cultures as well as basic principles of dance and drama, with standards-based pre- and post-verbal and written tests in these three areas, as well as performance-based assessments. McIntyre describes the curriculum as “learning through dance and drama, about dance and drama, and about oneself through dance and drama. This project is part of ArtsBridge America.


Nikitina offers a reflection and collection of thoughts on a program, Claire Mallardi’s “Movement for Actors and Directors,” presented to students at Harvard University. Mallardi’s course is meant to “train the body to keep up with the mind” and to encourage the students to be able to combine physical activities such as dance, reading, visiting art exhibits, attending shows and concerts, and peer evaluation. According to the author, Mallardi’s course is inherently integrative because it demonstrated how the arts naturally “transcend the boundary of body with the mind.”

The responses from the students were indicative of the positive results with arts integration and a cross learning amongst other disciplines. Through dance, the students experienced and identified learning styles, the importance of identifying the body as an extension of learning, the value of the social aspect of the arts, and their variation of the arts to their prospective fields of study.


The author discusses an interdisciplinary unit of a course designed with the help of a visual artist from Evergreen State College. A group of 50 junior and senior level students, all art majors, enrolled in the course. The author, a chemistry teacher, worked with them on a unit-studying light to see the differences between how artists and scientists understand light. “Although seemingly disparate, art and science have much in common. Both disciplines require careful observation, contemplation, record keeping, attention to detail and, in the 21st century, use of advanced technology” (p. 55). This quote indicates that the author approached the unit with an open mind, recognizing the essential similarities in the disciplines of study. This would make it easier for him to note any differences.

The faculty and students involved in this interdisciplinary unit were immersed in their study for a significant period of time. A series of skill development art workshops were paired with science laboratory experiments exploring parallel aspects of light and color.


This article is a description of the collaboration between an art teacher and a science teacher. Teachers realized that students could learn concepts related to decision making and problem solving as they integrated science and art at the middle school level. The co-planning was precipitated unfortunately by a reduction in the art teacher’s time at the school due to budget constraints. The science teacher had formerly dismissed art as a secondary subject until she began working with the art teacher in units on nature printing, plant taxonomy, and observation skills.


The art teacher and science teacher in this middle school planned this integrated project emanating from an environmental unit in the science classroom. They chose 20 interested students as the Eco-Team, who then attended several meetings to discuss and draw ideas. The students worked with a professional muralist to create a plan for publicizing and finding wall space. Students and teachers collaborated and obtained site permission, finalized the mural design in proportion to the wall space, and gathered materials.

Along with the public art that was created, community
interest and support was garnered for the school and the art department. Most importantly, students of the team reportedly took on leadership roles in the school community and the outside community. The Eco-Team students prepared a presentation for the chamber of commerce asking for assistance in securing a wall site and funding for the next mural, and are writing a grant for additional funding from other sources.


Coufal and Coufal examine third-grade students who use drawings to help develop a sense of narrative composition. Since “[t]eachers of children’s earliest writings have documented that beginning writers spontaneously use drawing as an alternative symbol system” (p. 109), it is only natural to look for ways to take advantage of this tendency by infusing arts instruction into early writing situations. The studies quoted above are by Bissex, Caldwell and Moore, Dyson, and Wilson and Wilson. The findings of these researchers are also consistent with Vygotsky’s findings that children comfortably move between systems of drawing and writing. Since children seem to see little difference between words and visuals as effective symbol systems for communicating ideas, they are more naturally comfortable with the coexistence of these instructional techniques.

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“All artists are chemists” (p. 33), note the authors of this article. In this curriculum unit, chemistry students create an original artwork and describe the chemistry principles involved in their work. Before beginning the challenge, students learn the chemistry concepts and related art techniques through a series of eight activities. The 5-week chemistry unit centers on the Artist as Chemist and uses a problem-based, inquiry learning model. Students learn chemistry through a series of eight activities.


The writers describe Talking Drawings, a research-based strategy that can be easily incorporated into science curricula in the intermediate grades. This strategy enables children to combine their prior knowledge about a topic with new information derived from expository text. It involves students translating recently acquired understandings into illustrations and further elaborating their understandings through discussion with partners. The writers provide examples of the use of Talking Drawings that reflect students’ misconceptions and understandings regarding the topics of space, oceanography, and rain forests.


Fowler, Director of ArtsBridge from 1996-2004, describes this lesson plan for first and second grade that integrates visual arts and reading skills. The project is designed to introduce the concept of “thinking in the box and out of the box,” and in this case, perceiving the box as an artist’s portfolio.


The focus of this workshop is “to create a democratic classroom community in which words and pictures are treated as equal and complementary languages for learning” (p. 530). This workshop combines reading and art as partners to enhance the verbal and written skills of children. The children, many of whom may be unable to express themselves in writing, utilize pictures from which they create collages. Through these collages, the children create a story and this stimulates them to “tell” their story. The pictures come first and the words follow, but the process goes back and forth to continue the stimulis. The goal is to teach the children “the language of words as well as the language of pictures.” Photographs and text that capture the voices of children who took part in an artists/writers workshop are provided. The workshop enabled children to explore meaning-making by moving between pictures and words.


The author, an art teacher in a Texas elementary school, presents a quick and useful how-to lesson in integrating the study of art history with geometry and technology. Beginning with an introduction to two twentieth century artists, Charles Demuth and Charles Sheeler, she worked with the students to understand their ideas.
behind the design of their paintings. This allowed a discussion of history and a discussion of geometry to occur side-by-side in the classroom. Students then discussed how to emulate these drawings and worked on their computer using a graphic design program. They had to understand the basic geometric principles of the shapes that they worked with and had to master a design program that would allow them to make their art ideas a reality. This is a simple lesson idea that any art, math, or computer teacher could easily adapt to their classroom.


In this ArtsBridge project, a University of Arizona professor and faculty mentor worked with an art "scholar-teacher" and graduate student to offer an art class to Yavapi third graders. The 10-week program was based on the theme “Our Place in the World” (www.artednet.getty.edu) and included art history, art criticism, and creating art components. The team used a pre- and post-questionnaire and drawing to assess in part what students learned.


The purpose of this article is to suggest an instructional brainstorming approach to exploring connections between the visual arts and “ideas” that extend beyond the art class to other areas of the curriculum. The author gives two examples of such ideas, Art and Conflict and Art and the Commonplace. For the former, he describes the work of Picasso and Goya and how historical studies of war and conflict can be pursued through art works and the story of these artists’ work and lives.


This book was labeled on The National Association for Music Educators (MENC) website as their “answer to the No Child Left Behind Act” (www.menc.org). The text addresses effects of music and reading integration on students’ achievements and attitudes, including a review of related research, and contains specific materials and teaching techniques for using children’s literature to teach music concepts and skills. In addition to providing applications of integration theory for the classroom, the lessons highlight related standards from the National Standards for Music Education. Addressing the important topic of the effects of music and reading integration on students’ achievements and attitudes, this book presents 20 lessons for integrating selected music and reading concepts and skills. Designed for upper-elementary music and reading teachers, it provides specific materials and teaching techniques.


The focus of the article is on curriculum development that challenges students to be able to relate their learning to life-long, meaningful experiences. The first reference is made to the national standards for music’s “relationship standards”: Content Standard 8 and Content Standard 9. Both standards refer to relating music to other disciplines and cultures. The following quote is pertinent to these standards: “Although educational institutions segment knowledge into separate packages called subjects, deep understanding often depends upon the intersections and interactions of the disciplines” (p. 27). Barrett illustrates music interdisciplinary curriculum examples that secure the integrity of music as well as other disciplines engaged in learning and teaching. Barrett cautions against false connections, noting that “when connections between music and another discipline are valid, the bonds between the disciplines are organic; that is, they make sense without forcing a fit or stretching a point” (p. 28). The author describes the Facets Model as a method of teaching and implementing a work from many different angles. She poses a perspective of curriculum that is composed of elemental, structural, and expressive faces.


Written by scholars and professors of music education, this text offers a design for teaching and learning with music integrated throughout the curriculum. The authors demonstrate elaborate links between music and our traditions, history and expressive natures. The book demonstrates in detail how teachers can develop teaching materials, and collaborate with music and arts specialists and classroom teachers to develop interdisciplinary enriched learning experiences for students. Case studies of applied concepts, guided exercises to develop interdisciplinary materials, and sample listening and lesson plans are provided.


The author describes how he prepared a unit examining Miles Davis’ classic recording “All Blues.” The author is both a composer and teaching artist and presents extensive listening notes used to instances of this seminal jazz piece. Cabanis describes his goal to move beyond nurturing appreciation to developing active communication with students. The author developed a series of leading technical questions designed to promote an active conversation among the students and build activities for the classroom based on these questions.


This describes the experiential learning process provided by arts education. The 20-year old program, Learning to Read Through Arts (LTRTA), is an integrated approach to teaching in the elementary curriculum. Integration is considered a collaborative effort between the specialist and the classroom teacher. LTRTA was originally established in New York City as a Title I program. In this methodology, the concept of sequential arts education is combined with an integrated curriculum. The result of this method of instruction has proven that “students learn more with a curriculum based on integrated thematic units generated by the arts” Two musical pieces, Prokofiev’s “Peter and the Wolf” and Saint Saëns’ “Carnival of the Animals” provide examples for this approach in the article. LTRTA has been able to demonstrate learning achievements in reading, sciences, “and an effectiveness on both the attitude and total achievement of the child” (p. 45).
of art. This is the basic premise of this article that offers direction for art and music teachers interested in integrating the two disciplines. In Cosentino’s approach, students examine a work of art by an artist or craftperson from a specific cultural or stylistic tradition and “use their impressions and ideas about the artwork to create a movement piece and soundscapes with unpitched percussion and/or vocalized sounds, or musical compositions with harmony and/or melody using ostinato-based melodies and accompanying patterns with layers of rhythms, to accompany the movement.” The reverse can also be done; beginning with a piece of music and working toward the development of a work of art. This approach is most suited to upper elementary and middle school students, according to the author, although the activity may be adapted for younger students.


Responding to National Music Content Standard 8, “Understanding relationships between music, the other arts, and disciplines outside the arts,” the authors describe multiple examples of music being incorporated into the regular classroom. They begin by stating, “Integrating music into all curriculum areas is a natural process” (p. 48), and then offer examples integrating music with mathematics (fractions), science (the rain forest), and whole language (vocabulary development). The article stresses the need for teacher collaboration across disciplines and provides suggestions for how to work with colleagues to plan and implement arts integrated curriculum.


In this book, the authors examine the relationships between math and music. Using mathematical concepts such as proportions, patterns, Fibonacci numbers, geometric transformations, trigonometric functions, and fractals, they discuss how such concepts are also inherent in music. Mathematics can be used to analyze musical rhythms, to study the sound waves that produce musical notes, to explain why instruments are tuned, and to compose music. The book is organized into eight chapters: 1) “The Essence: Introduction”; 2) “The Beat: Rhythm”; 3) “The Tone: Frequency, Amplitude”; 4) “The Tune: Tuning”; 5) “The Song: Composition”; 6) “The Source: Instruments”; 7) “The People: Human Connections”; and 8) “The Curiosities: An Assortment.” An epilogue, end notes, bibliography, and index conclude the book.


This is a practical text with ideas that can immediately be used in the classroom. This book goes beyond a thematic link between reading and music to an examination of those skills that are directly parallel in music learning and text reading, including decoding, and comprehension. There is a discussion of writing in the music classroom and a variety of instructional examples as well as specific strategies for music and reading teachers to support each other. A notable chapter is titled, “Music Teachers Are Literacy Teachers and General Classroom Teachers Are Music Teachers.” The text also presents research supporting the links between music and literacy, a chapter on assessment, and student work samples.


Rogers describes the concept of acoustics as the “perfect interdisciplinary topic” (p. 26) because of the natural intersections of the disciplines of music, science, and mathematics. The article includes a Glossary of Acoustics Terms for Musicians and provides basic scientific information, using musical examples, to enable musicians to participate in planning such a unit with peers.


The co-authors present competing arguments for integrating music education with other subject areas. Veblen, who argues in favor of music integration, recognizes that lack of time and demands placed on schools to sequentially construct curriculum do not allow integration to be the rule; rather, integration needs be used carefully. As a music educator, she is also concerned that this might be the only musical exposure that students receive. She is careful to note that integration in other classrooms is an extension of standard exposure to music. Elliott argues against integration. He is concerned not only that the importance of music as a field of knowledge will be de-emphasized through integration, but he also argues that a view of “the arts” as a field of knowledge is a mistaken one. Each of the arts, he argues, is a particular kind of endeavor. He further argues against the idea of transfer from any one academic area to another as being a reasonable expectation.
Elliot Eisner (2002) notes that what the field of arts education needs with respect to research is an agenda. The same could be said of this emergent field of arts integration. In 2004, the Arts Education Partnership (AEP) outlined new opportunities for research in arts education. Many of the topic areas listed in this document begin with “The Arts and…” or “Arts Learning and…”, suggesting the need for and interest in how the arts intersect with areas such as literacy and language, self-identity, social skills, persistence, resilience, group learning, and participation in a democratic society, to name a few. Further investigation of transfer, the “impact of arts on cognitive development” and the “interaction of cognitive and affective processes in the arts” is warranted. More study is also needed concerning “which content skills, concepts, structures, strategies are most effectively integrated and at which developmental level(s).”

Evaluation and research is clearly needed in the area of teacher development with respect to arts integration. Teacher education programs do not always prepare teachers for collaborative planning, working with arts specialists in schools or teaching artists in communities. The “emerging roles for teaching artists” in schools, as well as the optimal preparation and development of teaching artists are important areas for investigation as well. School change studies are needed to document what happens when teaching artists, museum docents, university interns, cultural organization education directors are all in integrative partnerships with schools and teachers. Whole school studies, including investigation of leadership patterns that examine what happens when arts integration practices are introduced, expanded, and institutionalized are also important contributions to the field.

Arts integration researchers need to continue to test and critique methods for assessing the quality of teaching and impact on learning in arts integration curricula with methodology designs shared for different scopes.
and scales of implementation. Certainly, the dialogue regarding causation, correlation, and connection must continue without allowing that conversation to dominate either research or practice. These research programs, if implemented and disseminated, become tools for engaging policy makers and researchers beyond the arts community.

Maxine Greene notes, “Mastery of a range of languages is necessary if communication is to take place beyond small enclosures within the culture; without multiple languages, it is extremely difficult to chart the lived landscape” (1995, p. 57). After examining the perspectives concerning arts integration in and across professional associations, arts organizations, and in higher education, it appears that continuing communication is essential if quality arts education that incorporates integration is to continue. Dissemination of effective integration practices within the arts and non-arts fields that preserve the integrity of the disciplines is crucial. Compelling theoretical frameworks are needed that illustrate arts specific and arts integrative learning as a continuum. More contributors to this dialogue serve to break down false dichotomies in order to further genuine and authentic research consistent with the arts domains themselves. Dana Balick (1999) reminds us that “understanding is rarely, if ever, a solo enterprise” (p. 153). The field would benefit from a wide dissemination of project implementation and evaluation reports as well as teacher writings regarding the development of integrative instructional and assessment practices. Often such reports are not published and are not readily available so that others can learn from what has already been done. Scripp and Subotnik (2003) call for the publication of integrated learning curricular units with explicit objectives that draw upon collaborative efforts among higher education faculty, teaching artists and classroom teachers. Such curricula, if distributed across schools and networks, could be field tested and evaluated by practitioners and researchers in arts fields and non-arts fields, as well as assessed in diverse contexts and classrooms by more than one teacher.

In March 2005, New York University and the New York based project ArtsConnection hosted a conference titled, “Beyond Arts Integration: Defining Learning in Arts Education Partnerships.” The conference, by its very title, provokes comment and intrigue. Perhaps indeed “beyond” arts integration in education? Or, are we simply beyond the need to defend the presence of arts integration in schools and classrooms, so that we might now truly examine teaching and learning demonstrated in those classrooms? Steve Seidel presented the keynote address at that conference (http://www.artsconnection.org/keynote.html) and titled his talk, “To get to the other side: Curricular integration, dangerous ignorance, and the drama of learning.” He began, in traditional keynote style, with a joke:

Why did the arts educators and the other teachers in the school integrate their curricula? To get to the other side. Okay, that’s not really a joke. It’s actually serious and it’s the title of this talk.

Of course, Seidel knew he would have to describe what he meant by “the other side”:

Right off, I’d like to try to name what is on the “other side”. I’d say that on the “other side” are the knowledge, skills, and understanding that we need in order to create a world and live lives that we consider decent and morally acceptable.

Seidel challenged the listeners to think about what was really worth learning about in these times, citing such “big ideas” as human rights, languages, globalization, monuments, sadness, and density as topics rich enough to be worth the journey to “the other side.” Seidel proposed that these topics are so fundamentally complex and rich that it’s hard to imagine teaching them without integrating the arts because other disciplines alone could not fully address their richness. The arts bring artistry; the arts bring artistic process, such as improvisation, composition, interpretation, practice, performance, and critique, Steve argued.

This literature review would indicate that arts integration is indeed a path for many students, teachers, artists, schools, and communities. It is our hope that sharing research and practice will allow new research agendas, new perspectives, and new conversations across pathways to indeed get to “the other side.”


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An Inventory of Arts-Related Academic and Social Outcomes Found in Critical Links Indexed by the Academic and Social Arena Where They Have Impact, and by Study

This index on the following page is based on a chart from James Catterall’s essay, “The Arts and the Transfer of Learning,” in the research compendium, Critical Links: Learning in the Arts and Student Academic and Social Development. Catterall’s original chart provides a preliminary inventory of the academic and social outcomes that are shown to be, by the studies collected in Critical Links, related to learning in the arts; this index groups those outcomes by the academic or social arena in which they have impact (e.g., reading and language development, mathematics) and/or by any special population of students for which particular outcomes were found.

Additionally, next to each outcome indexed in this chart, are listed examples of studies in Critical Links that find a relationship between arts learning and that outcome. The studies are indicated by the name of the study author (printed in parenthesis after the outcome listed). Following the index is a listing of the study titles and authors, designed to facilitate locating the studies in Critical Links.

This chart does not claim to be exhaustive, but rather is intended to be a useful tool in finding material that is target to specific reader needs or interests. The specific studies and the essays in Critical Links should be referenced for more detailed information, particularly on the strength of the relationship of a particular arts learning experience to an outcome (the strength of these relationships varies by study).

<table>
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<th>Academic and Social Arena</th>
<th>Outcomes Indexed</th>
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REASONING AND LANGUAGE DEVELOPMENT

BASIC READING SKILLS
- Reading readiness (Podlozny, Burger & Winner)
- Basic reading skills—consonant sounds, vowel sounds, segmentation (Rose)

LITERACY AND LANGUAGE DEVELOPMENT
- Story comprehension (DuPont, Pellegrini & Galda, Podlozny, Williams & Silvern, Wolf, Page, Parks)
- Character identification (Goodman, Page)
- Character motivation (Page)
- Sophisticated reading skills/interpretation of text (Parks)
- Skill with subsequently read, unrelated texts (DuPont, Podlozny)
- Reading, verbal skills (Page, Wilhelm)
- Reading achievement (Butzlaff, Podlozny)
- SAT verbal scores (Vaughn & Winner)
- Language instruction/learning (Lowe—French language)
- Oral language development (de la Cruz, Kassab, Podlozny, Pellegrini, 1984b)
- Explicit language development (Pellegrini, 1984b)

WRITING
- Writing quality (Moore & Caldwell, Karuki)
- Writing achievement (Podlozny)
- Writing fluency (Pellegrini, 1980)
- Seeking resources to improve writing (Horn)
- Persuasive writing (Wagner)

SCIENCE
- Reasoning about scientific images (Tishman)

MATHEMATICS
- Math achievement/skills (Rauscher, Vaughn; Catterall, 1998, April 1999, and July 1999)
- Spatial reasoning (Costa-Giomi)
- Spatial temporal reasoning (Rauscher, Hetland akib, Bilhartz, Rauscher & Zupan)
- Nonverbal reasoning (Kienenan)
- SAT math scores (Vaughn & Winner, Vaughn)

GENERAL ACADEMIC SKILLS
- Paying attention
- Concentrated thought
- Focused perception (de la Cruz, Burton & Horowitz, Karuki)
- Higher-order thinking skills (Kim; Pellegrini, 1984b)
- Problem-solving dispositions/strategies (Palmer Wolf)
- Creative thinking: i.e., fluency, originality, abstractness of thought (Mentzer & Boswell, Minton, Kim, Burton & Horowitz, Moga)
- Elaboration and flexibility (Minton)
- Expressive skills (Rose, Mentzer & Boswell, Schaffner, Burton & Horowitz)
- Imaginativeness (Fink)
- Performance on standardized tests (Catterall, 1998 & April 1999)
- Non-verbal communication skills (Parks & Rose)
- Persistence (Ross)
- Perseverance/Persistence
- Risk taking (Burton & Horowitz)
- Leadership (Horn)

GENERAL SOCIAL SKILLS
- Social tolerance (Ross)
- Understanding social relations (Fink)
- Ability to explore complex issues and emotions (Seidel)
- Attention to moral dilemmas (Schaffner)
- Increased peer interaction (Schaffner)
- Conflict resolution skills (Pellegrini, 1984a)
- Empathy for others (Catterall—April 1999, Burton & Horowitz, Harland)
- Collaboration skills (Burton & Horowitz, Palmer Wolf, Seidel)
- Positive social behavior (Standley, Horn)
- Community service (Catterall, 1998, Heath)
- Self-control/relaxation (de la Cruz, Baum & Owen)
- Courtesy to others (de la Cruz)
- Social Compliance (de la Cruz)
- Social Problem Solving skills (Williams & Silvern)
SPECIAL POPULATIONS

LOWER SES STUDENTS
- Story understanding—written measure (Podlozny)
- Story recall, conflict-resolution (Pellegrini, 1984a)
- Reading skills (Rose)
- Academic achievement (test scores), student retention, self-concept, community service, student boredom (Catterall, 1998)
- Math achievement, empathy, tolerance (Catterall, April 1999)

SPECIAL EDUCATION STUDENTS
- Ignoring distractions, courteous behavior, self-control, following directions, and oral expressive language skills (de La Cruz)
- Writing skill, focused perception (Kariuki)
- (Two boys with learning disabilities): writing and drawing (Mintzer & Boswell)
- Reading, engagement (Wilhelm)

YOUNG CHILDREN
- Story comprehension (Page; Pellegrini & Galda, Pellegrini, 1984a)
- Persuasive writing (Wagner)
- Math and reading (Catterall, July 1999)

AT-RISK STUDENTS
- Self-confidence, self-image, seeking additional resources to support writing, positive social behavior (Horn)
- Self-perception, momentum, accuracy (Wolf)
- Self-efficacy, (Kennedy)
- (Remedial reading students): Story comprehension and skill with subsequent unrelated text (DuPont)
- Self-regulation (Baum & Owen)
- Educational aspirations, community service (Heath)
- Engagement (Center for Music Research)

INCARCERATED YOUTH
- (Youth in the study were also low-income and had low-English proficiency): confidence, tolerance, persistence (Ross)

IMPACTS ON THE WHOLE SCHOOL
- Instructional practices in the school (Seidel, Nelson)
- Professional culture of the school (Seaman, Burton & Horowitz, Nelson)
- School climate (Seaman, Burton & Horowitz, Nelson)
- School identity (Nelson)
- Community engagement (Seaman, Nelson)
- Reduced dropout rates (Catterall, 1998)
- Teachers innovation (Burton & Horowitz)
- Increased teacher awareness of student abilities (Burton & Horowitz)

COMPENDIUM STUDIES BY GRADE-LEVEL OF THE STUDENT POPULATION EXAMINED

OF THE 62 COMPENDIUM STUDIES*
- 29 examine Elementary students,
- 18 examine Middle school students,
- 14 examine High School students, and
- 11 are Meta-analyses (including various age groups).

* Please note that when a study examined more than one age group it was counted once for EACH relevant age group. Therefore the total number listed here, 72, is higher than the actual number of studies in the Compendium, 62.
An Inventory of Arts-Related Academic and Social Outcomes Found in Critical Links—Organized by Cognitive Capacities and Motivations

This chart on the following page is based on a chart from James Catterall’s essay, “The Arts and the Transfer of Learning,” in the research compendium, Critical Links: Learning in the Arts and Student Academic and Social Development. Catterall’s original chart provides a preliminary inventory of the academic and social outcomes that are shown to be, by the studies collected in Critical Links, related to learning in the arts.

This chart separates out the outcomes Catterall lists for each art form (drama, multi-arts, music, dance, and visual arts) into two areas: 1) outcomes related to cognitive capacities and 2) outcomes related to student motivation. The specific studies and the essays in Critical Links should be referenced for more detailed information, particularly on the strength of the relationship of a particular arts learning experience to an outcome/s (the strength of these relationships varies by study).
### Special Populations

#### Lower SES Students: story understanding, story recall, conflict resolution
- Conflict resolution skills
- Empathy for others
- Creativity/Creative thinking
- Reading, verbal and mathematics skills
- Collaboration skills
- Leadership
- Higher-order thinking skills

#### Impact on School
- Instructional practice in the school
- Professional culture of school
- School climate
- Community engagement and identity
- Reduced dropout rates

### Special Populations

#### Two boys with learning disabilities: writing and drawing
- Self-confidence
- Persistence
- Appreciation of individual/group social development

### Cognitive Capacities (Academic and Social Skills)

#### Engagement
- General self-concept

#### Motivations (Attitudes and Dispositions)
- Understanding social relationships
- Ability to understand complex issues and emotions
- Concentrated thought
- Story comprehension (oral and written)
- Character identification
- Character motivation
- Increased peer interaction
- Writing proficiency and prolepsis

#### Additional Resources to Support Writing
- Conflict resolution skills
- Skill with subsequently read, unrelated texts
- Problem-solving dispositions/strategies

#### Special Populations
- Lower SES Students: story understanding, story recall, conflict resolution

### Impact on School
- Instructional practice in the school
- Professional culture of school
- School climate
- Community engagement and identity
- Reduced dropout rates

### Visual Arts

#### Creative thinking—fluency
- Originality, elaboration and flexibility
- Expressive skills
- Reading skills
- Nonverbal reasoning
- Creativity in poetry
- Social tolerance

#### Special Populations
- Content and organization of writing
- Sophisticated reading skills/interpretation of text
- Reasoning about scientific images
- Reading readiness

### Drama

#### Conflict resolution skills
- Empathy for others
- Creativity/Creative thinking
- Reading, verbal and mathematics skills
- Collaboration skills
- Leadership
- Higher-order thinking skills

#### Impact on School
- Instructional practice in the school
- Professional culture of school
- School climate
- Community engagement and identity
- Reduced dropout rates

### Multi-Arts

#### Conflict resolution skills
- Empathy for others
- Creativity/Creative thinking
- Reading, verbal and mathematics skills
- Collaboration skills
- Leadership
- Higher-order thinking skills

#### Impact on School
- Instructional practice in the school
- Professional culture of school
- School climate
- Community engagement and identity
- Reduced dropout rates

### Music

#### Spatial temporal reasoning
- Math achievement/proficiency
- Reading achievement
- Cognitive development
- Spatial reasoning
- Quality of writing
- Proximty of writing
- SAT verbal scores
- Skills for second language learners

#### Impact on School
- Instructional practice in the school
- Professional culture of school
- School climate
- Community engagement and identity
- Reduced dropout rates

### Dance

#### Self-confidence
- Persistence
- Appreciation of individual/group social development
About the Authors

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