Arts Integration
Frameworks, Research *&* Practice »

A Literature Review

Gail Burnaford, Ph.D. *with* Sally Brown, James Doherty & H. James McLaughlin

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" [W]e 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, interdisciplinarity, 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. ∎

1

HISTORICAL CONTEXT FOR ARTS INTEGRATION

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.

Kilpatrick's article "The Project Method" (1918) described this approach, proposing that the interests of children be the units or themes of study, thus making learning more relevant and meaningful. Dewey responded in 1931 during a speech at Harvard University. He stated that neither of the two ways of organizing the curriculum—by subject and by project—would clarify the curricular "confusion" that was apparent. Dewey proposed that subjects be reorganized so that "the interdependence of knowledge and the relationship between knowledge and human purpose would be made clear" (Kliebard, 2004, p. 149). There needed to be a study of "the interrelation of subjects with one another" in order to determine how they might work together to "increase both intellectual curiosity and understanding, while disclosing the world about us as a perennial source of esthetic delight" (p. 150).

Parallel with Dewey's thinking, the National Council of Teachers of English (NCTE) issued a landmark report in 1936 titled *A Correlated Curriculum* (Weeks, 1936). This convincing treatise described a democratic education that combined subject-specific learning with interdisciplinary and integrated options for learning at the secondary level. *A Correlated Curriculum* provided examples of "correlations" between English and other subject areas from classrooms representing the work of 43 researchers. While the report had only minimal impact at the time, its presence served as a foundation for the theories offered by James Beane and others later in the century. Cruikshank explains: "What is remarkable about *A Correlated Curriculum*… is the emphasis that it places upon the integrity of the intellectual pursuits embodied in particular disciplines at the same time that it recommends a disregarding of discipline lines" (p. 191). That orientation is consistent with many current practices in arts integration. In the mid-twentieth century, **problem-based learning** and **inquiry learning** built on this notion, suggesting that the questions students ask to work through an investigation or problem create an approach to learning that is multidisciplinary and relevant to the real world. These elements persist in contemporary arts integration.

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 June 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 legislatures 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. ∎

2

PROFESSIONAL ASSOCIATIONS, STANDARDS, AND ARTS INTEGRATION

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 involve 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 TEACHER 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** curriculum 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://wwww.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 Position 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). ▪

»STATE STANDARDS FOR ARTS EDUCATION (2006)

» Arts Standards (Not Mandated)

Alaska	Massachusetts	South Carolina
California	Michigan	South Dakota
Colorado (theater & dance)	Minnesota	Virginia
Connecticut	New York	Wisconsin
Hawaii	North Carolina	
Idaho	North Dakota	
Illinois	Ohio	
Indiana	Rhode Island	

TABLE » 1

» Arts Standards (Mandated)

Alabama	Maryland	Tennessee
Arkansas	Mississippi	Texas
Colorado (music & art)	Missouri	Utah
Delaware	Montana	Vermont
Florida	New Jersey	Washington
Georgia	New Mexico	West Virginia
Iowa	Ohio	Wyoming
Kentucky	Oklahoma	
Louisiana	Oregon	
Maine	Pennsylvania	

TABLE » 2

» States with Arts Integration in Limited Disciplines

Washington, DC (art, music)	Nevada (music, theater, art)
Kansas (music, theater, art)	

TABLE » 3

» States with Arts Integration Standard

Arizona	Indiana	Louisiana
Idaho	Kentucky (high school level)	New Mexico
Illinois		

TABLE » 4

Tables 1–4: *The 2005-2006 State Arts Education Policy Database, www.aep-arts.org*

» Arizona State Standards Related to Arts Integration

CREATING ART	ART IN CONTEXT	ART AS INQUIRY
Students know and apply the arts disciplines, techniques, and processes to communicate in original or interpretative work.	Students demonstrate how interrelated conditions influence and give meaning to the development and reception of thoughts, ideas, and concepts in the arts.	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.

TABLE » 5

(Arizona State University & the Arizona Board of Education, 2007. Available at: http://www.mpsaz.org/arts/perf_arts/performing_arts.htm)

3

DEFINITIONS FOR ARTS INTEGRATION

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 (Bamford, 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 context. 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 emphases 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 syntheses 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 (Bamford, 2006; Bradley, 2002; Burton, Horowitz, & Abeles, 1999, 2000;

Catterall, 2002a, 2002b, 2005; Deasy, 2002; Eisner, 1998; Hetland & Winner, 2000; Horowitz, 2005; Ingram, 2003; Keinanen, Hetland, & Winner, 2000; McKean, 2000; Moga, Burger, Hetland, & 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; Deasy, 2002; Hetland & Winner, 2004; Keinanen, Hetland, & Winner, 2000; Moga, Burger, Hetland, & Winner, 2000; Perkins & Salomon, 1988; Rabkin & Redmond, 2004; Scripp & Subotnik, 2003; Winner & Cooper, 2000; Winner & Hetland, 2000). 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 **comprehension of the impact of arts-related neurological development on individual abilities to accomplish non-arts tasks"** (p. 6, emphasis in original).

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)

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, Aprill, & Weiss, 2001; Ingram & Seashore, 2003; Kelner & Flynn, 2006; Krug & Cohen-Evron, 2000; Weiss & Lichtenstein, in press). Integrated curriculum, some argue, is most inherently concerned with ideas (Parsons, 2004). Beane (1997) adds a caution, noting that the reduction of the term "integration" to mean the simplistic connection of content in different school subjects reduces the importance of the connections for larger issues in the curriculum, such as inquiry, democratic processes, and problem solving. Beginning with a shared concept or big idea supports the notion that arts integration can address these larger issues in the curriculum.

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 & Flynn, 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, Aprill, and Weiss (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, Aprill, & Weiss, 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 (Amdur, 1993; Balick, in Wolf & Balick, 1999; Blasingame, Erickson, & Woodson, 2005; Brown & Nolan, 1989; Burnaford, 2007; CAPE UK 2005; Chancer & Rester-Zodrow, 1997; Efland, 2002; Eisenkraft, Heltzel, Johnson, & Radcliffe, 2006; Eisner, 2002; Mason & Steedly, 2006; Weiss & 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 (Weiss & 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.

Others have identified the notion of **parallel processes,** rather than parallel content, as the framework for arts integration (Burnaford, Aprill, & Weiss, 2001; Weiss & Lichtenstein, in press). A parallel process approach to arts integration suggests that the school classroom

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 levels, 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 more to be more capable of making meaning (p. 846). Schergen (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.

ARTS INTEGRATION AS COLLABORATIVE ENGAGEMENT

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 (Bresler, 1995; Grumet, 2004; Heath, 2001; Hefferen, 2005; Mason & Steedly, 2006; Myers & Scripp, 2007; Stokes, 2001; Strand, 2006; Werner, 2001).

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) ∎

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ARTS INTEGRATION AND HIGHER EDUCATION

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 Intergrative 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.

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.

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)■

5

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.

Eisner refers to the concept of **integrated arts** that represent one of 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 & Kornhaber, 2006). Bresler describes this model as one in which the arts serve the basic academic curriculum in terms of content, pedagogy, and structures. The

"co-equal" style addresses the content, goals, skills, and structure of the arts and non-arts disciplines equally. The affective integration style, Bresler notes, emphasizes the potential of the arts to evoke feelings, and gives students an opportunity to express themselves and be creative across disciplines. The social integration style suggests a more political goal for principals, who employ arts integration as a way to connect with communities through partnerships and projects.

Wiggins (2001) presents three main questions: What is interdisciplinary, who benefits, and does it work better than traditional methods? Drawing on the research of Bresler, Beane, and Gardner, Wiggins focuses on three main areas regarding integrated instruction: 1) theoretical, 2) curricular, and 3) instructional. Wiggins finds Bresler's notion of "subservient" integration to be very common in schools (e.g., singing the ABC's and calling it arts integration). Wiggins cautions arts specialists to be aware and knowledgeable of the types of integration and their outcomes and to be strong educators in their own field.

Wiggins and Wiggins (1997) claim that it is possible for music teachers to develop interdisciplinary curricula if they focus on integrating conceptual connections that are curricularly appropriate to music and to other targeted content areas. The authors also suggest that arts teachers, in this case, music teachers, take the lead in planning such curriculum in order to ensure that no one discipline is considered the "core" (p. 40). They suggest models that integrate **learning processes, affective responses,** and **themes-based or cognitive responses** (that affirm the value of arts and non-arts concepts).

Bamberger (2000) outlines a research procedure for investigating common learning processes in projects that "juxtapose activities that embody underlying conceptual structures and problem-solving strategies" (p. 32). For example, 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.

Brown (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, Bernstorf, & 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)

Arts integration thus can be described as a system for mapping knowledge. Efland sees an art work as a point where paths of inquiry can converge, further underscoring the relationship between a conceptual framework for arts integration and for inquiry or problem-based learning. Cognitive learning theory underscores learners' needs to map knowledge, sometimes separating in order to understand, and then finding connections and relationships between ideas, vocabulary, and concepts.

Marshall (2006) draws on cognitive theory to establish an argument for what she terms **substantive arts integration.** She discusses state standards, especially in California, reminding the reader that:

> 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,

artmaking and other domains and
ideas. Therefore, they do not isolate
art as a hermetic field but call for
an integrated arts education that
connects to all areas of inquiry. (p. 19)

Inquiry has become a springboard for teachers and artists who are engaged in arts integration. David Amdur (1993) describes a process of "contextual 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 2005; Mason & Steedly, 2006; Rich, Lane, Polin, & Marcus, 2003). Chancer and Rester-Zodrow (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 schools (Gandini, Hill, Cadwell, & Schwall, 2005), in which young children investigate and document their world explorations, thus "making learning visible" (Project Zero and Reggio Children, 2001). 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; Kiefer, 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 Cornett (2003), a literacy specialist, offers a comprehensive guide for teachers who want to integrate the arts and their literacy 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, Cornett is also careful to incorporate the requisite fine arts standards in her text. Kelner 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 or endorse the use of drama in conjunction with the teaching of reading (Podlozny, 2000; Wagner, 1998, 2002), with proposed connections Cynthia Weiss calls **parallel processes** that can be identified and assessed in multiple disciplines.

Rosenbloom (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 (Freyberger, 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.

Aprill (2001) 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 illumine 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 Seashore (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 implem-entation 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 assuring 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. ∎

» Evolution of Curriculum Integration Approaches (Brown & Nolan, 1989)

Integration through correlation between subjects »» Integration through common themes and ideas »» Integration through the practical resolution of issues and problems »» Integration through student centered inquiry

TABLE » 6
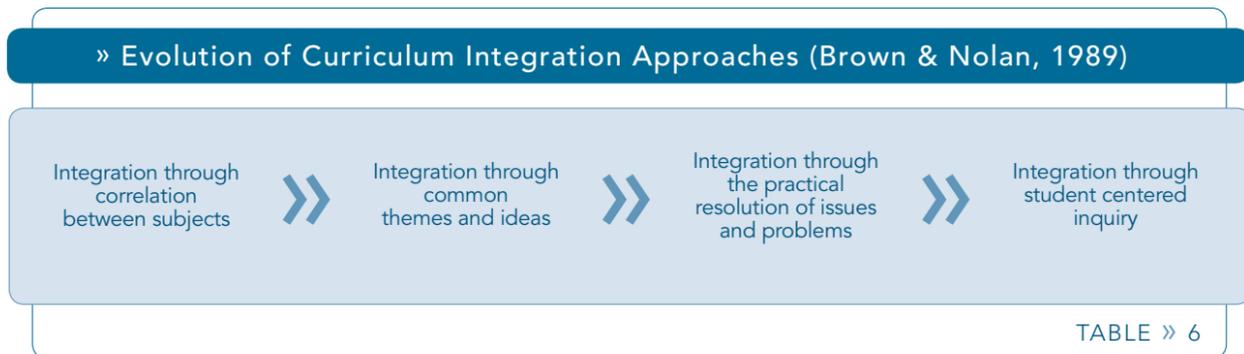
6

RESEARCH IN ARTS INTEGRATION

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).

Horowitz and Webb-Dempsey (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

the learning disciplines of art, music, dance, and drama similar enough to each other to merit being grouped together as "arts education," or are we better off dissecting each discipline separately? And finally, what kinds of outcomes should we expect as a result of arts learning, or, to put it another way, how do the arts contribute to human development? (p. 98)

Champions of Change

Fiske, E. (Ed.). (1999). *Champions of change: The impact of the arts on learning.* Washington, DC: The Arts Education Partnership and the President's Committee on the Arts and the Humanities.

This 1999 report compiles seven major studies that provide evidence of enhanced learning and achievement when students are involved in a variety of arts experiences. *Champions of Change* was developed with the support of the GE Fund, the John D. and Catherine 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.

Catterall, J. S., Chapleau, R., & Iwanaga, J. (1999). Involvement in the arts and human development: General involvement and intensive involvement in music and theater arts. In E. B. Fiske (Ed.), *Champions of change: The impact of the arts on learning* (pp. 1-18). Washington, DC: The Arts Education Partnership.

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, between involvement in instrumental music and mathematics achievement, and between involvement in theater arts and human development (such as increased reading proficiency and enhanced self-concept). There was a focus on middle and high schools students, particularly 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 advantaged 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).

Catterall, J. S., & Waldorf, L. (1999). Chicago Arts Partnerships in Education: Summary evaluation. In E. B. Fiske (Ed.), *Champions of change: The impact of the arts on learning* (pp. 47-62). Washington, DC: The Arts Education Partnership.

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 art forms with regular classroom teachers, and reading and social studies were most often integrated with the arts (mathematics 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. 50).

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

well as interest in and understanding

of how children learn. (p. 60)

Catterall and Waldorf looked not only at changes in scores on the Iowa 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 colleagueship, 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).

Seidel, S. (1999). "Stand and unfold yourself": A monograph on the Shakespeare & Company Research Study. In E. B. Fiske (Ed.), *Champions of change: The impact of the arts on learning* (pp. 79-90). Washington, DC: The Arts Education Partnership.

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 their regular and specialist 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).

Wolf, D. P. (1999). Why the arts matter in education: Just what do children learn when they create an opera. In E. B. Fiske (Ed.), *Champions of change: The impact of the arts on learning* (pp. 91-98). Washington, DC: The Arts Education Partnership.

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

Corbett, D., McKenney, M., Noblit, G., & Wilson, B. (2001). *The arts, school identity, and comprehensive education reform: A final report from the evaluation of the A+ Schools Program.* Winston-Salem, NC: Kenan Institute for the Arts.

Marron, V. (2003). The A+ Schools Program: Establishing and integrating the arts as four languages of learning. *Journal for Learning through Music, 4*(Summer), 91-97.

Nelson, C. A. (2001). *The arts and education reform: Lessons from a four-year evaluation of the A+ schools program, 1995-1999. Executive Summary.* North Executive Summary of A + Schools. Winston-Salem, NC: Thomas S. Kenan Institute for the Arts.

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://aplus-schools.uncg.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 curriculum 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. 5). "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). Curriculum 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 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.aplusnetwork.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 in education make to students' intellectual, social, and emotional growth. This "value-added" case for the inclusion of the arts in a school's curriculum proved to be a strong justification for A+, and schools have continued to achieve growth on North Carolina's accountability tests comparable to that of other schools statewide without "narrowing" the curriculum (i.e. not eliminating non-tested subjects such as science, history, and the arts) (Corbett, McKenney, Noblit, & Wilson, 2001).

Oklahoma A+ Schools

Barry, N. H., Gunzenhauser, M. G, Montgomery, D., & Raiber, M.A. (2003). *Oklahoma A+ Schools® research report year one (2002-2003).* Edmond, OK: University of Central Oklahoma, 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)

Ingram, D., & Reidell, E. (2003). *Arts for academic achievement: What does arts integration do for students?* Unpublished manuscript, Minneapolis, MN, Center for Applied Research and Educational Improvement.

Ingram, D., & Seashore, K. R. (2003). *Arts for academic achievement: Summative evaluation report.* Unpublished manuscript, Minneapolis, MN, Center for Applied Research and Educational Improvement.

Werner, L. R. (2002). *Artist, teacher, and school change through Arts for Academic Achievement: Artists reflect on long-term partnering as a means of achieving change.* Minneapolis, MN: Center for Applied Research and Educational Improvement.

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 disciplinary-based instruction in the arts and non-arts instruction that is

enhanced by integrating the arts (Werner, 2002, p. 2). A preliminary evaluation conducted in 2002 involved 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).

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— 81% 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%

said they integrated mathematics lessons "a lot."

Just over half of the teachers (54%) who integrated the arts said they worked with an external arts partner. Fifty-seven percent of the elementary teachers and 28% of the secondary teachers reported working with an in-school arts specialist to integrate the arts (Ingram & Seashore, 2003).

Ingram and Seashore reported results that indicate a significant relationship between arts integrated instruction and improved student learning in reading. In some cases, the relationship between arts integration and student achievement was **more powerful** for disadvantaged learners, the group of students that teachers must reach to close the achievement gap. Gain scores on the reading test were higher for third grade students whose teachers integrated the arts into English/reading lessons. The relationship between arts integration and reading achievement was stronger for students in the free- and reduced-price lunch program and students in the English-language learner program. Each of these statistically significant relationships is based on a model that also considered the effect of student characteristics, such as race/ethnicity and special education. For third-graders, the relationship of arts integration and math achievement was also statistically significant. Gain scores on the reading test were higher for fourth-grade students whose English/reading teacher integrated the arts. Gain scores on the mathematics test were higher for fifth-grade students whose teacher integrated the arts into mathematics lessons. It was not the mere presence of arts integration but rather the intensity of the initiative that related most directly to gains in student learning (Ingram & Reidell, 2003).

ArtsConnection

Hefferen, J. (2005). Professional development: Building a faculty of reflective practitioners. In B. Rich (Ed.), *Partnering arts education: A working model from ArtsConnection* (pp. 22-26). New York: Dana Press.

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" (pp. 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 ArtsConn-ection'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 author 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.

On 5 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 those areas.

Empire State Partnerships (ESP)

Baker, T., Bevan, B., Admon, N., Clements, P., Erickson, A., & Adams, S. (2004). *Empire State*

Partnerships five year evaluation report. New York: Center for Children and Technology.

The Empire State Partnerships (ESP) is a collective of 56 cultural organization partnerships involving 84 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 projects. 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, but 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 intensively 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, L. M., & Deasy, R. J. (2005). *Third space: When learning matters.* Washington, DC: Arts Education Partnership.

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

Center for Arts Research in Education. (2002). *ArtsBridge research note.* Irvine, CA: Author. Available at: www.arts.uci.edu/ucartsbridge

Brouillette, L. R., & Burns, M. A. (2005). ArtsBridge America: Bringing the arts back to school. *Journal for Learning through the Arts,* 1(1), 46-78.

Fowler, K. (2003). *The first lesson.* Irvine, CA: Center for Learning through the Arts.

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 revive artistic achievement in its schools. The following year, the state legislature perceived the strength 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 mentors 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. 1). 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 field 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)

Hutchens, J., & Pankratz, D. B. (2000). Change in arts education: Transforming Education through the Arts Challenge (TETAC). *Arts Education Policy Review,* (101)4, 5-10.

Transforming Education through the Arts Challenge (TETAC) was a $15 million study that was part of the Annenberg Challenge, with additional funding from the J. Paul Getty Trust. This 5-year project involving 35 schools in the United States stressed leadership and professional development for administrators and teachers. Intended to promote inquiry into learning and to help teachers see themselves as artist-teachers, TETAC was designed to teach teachers to develop their own integrated units, contributing to building capacity at the local level for Comprehensive Arts Education (CAE). TETAC was a project of the National Arts Education Consortium, formed by six regional arts education institutes in California, Florida, Nebraska, Ohio, Tennessee, and Texas in 1996. Thirty-five partner schools in eight states engaged in a 5-year project to place arts education at the core of the curriculum and assess resulting student achievement. 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 Killeen 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 Killeen 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.

META-ANALYSES: ARTS AND NON-ARTS LEARNING

Critical Links

Deasy, R. J. (Ed.). (2002). *Critical links: Learning in the arts and student academic and social development.* Washington, DC: Arts Education Partnership.

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), multi-arts (17 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. ii).

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. iii). 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 arena 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 drew this important distinction 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)

Winner, E. & Hetland, L. (2000). The arts and academic achievement: What the evidence shows. Double Issue of *Journal of Aesthetic Education 34*(3-4).

Hetland, L., & Winner, E. (2000). The arts and academic achievement: What the evidence shows. *Arts Education Policy Review, 102*(5), 3-6.

In the *Reviewing Education and the Arts Project* (REAP), Winner and Hetland investigated the hypothesis that the arts impact non-arts learning. The researchers further affirmed the importance of this report, noting the political and economic consequences of supporting arts education in order to help students learn non-arts content for the purpose of standardized test score achievement. When the arts are justified solely by instrumental claims of their impact on other areas in the curriculum, they claim that the arts have been devalued and this places the arts in jeopardy:

> If the alleged benefits of the arts
>
> do not appear on standardized
>
> tests, then support for the arts may
>
> diminish. If the arts are given a role in
>
> our schools because people believe
>
> the arts cause academic improvement,
>
> then the arts will quickly lose their
>
> position if academic improvement
>
> does not result. (p. 3)

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

Burger, K., & Winner, E. (2000). Instruction in visual art: Can it help children learn to read? *Journal of Aesthetic Education,* 34(3/4), 277-293.

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.

Butzlaff, R. (2000). Can music be used to teach reading? *Journal of Aesthetic Education, 34*(3), 167-178.

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. These 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, M., Hetland, L., & Winner, E. (2000). Teaching cognitive skill through dance: Evidence for near but not far transfer. *Journal of Aesthetic Education,* 34(3/4), 295-307.

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, A. (2000). Strengthening verbal skills through the use of classroom drama: A clear link. *Journal of Aesthetic Education, 34*(3/4), 239-275.

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, K. (2000). Music and mathematics: Modest support for the oft-claimed relationship. *Journal of Aesthetic Education, 34*(3/4), 149-166.

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 mathematics 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, E., & Cooper, M. (2000). Mute those claims: No evidence (yet) for a causal link between arts study and academic achievement. *Journal of Aesthetic Education, 34*(3/4), 11-75.

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).

DISCRETE, SMALL-SCALE ARTS INTEGRATION STUDIES, 2003-2007

Andrzejczak, N., Trainin, G., & Poldberg, M. (2005). From image to text: Using images in the writing process. *International Journal of Education and the Arts, 6*(12), 1-17.

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.

Bolak, K., Bialach, D., & Dunphy, M. (2005). Standards-based thematic units integrate the arts and energize students and teachers. *Middle School Journal, 36*(5), 9-19.

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 (2000) 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.

Kinney, D. W., & Forsythe, J. L. (2005). The effects of the Arts IMPACT curriculum upon student performance on the Ohio Fourth-Grade Proficiency Test. *Bulletin of the Council for Research in Music Education, 164*(Spring), 35-48.

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, drama, and dance. 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, C. (2003). School change and the arts: A case study. *Teaching Artist Journal, 1*(4), 220-227.

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.

Mason, C. Y., & Steedly, K. M. (2006). Rubrics and an arts integration community of practice. *Teaching Exceptional Children, 39*(1), 36-43.

VSA arts, an affiliate of the John F. Kennedy Center for the Performing Arts in Washington, D.C., conducted research recently to investigate the benefits of arts integration on students with disabilities. The main concepts centered around the use of specific rubrics to assess learning outcomes in the areas of **communication, problem-solving, academic and functional literacy and cultural domains.** The evaluative process focused on the use of rubrics to assess student progress in arts integration. The 2-year study involved seven teachers of special needs children from different areas across the country. The process involved telephone conferences to discuss strategies and provide feedback as to their process for utilizing the rubrics in their classes. Phase II was more defined and included a specific plan for implementing the rubrics and a CoP, a community of practice, involving more support for the teachers. The results demonstrated a consensus of agreement as to the value of the rubrics. Teachers stated improved speed of learning and cognitive development. However, it seemed that some of the teachers were confused with the implementation of rubrics and required additional support.

Mishook, J. J., & Kornhaber, M. L. (2006). Arts integration in an era of accountability, *Arts Education Policy Review, 107*(4), 3-11.

In Mishook and Kornhaber's investigation of the impact of standardized test scores on arts education, they focused on 18 schools in Virginia, half of which were arts-focused schools. Their study was not specifically focused on arts integration; nonetheless, 15 of the 18 principals interviewed for the study mentioned "arts integration." More importantly, the principals who discussed arts integration did so often as a way to describe activities related to the subject areas being emphasized in standardized tests. The researchers then sought to determine what the principals meant by the term "arts integration." Using Bresler's typology, they found that some schools, most notably the non-arts

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.

Soundy, C., & Qui, Y. (2006/2007). Portraits of picture power: American and Chinese children explore literacy through the visual arts. *Childhood Education, 83*(2), 68-74.

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. One 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.

Stack, Y. (2007). *ArtsSmarts at Caslan School: A longitudinal case study.* Kelowna, British Columbia, Canada: Society for the Advancement of Excellence in Education.

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.

ARTS INTEGRATION DISSERTATIONS

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 (Andrews, 1997; Matthews, 2001; Ray, 1997; Smilan, 2004); most were classroom or school case studies (Aulgur, 1997; Backenroth, 2004; Broadwater, 2002; Cerniglia, 2006; Corn, 1993; Feldman, 2003; Humphries Mardirosian, 2002; Lindsley, 2002; Morris, 2005; Smar, 2000; Werner, 2001).

A number of dissertation researchers investigated the impact of arts integration and professional development for arts integration on teachers and artists (Alesandrini, 1999; Barr, 2006; Brown, 2001; Castaneda, 2002; Coryell, 1995; Hill, 1999; Hull, 2003; Jensch, 1989; Richmond-Cullen, 1999; Slater, 2004; Stokes, 2001; Waldon-Guyton, 2004; Werner, 2001). Three dissertations were part of larger initiatives that studied the impact of arts integration in Mississippi's Whole School Initiative (Tabereaux, 2002), North Carolina's A + Schools (Gerstl-Pepin, 1998), and South Carolina's Visual and Performing Arts Framework (Gunter, 2000).

Dissertations become integral as initial explorations of methodologies for assessing impact. Eisner (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 in a large-scale project, offer the opportunity to examine specific practices in schools and classrooms that are promising and possibly replicable.

TEACHER DEVELOPMENT AND ARTS INTEGRATION RESEARCH

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).

Andrews, B. (2006). Re-assessing the effectiveness of an arts partnership in teacher education. International *Review of Education 52*(5), 443-459.

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 arts 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 promoted by observing colleagues, engaging in team learning activities, and obtaining peer feedback. The use of integrated arts theory and a focus on practical applications of concepts, coupled with reflective discussion, can also promote conceptual understanding.

Berke, M., & Colwell, C. M. (2004). Integration of music in the elementary curriculum: Perceptions of preservice elementary education majors. *Update: Applications of Research in Music Education, 23*(1), 22-23.

Berke and Colwell's study focused on elementary education majors enrolled in a music methods course

in one summer session, a course usually mandated by certification agencies. The purpose of the course is generally to prepare classroom teachers with musical skills so that they can integrate musical activities into their classes or, in certain situations, be able to provide music instruction for students. The researchers conducted pre- and post-surveys of participating students related to their perceptions of their own ability and capacity to teach music in their classrooms.

Of particular relevance for this review 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., & Etwaroo, 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.

Jeffers, C. S. (2005). Transformative connections: Linking service-learning and pre-service art education. In M. C. Powell & V. M. Speiser (Eds.), *The arts, education, and social change: Little signs of hope* (pp. 149-158). New York: Peter Lang.

McDermott, M. (2005). Torn to pieces: Collage art, social change, and pre-service teachers education. In M. C. Powell & V.M. Speiser (Eds.), *The arts, education, and social change: Little signs of hope* (pp. 49-60). New York: Peter Lang.

Powell and Speiser (2005) edited a volume of project descriptions within which there are examples of teacher preparation and professional development programs that have engaged processes of arts integration (Bond & Etwaroo, 2005; Jeffers, 2005; McDermott, 2005). McDermott describes a case study in teacher education in which collage becomes the medium by which pre-service teachers examine their own beliefs, values, and identities, while engaging in collage making. Bond and Etwaroo provide an account of an undergraduate course they created titled "Dance, Movement, and Pluralism" in which students (not necessarily prospective teachers) explore issues of personal identity and social change through movement. Carol Jeffers outlines the ways in which pre-service art education and service learning can be linked in order to connect prospective art teachers with their communities (see Methods and Practices in this review).

Damm, R. J. (2006). Education through collaboration: Learning the arts while celebrating culture. *Music Educators Journal, 93*(2), 54-58.

Damm describes a collaboration between university and elementary school teachers 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.

McBee, R. H. (2001). Why teachers integrate. *The Educational Forum, 64,* 254-260.

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.

McCammon, L. A., & Betts, D. (1999). *Helping kids to imaginate: The story of drama education in one elementary school.* ERIC ED 430262.

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, B. (2000). Arts everyday: Classroom teachers' orientation toward arts education. *Arts and Learning Research, 16*(1), 177-194.

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.

Mota, G., Costa, J. A., & Leite, A. (2004). Music education in context: The construction of the teacher's identity within cross-disciplinary collaboration in the arts. *Bulletin of the Council for Research in Music Education, 161/162*(Summer/Fall), 181-188.

Mota, Costa, and Leite designed a case study within a larger research project that examined innovative practices in a primary school with an integrated arts curriculum. While the school started an expansion of its curriculum, a music teacher was hired to become part of the arts learning area. The researchers investigated the development of this music teacher's identity within the innovative and integrative climate of the school, analyzing the teacher's diary, field notes, and other observational data. Findings indicate that, while significant gains were brought about by cross-disciplinary collaboration, some problems remain to be solved concerning the role of specific musical skills development. The study raises important issues regarding the role of an arts specialist in an all-school integration initiative.

Werner, L., & Freeman, C. J. (2001, April). *Arts integration: A vehicle for changing teacher practice.* Presentation at the annual meeting of the American Educational Research Association, Seattle, WA.

What effect has arts integration had on teacher practice? This question is the basis for a 1999-2000 *Arts for Academic Achievement* study. Individual teacher interviews, group interviews, 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, S. G., & Graham, M. (2005). Crossing borders: The arts engage academics and inspire children. *Childhood Education, 81*(5), 267-273.

Zwirn and Graham designed a collaborative course for pre-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 methods course places 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.

INTERNATIONAL RESEARCH AND ARTS INTEGRATION

Bamford, A. (2006). *The wow factor: Global research compendium on the impact of the arts in education.* Münster, Germany: Waxmann Münster.

Anne Bamford served as principal investigator on a commissioned 2004 study/analysis of arts education in 40 countries and organizations around the world. The project was a joint effort among UNESCO, the Australia Council for the Arts, and the International Federation of Arts Councils and Culture Agencies. The main goal of this project was to establish an international compendium from various countries regarding arts education, and as a result, became the first international

research-based case study on this topic. Although every country surveyed reported the presence of arts education, there was a distinction between **education in the arts** and **education through the arts,** the latter meaning "education which uses creative and artistic pedagogies to teach all curricula" (p. 12). Methods included a comprehensive survey and case study analysis of 23 participating countries. Instruments are included in the volume.

The two primary aspects of this research were 1) to establish a knowledge base regarding the structure of each organization and the teaching practices and 2) to apply qualitative and quantitative methods of analysis in order to assess what Bamford terms an arts-rich program. Some of the questions posed in the initial survey were as follows:

- How was teaching organized in arts-rich programs?

- Who is responsible for curricular development and the implementation of arts-rich programs?

- What are the differences between arts-rich programs taught in the different countries?

- What determines the difference in content from country to country?

- What can be expected or recommended of arts-rich programs for the future?

The result of this research found that education in the arts is present in almost every country of the world; however, the term is culture and context sensitive. The true benefits of arts-rich programs were seen primarily in high-quality programs with teachers trained in the specific methodologies and also in schools with administrative support.

Throughout the book, case studies are referenced in order to illuminate various theories and support for arts education. While the scope of Bamford's study is larger than the investigation of arts integration, the survey does examine the degree to which commissioners of education internationally identify learning **through** the arts as one approach to be used in schools. ■

7

METHODS & PRACTICES

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.

MULTIPLE ARTS INTEGRATION PRACTICES

Appel, M. P. (2006). Arts integration across the curriculum. *Leadership, 36*(2), 14-17.

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.

Blecher, S., & Jaffee, K. (1998). *Weaving in the arts: Widening the learning circle.* Portsmouth, NH: Heinemann.

The two authors of this text are team teacher researchers in a first and second grade multi-age classroom. They place a heavy emphasis on creating a community of learners in a "languages-rich environment with music and movement" (p. 16). 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.

Bloom, A., & Hanny, J. (2006). Integrating art from around the world into the classroom. *Phi Delta Kappan, 87*(8), Inside back cover.

The authors provide a list of websites through which teachers can access online resources on multicultural art and art history, museum collections, lesson plans, and additional information on various cultures. Art educators can use these resources to develop units of study on 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.

Bloomfield, A., & Childs, J. (2000). *Teaching integrated arts in the primary school.* London: David Fulton.

This book defines arts integration in a two-step process with dance, drama, visual art, and music as integral components of the book in the primary classroom. The first section of the book reflects on each discipline and examines integration between two and then all of the arts disciplines. There are numerous diagrams illustrating

methodologies and strategies for accomplishing this task. The final section of the book discusses a completely integrated curriculum with the arts as another core subject. The models illustrated and the relationships among teacher professional development, implementation, and student progress are defined throughout the book.

Burnaford, G., Aprill, 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., & McKenzie, T. (2005). Enhanced student learning through cross-disciplinary projects. *Music Educators Journal, 91*(5), 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.

Teachers met weekly over the 8-week span of this project to develop strategies and implement concepts. Overall, the teachers and students felt the project was successful in developing conceptual connections across the curriculum.

A second project, *Colours,* was similar in nature and involved band, art, and language arts. The students connected the expressive movements of the music to color in art and literature. The project culminated with a multi-media presentation during the band concert. The authors concluded that the cross-disciplinary units enhanced student learning and that it was necessary to pursue this type of educational process.

Cornett, C. E. (2006). Center stage: Arts-based read alouds. *The Reading Teacher, 60*(3), 234-240.

Cornett described what she terms **arts-based literacy** in this article focused on teachers who apply arts processes in their read-aloud sessions with young children because they believe that the arts are essential for constructing meaning. Cornett invokes current research regarding arts integration and reviews the literature on read-alouds as well, noting that arts-based literacy instruction "gives equity to all the communication arts, both verbal and nonverbal" (p. 236). She notes that meaning is created through **parallel processes,** with creative problem solving using the same before, during, and after stages as the writing process, the reading process, and the scientific method (p. 236). She affirms the value of classroom teachers collaboratively planning with arts specialists to find meaningful connections across content. Examples of arts-based literacy instruction involving visual art, drama, music, and dance are provided.

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 texts. 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.

Daniel, V. A. H., Stuh, P. L., & Ballengee-Morris, C. (2006). Suggestions for integrating the arts into curriculum. *Art Education, 59*(1), 6-11.

The authors of this article are three faculty mentors in a 5-year project that employed arts integration strategies to reform five public schools in Ohio. The project, part of Transforming Education through the Arts (TETAC), used teacher collaboration and inquiry-based learning as frameworks for curriculum development. The authors outline a process for developing integrated curriculum units in a school, working from big ideas to key concepts to essential questions and then, finally, to arriving at a coherent, integrated, working classroom filled with artistic expression as well as a rigorous curriculum. A curricular unit focused on the essential questions concerning "community" is followed through these stages in this article.

Drake, S. M. (2001). Castles, kings. . . and standards. *Educational Leadership, 59*(1), 38-42.

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, DiTullio 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.

Fisher, D., & McDonald, N. (2004). Stormy weather: Leading purposeful curriculum integration with and through the arts. *Teaching Artist Journal, 2*(4), 240-248.

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 to move and express the feeling generated by storms. Additionally, they provide a glimpse of the motivation to do so with teachers and a school where integration is not the norm.

Fisher and McDonald note that they do not aim to dilute the content of the arts or of the core curriculum in the school. Rather, they present one concrete example to demonstrate their view that meaningful integration deepens both curricular content knowledge and appreciation of the arts.

Goldberg, M. (2006). *Integrating the arts: An approach to teaching and learning in multicultural and multilingual settings* (3rd ed.). Boston: Pearson.

The main purpose of this book is to present a methodology of teaching for arts integration in public schools, with a particular emphasis on second language learners and students from diverse ethnic and cultural backgrounds. The author begins with a methodology chapter for arts integration that accommodates and includes all students. One of the key components throughout this book is the author's discrimination of learning **with** the arts, **through** the arts, and learning **about** 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, study questions, and suggestions for further research and study. The book concludes with a chapter regarding the integration of school and community through the arts.

Landay, E., Meehan, M. B., Newman, A. L., Wootton, K., & King, D. W. (2001). "Postcards from America": Linking classrooms and community in an ESL class. *English Journal, 90*(5), 66-74.

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 those images into print texts. They created nine performance pieces based upon their photography and writing. The production was performed at the high school and exhibits 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).

Mantione, R., & Smead, S. (2003). Weaving through words: *Using the arts to teach reading comprehension strategies.* Newark, DE: International Reading Association.

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.

Powell, M. C., & Speiser, V. M. (Eds.). (2005). *The arts, education, and social change: Little signs of hope.* New York: Peter Lang.

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, N., & Redmond, R. (Eds.). (2004). *Putting the arts in the picture: Reframing education in the 21st century.* Chicago: Columbia College.

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. 8). 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. Rabkin 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 margins 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).

Rich, B., Lane, L., Polin, J., & Marcus, S. J. (Eds.). (2003). *Acts of achievement: The role of performing art centers in education.* New York: Dana Press.

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, C. G. (2003). Achievement through the arts. *Principal, 82*(3), 8.

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 Academics 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.

Smith, S. S. (2001). The Ulysses Project. *Arts & Activities, 129*(4), 33, 40.

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 art 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.

Sternberg, R. E. (2006). Arts at the core: How six districts integrate arts education into the curriculum. *American School Board Journal, 193*(6), 44-47.

Ruth Sternberg describes this project for the *American School Board Journal* in which six school districts (Beaufort County, SC; Cleveland, OH; Corvallis, MT; Northgate, PA; Syosset, NY; 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.

Stevens, K. (2002). School as studio: Learning through the arts. *Kappa Delta Pi Record, 39*(1), 20-23.

Karen Stevens describes two basic styles of educational systems: The routine norm of **School as Factory** and the newer concept of **School as Studio.** 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.

Stevenson, L. M., & Deasy, R. J. (2005). *Third space: When learning matters.* Washington, DC: Arts Education Partnership.

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 schools. 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 Way 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. Their experience 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

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, M. L. (2005). *Interdisciplinary art education: Building bridges to connect disciplines and cultures.* Reston, VA: National Art Education Association.

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, K. (2006). Six rules for integrating the arts. *Science Scope, 29*(8), 61-62.

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.

Thompson, M. J. (2005). *The artful teaching and learning handbook: Student achievement through the arts.* Minneapolis, MN: The Perpich Center for Arts Education.

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.

Wolf, D. P., & Balick, D. (Eds.). (1999). *Art works! Interdisciplinary learning powered by the arts.* Portsmouth, NH: Heinemann.

This volume is a collection of chapters written by practitioners describing a variety of interdisciplinary/ integrative projects. The collective 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 shoehorned 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)

Wright, M. F., & Kowalczyk, S. (2000). Peace by piece: The freeing power of language and literacy through the arts. *English Journal, 89*(5), 55-63.

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 their literature studies was the search for peacefulness 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).

DRAMA INTEGRATION PRACTICES

Kelner, L. B., & Flynn, R. M. (2006). *A dramatic approach to reading comprehension: Strategies and activities for classroom teachers.* Portsmouth, NH: Heinemann.

The authors present various means by which drama can be integrated at a quality level that would enhance a child's ability to read and comprehend. The idea for this book stemmed from a 2003 professional development project at the John F. Kennedy Center for the Performing Arts in Washington, D.C. Kelner was the

drama specialist in this original project. The authors of this book decided to expand upon the project and provide more detailed step-by-step guidelines so all teachers would be able to integrate drama with reading.

This accessible book presents tips strategically throughout each chapter as well as guidelines specific to drama and those for reading. The breakdown of goals, responses, and assessment for each field of study provides a comprehensive journey through each process. The authors present a very detailed process for integrating art and language arts or to be more specific, drama and reading comprehension. They state that "two separate but equal learning domains, art and another subject area, can be brought together in ways that synergistically advance the learning of both farther than either could go alone" (p. vii).

The lessons center on four strategies: Story dramatization, character interviews, tableau, and human slide show. Along with these strategies for drama, the authors present strategies for reading comprehension and then specifically for integration. Each lesson is presented with details so specific that there is little left for chance.

McKean, B. (2006). *A teaching artist at work: Theatre with young people in educational settings.* Portsmouth, NH: Heinemann.

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 artist readers 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 students. She explains the important role that theatre could have in schools that integrate its processes and practices:

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)

Orzulak, M. M. (2006). Reviving empathy and imagination: Arts integration enlivens teaching and learning. *English Journal, 96*(1), 79-83.

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.

Patterson, J., McKenna-Crok, D., & Swick, M. (2006). *Theatre in the secondary school classroom: Methods and strategies for the beginning teacher.* Portsmouth, NH: Heinemann.

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.

Weber, J. (2005). Using theater to teach history in an English class: An experiment in arts integration. *Teaching Artist Journal, 3*(2), 112-116.

The author, formerly associated with the Baltimore Shakespeare Festival, provides a case study of a unit that integrates literature, history, and theater. 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.

Wilhelm, J. D. (2002). *Action strategies for deepening comprehension.* New York: Scholastic.

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, tableaux, 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 aptly describes the classrooms that adopt these strategies; they are action-oriented and strive for student engagement at all levels in the reading process.

DANCE INTEGRATION PRACTICES

Dunkin, A. (2006). *Dancing in your school: A guide for preschool and elementary school teachers.* Hightstown, NJ: Princeton Book Company.

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. x). The author claims that the dance lessons can also enhance students' "creative and learning skills" (p. xi).

Hanna, J. L. (2001). Bringing magic into your school. *Principal Leadership: High School Edition. 2*(3), 21-24.

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. B. (2001). Three's not a crowd: Plans, roles, and focus in the arts. *Educational Researcher, 30*(7), 10-17.

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 saw 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).

McIntyre, K. L. (2005). *Cultural dances and stories from around the world: A discovery of world cultures through dance and drama curriculum designed for grades K-5.* Irvine, CA: Center for Learning through the Arts. Available at: http://repositories.cdlib.org/clta/artsbridge/20050701KM

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, S. (2003). Movement class as an integrative experience: Academic, cognitive, and social effects. *Journal of Aesthetic Education, 37*(1), 54-63.

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 concert, 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 association of the arts to their prospective fields of study.

VISUAL ARTS INTEGRATION PRACTICES

Bopegedera, A. M. R. P. (2005). The art and science of light: An interdisciplinary teaching and learning experience. *Journal of Chemical Education, 82*(1), 55-59.

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. Seminar discussions were built into the class structure to allow greater depth of conversation and to explore more deeply the art and science connections. To aid the novice reader in seeing how such a class might work, Bopegedera presents a sample laboratory as part of this research article. In his conclusion, this longtime chemistry teacher acknowledged not only the success of combining art and science for the students in the experiment but also the lasting impact that this research has had on his teaching.

Chessin, D., & Zander, M. J. (2006). The nature of science and art. *Science Scope, 29*(8), 42-46.

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.

Chilman, K. (2004). An integrated mural project. *School Arts, 103*(8), 50-51.

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, listen to a professional muralist, and 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, K. L., & Coufal, D. C. (2002). Colorful wishes: The fusion of drawing, narratives, and social studies. *Communication Disorders Quarterly, 23*(2), 109-121.

Coufal and Coufal examine third-grade students who use drawings to help develop a sense of narrative composition. Since "[s]tudies of children's early 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.

What Coufal and Coufal find in their research is that the mystery of language, written or otherwise, is a process of gaining control of, and making sense of, the environment around us. As such, they propose that "curriculum integration is more than a reorganizing of subject area—It is a change in philosophy" (p. 113).

Eisenkraft, A., Heltzel, C., Johnson, D., & Radcliffe, B. (2006). Artist as chemist. *The Science Teacher, 73*(8), 33-37.

"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.

Fello, S., Paquette, K. R., & Jalong, M. R. (2006/2007). Talking drawings: Improving intermediate students' comprehension of expository science text. *Childhood Education, 83*(2), 80-86.

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, K. (2003). *The first lesson.* Irvine, CA: Center for Learning through the Arts.

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.

Holder, C., & Pearle, L. (2005). Fracturing fairy tales: The stories of two teacher-learners. *Knowledge Quest, 33*(4), 19-20.

As the title suggests, this article describes the collaboration of two teachers, a librarian and an art teacher, who worked with elementary children to "fracture" well-known fairy tales and then illustrate their retold tales in art class. The article demonstrates the collaboration, while each teacher describes her approach to the project with a fourth/fifth grade class.

Jones, M., & Ross, B. (2005). Picturing a story. *Teaching PreK-8, 35*(6), 50-51.

This article describes a planned collaboration between a fifth-grade teacher and a school art specialist in which students were taught to link visualization in reading, descriptive writing, and illustration. Students illustrated each other's writings as well as their own descriptions. They then wrote and illustrated books for the first-grade class in the school.

Kegel, S. (2006). The art and *science* of aerial perspective. *School Arts, 106*(3), 38-39.

Kegel describes an activity on aerial perspective for elementary school students that combines art and science and introduces Chinese painting and poetry.

Nelken, M. (2004b). Setting the table. *School Arts, 103*(5), 25.

This brief how-to article concentrates on one classroom exercise. Nelken shows the careful planning and analysis that lies behind a successful arts project in the classroom. Here, her students are introduced to a painting by Ralph Goings, called "Still Life with Red Mat." But rather than looking at the painting and then trying to emulate it,

Nelken sets up a still life that is similar to the one that Goings painted. She talks her students through the scene and discusses any artistic ideas that they may have about the scene and then she introduces the painting. This approach allowed her students to develop their own imagination first, rather than simply accept the artists' interpretation before allowing their own imagination to bloom.

Olshansky, B. (2006). Artists/writers workshop: Focusing in on the art of writing. *Language Arts, 83*(6), 530-533.

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 stimulus. 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.

Patterson, B. (2001). Blending art and geometry with precision. *Arts & Activities, 130*(1), 46.

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.

Stokrocki, M. L. (2003). *ArtsBridge to the Yavapi children: A desert ecology unit in visual art.* Irvine, CA: Center for Learning through the Arts. Available at: http://repositories.cdlib.org/clta/artsbridge/20030601MS

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.artsednet.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.

Walling, D. R. (2006). Brainstorming themes that connect art and ideas across the curriculum. *Art Education, 59*(1), 18-23."

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.

MUSIC INTEGRATION PRACTICES

Andrews, L. J., & Sink, P. E. (2002). *Integrating music and reading instruction: Teaching strategies for upper-elementary grades.* Reston, VA: The National Association for Music Educators (MENC).

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's 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.

Barrett, J. R. (2001). Interdisciplinary work and musical integrity. *Music Educators Journal, 87*(5), 27-31.

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 facets.

Barrett, J. R., McCoy, C., & Veblen, K. (1997). *Sound ways of knowing: Music in the interdisciplinary classroom.* Belmont, CA: Wadsworth.

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.

Cabaniss, T. (2003). A teaching artist prepares. *Teaching Artist Journal, 1*(1), 31-37.

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 cued to instances of this seminal jazz piece. Cabaniss 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 those questions.

Collett, M. J. (1991). Read between the lines: Music as a basis for learning. *Music Educators Journal, 78,* 42-45.

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).

Cosenza, G. (2006). Play me a picture, paint me a song: Integrating music learning with visual art. *General Music Today, 19*(Winter), 7-11.

Elements present in most musical compositions—form, style, timbre or color, flow, contrasts of tension and release, mood, and cultural derivation or influences—are also found to greater and lesser degrees in visual works

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 Cosenza's approach, students examine a work of art by an artist or craftsperson 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.

Dudley, L., Pecka, W., Lonich, N., Kersten, F., Adair Hauser, A. J., & Trimble, G. O. (1994). Idea bank: Math, science, whole language—and music. *Music Educators Journal, 81*(2), 48-50.

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.

Garland, T. H., & Kahn, C. V. (1995). *Math and music: Harmonious connections.* Palo Alto, CA: Dale Seymour.

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.

Hansen, D., Bernstorf, E., & Stuber, G. (2004). *The music and literacy connection.* Reston, VA: The National Association for Music Educators (MENC).

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, G. L. (2004). Interdisciplinary lessons in musical acoustics: The science-math-music connection. *Music Educators Journal, 91*(1), 25-30.

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.

Veblen, K. K., & Elliott, D. J. (2000). Integration for or against? *General Music Today, 14*(1), 4-8.

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 to 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. ∎

8

CONCLUSION

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NEXT STEPS FOR RESEARCH AND PRACTICE

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 curriculum 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.

ARTS INTEGRATION…TO GET TO THE OTHER SIDE

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. Are we 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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http://www.aplusnetwork.org/

ARIZONA INTEGRATED ARTS STANDARDS AND ROLES FOR PERFORMING ARTS PARTNERSHIPS
Standards Based Teaching and Learning
http://www.ade.state.az.us/standards/arts

Roles for Performing Arts Partnerships
http://www.mpsaz.org/arts/perf_arts/performing_arts.htm

ArtsWork—Integrated Arts Standards
http://artswork.asu.edu/arts/teachers/standards

ARTSBRIDGE
http://www.arts.uci.edu/ucartsbridge

http://responsibilities.cdlib.org/clta/artsbridge/20030601MS

ARTS CONNECTION: BEYOND ARTS INTEGRATION CONFERENCE
Keynote Speech
http://www.artsconnection.org/keynote.html

ARTS EDUCATION PARTNERSHIP
http://www.aep-arts.org

State Arts Education Policy Database
http://www.aep-arts.org/database/index.htm

Arts Integration Resources
http://www.aep-arts.org/resources/integration.htm

»C

CHICAGO ARTS PARTNERSHIPS IN EDUCATION
http://www.capeweb.org

»K

KENNEDY CENTER FOR THE PERFORMING ARTS
http://www.kennedy-center.org/education/ceta/
downloads/key_features.pdf

ArtsEdge: The National Standards for Arts Education
http://artsedge.kennedy-center.org/teach/standards

»L

LEARNING ENHANCEMENT ASSOCIATES OF
NEW ZEALAND
http://www.lea.co.nz/citest/resources/references.asp

»N

NATIONAL ASSOCIATION FOR MUSIC EDUCATION
http://www.menc.org

NATIONAL ASSEMBLY OF STATE ARTS AGENCIES
http://www.nasaa-arts.org

NATIONAL ASSESSMENT GOVERNING BOARD
http://www.nagb.org

NATIONAL COUNCIL FOR THE SOCIAL STUDIES
http://www.socialstudies.org

NATIONAL COUNCIL OF TEACHERS OF ENGLISH
http://www.ncte.org

NATIONAL COUNCIL OF TEACHERS
OF MATHEMATICS
http://www.nctm.org

NATIONAL MIDDLE SCHOOL ASSOCIATION
http://www.nmsa.org

NATIONAL SCIENCE TEACHERS ASSOCIATION
http://www.nsta.org

NEW HAMPSHIRE DEPARTMENT OF
EDUCATION—THE ARTS
http://www.ed.state.nh.us/education/doe/
organization/curriculum

NORTH CAROLINA ARTS COUNCIL
http://www.ncarts.org

NORTH CAROLINA A+ SCHOOLS
http://www.aplus-schools.uncg.edu/

NORTH CAROLINA ARTS EDUCATION
Arts Education K-12
http://www.ncpublicschools.org/curriculum/artsed/

»O

OKLAHOMA A+ SCHOOLS
http://www.okaplus.ucok.edu/edu/

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SOUTHEAST CENTER FOR EDUCATION
IN THE ARTS
http://www.utc.edu/SCEA

SURVEY OF ARTS EDUCATION IN
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http://www.arts.uci.edu/ucartsbridge

UNIVERSITY OF CENTRAL OKLAHOMA
*John Clinton's Related Research in
Arts Education/Integration*
http://www.sde.state.ok.us/Art/pdf/ResearchArts.pdf

»V

VERMONT ARTS COUNCIL
*Integrated Arts Education Grant Monograph:
What is Integrated Arts Education?*
http://www.vermontartscouncil.org

A

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 the 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/s (the strength of these relationships varies by study). »

READING 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, Kariuki)
- Writing achievement (Podlozny)
- Writing fluency (Pellegrini, 1980)
- Seeking resources to improve writing (Horn)
- Persuasive writing (Wagner)

MATHEMATICS

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

SCIENCE

- Reasoning about scientific images (Tishman)

GENERAL ACADEMIC SKILLS

- Paying attention
- Concentrated thought
- Focused perception (de la Cruz, Burton & Horowitz, Kariuki)
- 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)

SELF-MOTIVATION

- Engagement/attendance (Page, Palmer Wolf, Horn, Seidel, Center for Music Research, Corbett et. al., Wilhelm)
- Educational aspirations (Heath)
- Ownership of learning (Burton & Horowitz)
- Self-concept (Rose, Mentzer & Boswell, Horn, Kassab, Wolf, Burton & Horowitz, Seidel)
- Self-confidence (Ross, Horn)
- Self-efficacy (Kennedy)
- Self-esteem (Kassab)

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/regulation (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 sills (de La Cruz)
- Writing skill, focused perception (Kariuki)
- **(Two boys with learning disabilities):** writing and drawing (Mentzer & 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.
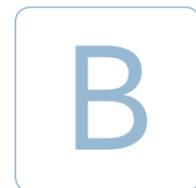
APPENDIX B

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). »

»DRAMA

» Cognitive Capacities (Academic and Social Skills)

- 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 prolixity

- Conflict resolution skills
- Skill with subsequently read, unrelated texts
- Problem-solving dispositions/ strategies)

SPECIAL POPULATIONS
- **Lower SES Students:** story understanding, story recall, conflict resolution

» Motivations (Attitudes and Dispositions)

- Engagement
- General self-concept

SPECIAL POPULATIONS
- **Special education students:** ignoring distractions, courteous behavior, acceptable use of free time
- **At-risk students:** self-confidence, self-image, seeking additional resources to support writing

»MULTI-ARTS

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

IMPACTS ON SCHOOL
- Instructional practice in the school
- Professional culture of school
- School climate
- Community engagement and identity
- Reduced dropout rates

- Self-confidence
- Risk taking
- Paying attention
- Self-initiating
- Persevering
- Task persistence
- Ownership of learning
- Achievement motivation
- Cognitive engagement
- Educational aspirations
- Engagement/attendance

»MUSIC

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

- Self-efficacy
- Self-concept

»DANCE

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

SPECIAL POPULATIONS
- **Two boys with learning disabilities:** writing and drawing

- Self-confidence
- Persistence
- Appreciation of individual/group social development

»VISUAL ARTS

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

APPENDIX B

About the Authors

Dr. Gail Burnaford is currently a Professor in Curriculum and Instruction at Florida Atlantic University (FAU). Much of her research and school-based work for the past fifteen years has focused on the role of arts in schools. She is a musician, sang with the Atlanta Symphony Chorus and Chamber Chorus for ten years under the direction of Robert Shaw, and now sings with the South Florida Master Chorale. Dr. Burnaford conducts research, evaluation, and professional development with the Chicago Arts Partnerships in Education (CAPE), Ravinia Music Festival, Hubbard Street Dance Company, and other arts organizations working with schools. She regularly provides professional development for teaching artists, arts specialists, and teachers focused on arts partnerships, action research, and documentation. Dr. Burnaford holds a PhD from Georgia State University. Prior to coming to FAU in 2003, she was the Undergraduate Director of Teacher Education in the School of Education and Social Policy at Northwestern University. Her research and teaching interests include teacher development, and teaching and learning policy, as well as arts education.

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Dr. H. James McLaughlin is an Associate Professor and Director of Graduate Studies in the Department of Teacher Education at Florida Atlantic University. He holds a PhD from the University of North Carolina at Chapel Hill and prior to coming to FAU in 2004, he was an Associate Professor in the College of Education at the University of Georgia. He teaches graduate courses in global education and curriculum and instruction and conducts program evaluation research. His research interests also include rural education in Mexico and teacher development.

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