Arts Integration and the Success of Disadvantaged Students: A Research Evaluation

A. Helene Robinson [a]

[a] University of South Florida Sarasota-Manatee , Sarasota , Florida , USA

PLEASE SCROLL DOWN FOR ARTICLE

Routledge
Taylor & Francis Group

Arts Integration and the Success of Disadvantaged Students: A Research Evaluation

A. Helene Robinson

University of South Florida Sarasota-Manatee, Sarasota, Florida, USA

Does arts integration contribute to student success for disadvantaged student populations? The introduction to this article compares students' academic performance and arts education in countries outperforming the United States on the recent Trends in International Mathematics and Science Study (TIMSS) and Progress in International Reading Literacy Study (PIRLS) and makes the argument for using arts integration as a way to teach the Common Core standards and align instruction to the Universal Design for Learning principles. This evaluation of research helps to support the evidence base by examining the quality of studies published between 1995 and 2011 investigating the use of arts integration with disadvantaged student populations, including economically disadvantaged students, English language learners, and students with disabilities. Four hundred fifty-three studies were explored, resulting in the inclusion of forty-four studies in this analysis. Studies were categorized as the following: single art integration, multi-arts integration, effects of arts integration on students with disabilities, or effects of arts integration on school climate. Studies were evaluated for their research design, implementation, and effects, and results depicted positive effects and potentially positive effects. Policy implications and suggestions for future research using the author's proposed theoretical framework are also discussed.

Keywords: arts integration, Common Core, disadvantaged students, research, Universal Design for Learning

INTRODUCTION

Arts integration can best be understood, because of the lack of consensus on any one definition, as being defined by three categories: arts integration as learning *through* and *with* the arts, arts integration as a curricular connection process, and arts integration as a collaborative engagement (Burnaford et al. 2007). In order to successfully carry out a co-equal cognitive arts integration approach, a synthesized definition is important, as all three "categories" are essential for such implementation. In Bamford's (2009) international study, she discovered that countries implementing effective arts-rich programs shared similar high-quality indicators for both education in the arts and education through the arts programs, including

Correspondence should be sent to A. Helene Robinson, University of South Florida Sarasota-Manatee, 8350 N. Tamiami Trail, B-327, Sarasota, FL 34243, USA. E-mail: helene2@sar.usf.edu

active partnership with creative people and organizations; accessibility to all children; ongoing professional development; flexible organizational structures; shared responsibility for planning and implementation; permeable boundaries between the school, organization and the community; detailed assessment and evaluation strategies; project-based; involves teamwork and collaboration; initiates research; promotes discussion, exchange of ideas and storytelling; involves formal and informal reflection, that is both formative and summative; meta critical reflection on learning approaches and changes; centered around active creation; is connected and holistic; includes public performance and exhibition; utilizes local resources, environment and context for both materials and content; combines development in the specific languages of the arts with creative approaches to learning; and encourages people to go beyond their perceived scope, to take risks, and to use their full potential. (Bamford 2009, 90).

After developing a master's degree in arts integration and training fifty teachers throughout the state of Florida, it became evident that all of these characteristics were necessary for the teachers to implement a high-quality, co-equal cognitive approach effectively in their schools (Robinson

2012). Hence, to further synthesize these ideas, high-quality arts integration involves a curricular connection process that collaboratively engages all to promote learning *through* and *with* the arts (Robinson 2011).

After conducting a three-year ethnographic study on arts integration in three elementary schools, Bresler (1995) identified four integration styles: the subservient integration approach, the co-equal cognitive integration approach, the affective integration approach, and the social integration approach. Bresler (1995) also noted that the subservient approach was the most prevalent approach used and the co-equal cognitive integration approach was the least used, because it required discipline-specific knowledge or skills. Educators who use the arts as an *extra* for their curriculum (e.g., a quick arts activity as a filler for a particular content area) are using the subservient approach. In the affective approach, students are immersed in the arts through background music and by their reactions to music and art pieces, and the arts are viewed as self-expression and used as a complement to the curriculum. The social integration approach is performance based and is used to increase parental participation through school plays and other performances.

When the arts are integrated with other aspects of the curriculum and students are required to use higher-order thinking skills and aesthetic qualities to gain further understanding of a particular academic concept, teachers are using the co-equal cognitive integration approach (Bresler 1995; Gullatt 2008). The co-equal cognitive arts integration approach seamlessly merges art standards with the core curriculum to build connections, provide engaging context, and differentiate both the processes and products of learning. Using arts integration is an excellent strategy for planning and teaching the Common Core standards, as both co-equal cognitive arts integration and the Common Core standards use McTighe, Wiggins, and the Association for Supervision and Curriculum Development's (2011) Understanding by Design approach to create interdisciplinary units that focus on enduring ideas (big ideas) and essential questions to integrate identified content and skills into the curriculum and create deeper learning experiences for students. Although the Common Core standards are a voluntary and state-led initiative, most states have elected to use them. Forty-five states, the District of Columbia, four territories, and the Department of Defense Education Activity have adopted the Common Core state standards. Even for states that have not adopted the Common Core standards, using backward design (Understanding by Design) for curriculum planning will create rigorous curricula that connect essential concepts to larger enduring ideas.

In addition to providing multiple means of assessment, co-equal cognitive arts integration also creates opportunities for students to use twenty-first-century learning skills to achieve the goals of the Common Core standards. Furthermore, Universal Design for Learning (UDL) guidelines are being embraced by school districts in New York City and elsewhere to successfully support all students, including students with disabilities, to engage successfully in Common Core–aligned tasks. The Center for Applied Special Technology (CAST) discusses UDL in terms of providing students with multiple means of representation, multiple means of engagement, and multiple means of action and expression (Center for Applied Special Technology n.d.). Arts integration and UDL are natural partners. Arts integration is naturally engaging, as it offers students many opportunities for individual choice, autonomy, and self-regulation through collaborative learning experiences with peers. Teachers using the arts in their many forms (dance, drama, music, visual arts, literary arts, and media arts) offer alternative means for representing information. Through co-equal cognitive arts-integrated learning, all learners are engaged in the creative process, which offers a universal pathway to learning. Students (1) imagine, examine, and perceive; (2) explore, experiment, and develop craft; (3) create; (4) reflect, assess, and revise; and (5) share their products with others. Finally, co-equal cognitive arts integration involves students in ongoing reflection and self-assessment individually, with their peers, and with their teacher (ArtsEdge n.d.).

Much research has been conducted on the impact of arts involvement or arts study on student success. However, few studies have examined the effects of arts integration on student success. An exhaustive search of electronic databases for meta-analyses on the impact of the arts on student learning located seven studies (Vaughn and Winner 2000; Winner and Cooper 2000; Vaughn 2000; Burger and Winner 2000; Butzlaff 2000; Podlozny 2000; Hetland and Winner 2001). Out of these seven meta-analyses, only one specifically examined the effects of arts integration. Furthermore, in the one meta-analysis on arts integration, drama was the only art integrated. Podlozny (2000) conducted seven meta-analyses using eighty selected studies on the effects of drama integration. She reported statistically significant relationships between drama integration and story recall (both oral and written), reading achievement on standardized tests, reading readiness, oral language development, and writing achievement. A significant relationship was not found between drama integration and vocabulary development.

The other six meta-analyses examined how arts study is related to student learning. Vaughn and Winner (2000) investigated the relationship between the number of years of arts study and SAT scores. They performed a meta-analysis with a large sample of more than 10 million American high school students and found that SAT scores increased linearly with the addition of more years of arts classes; the strongest relationship with SAT scores was found for students who had taken four or more years of art classes. Winner and Cooper (2000) found significant associations between arts study and academic outcomes in three correlational meta-analyses including more than 3 million high school students but did not establish a significant causal link for the more than 30,000 elementary students in the experimental studies. Vaughn (2000) reported a significant relationship ($p = .0001$) between music study and mathematics achievement

in a correlational meta-analysis of twenty very large sample studies with a weighted mean effect size of $r = .14$. She also reported a significant causal relationship ($p = .04$) between music study and increases in mathematics achievement in a meta-analysis of six smaller experimental studies with a mean effect size of $r = .13$. Burger and Winner (2000) reported that there was a small relationship between visual arts instruction and reading readiness scores ($r = .25$), but they found no relationship between arts instruction and reading improvement overall. Butzlaff (2000) reported a strong and reliable association between music instruction and standardized measures of reading ability across twenty-four correlational studies. He also reported that there was some evidence of a causal relationship between music instruction and performance in reading across six experimental studies. Hetland and Winner (2001) identified three medium to large causal relationships between the following areas based on many studies: listening to music and spatial-temporal reasoning, learning to play music and spatial reasoning, and classroom drama and verbal skills. Additionally, they found two small to medium causal relationships based on a few studies: learning to play music and mathematics, and dance and nonverbal reasoning. They did not find reliable causal relationships between the following areas: arts-rich education and verbal and mathematics scores/grades, arts-rich education and creative thinking, learning to play music and reading, visual arts and reading, and dance and reading. Although they did find small relationships between these areas, they reported that the results could not be generalized to new studies. Because of their mixed findings, Hetland and Winner (2001) remind readers that although art programs may make valuable contributions to academic outcomes, arts education should not be justified based only on its contributions to non-arts academic outcomes.

Even with research that shows a relationship between student academic gains and involvement in high-quality arts programs, there is still a dearth of school leaders who are embracing arts integration in the United States. In addition, the availability of arts education has decreased, especially for economically disadvantaged and minority students. A 2009 U.S. Government Accountability Office (GAO) report revealed that schools with higher percentages of low-income or minority students had larger average reductions in time spent on the arts than did schools with low percentages of these students. Parsad and Spiegelman (2012) reported the following on the availability of arts education in the elementary schools: 94 percent offered music, 83 percent offered visual arts instruction, 4 percent offered drama/theater instruction, and only 3 percent offered dance instruction. They further noted that the percentages of both drama and dance instruction represent a decrease from 20 percent in 1999–2000. However, they reported that dance and drama instruction were being offered in the context of other subjects: dance was integrated in 61 percent of the schools, and drama was incorporated in 53 percent of the schools. For secondary arts education, Parsad and Spiegelman (2012) reported that 91 percent offered music instruction, 89 percent offered visual arts instruction, 45 percent offered drama instruction, and 12 percent offered dance instruction. They did not report on arts instruction in the context of other subjects.

Bamford (2009) did report on some very effective art programs in the United States, which were often implemented in collaboration with agencies, but noted that they were isolated examples and were not reflective of the broader educational situation. She cited implementation issues in the United States and noted that although the arts are required by No Child Left Behind (NCLB) as a core academic subject, most respondents to her research reported receiving little to no formal arts education.

In contrast to the declining emphasis on arts education in the United States, other top-performing countries on the Trends in International Mathematics and Science Study (TIMSS) and Progress in International Reading Literacy Study (PIRLS) are ensuring "that their students receive a deep education in a broad range of subjects" (Ravitch and Cortese 2009, 2), especially in the arts. A survey conducted by the United Nations Educational, Scientific and Cultural Organization (UNESCO) to report on the implementation of the Road Map for Arts Education being embraced by UNESCO member countries compares arts education by regions. In Asian and Pacific countries, there is a strong national curricular emphasis on the arts and on integrating the arts into non-arts subjects, as compared to the Arab states and European and North American countries, where the arts are mostly taught as stand-alone subjects (United Nations Educational, Scientific and Cultural Organization [UNESCO] 2010).

Bamford (2009) conducted a survey study with thirty-eight UNESCO member countries and two international arts organizations, and conducted case studies with thirty-five of those respondents. She also consulted with seventeen other UNESCO member countries. Bamford discovered consistent parameters of quality arts-rich programs, even with the diversity of countries that responded (2009). Furthermore, she emphasized the interdependence of education in the arts (a specialist approach) and education through the arts (arts integration) and the need for these to be carried out in high-quality programs working together in order for the full benefits of arts education to be realized. Finland and Canada were noted as having high-quality programs in both arts subjects and arts integration, and also as having systematic procedures in place to evaluate the impact of arts education. The effectiveness of these countries' evaluation procedures appears to facilitate continual improvement and to increase the value of arts education to the public (Bamford 2009). In Finland, arts education accounts for 80 percent of the teaching time, counting both specialized and integrated arts, because art is integrated into all subjects. Both countries also make extensive and creative use of technology in visual arts and music education. Although Canada does not have a national curriculum, the country does make efforts, through

intergovernmental organizations composed of representatives, to agree on core curriculum recommendations. Additionally, the nation provides ways for children to publicly display the art they create in schools through art shows and theater performances that tour the country (Bamford 2009). The government also maintains strong partnerships with arts organizations, such as the Royal Conservatory of Music, Education Arts Canada, the Canadian Society for Education through Art, and several others, to provide training and support for arts integration (Andere 2009). Japan was noted for its legislation mandating specific time in the curriculum for arts education, use of arts integration, and collaboration with arts agencies. Singapore was noted for its use of resources, creation of arts organizations, and collaboration with arts organizations, as well as its steps to change assessments and teacher professional development and to provide teacher incentives to implement an improved centralized policy emphasizing arts education and engagement. China was noted for its centralized policy for arts education, excellent after-school art programs, and collaboration with arts organizations (Bamford 2009). South Korea was identified for its increased focus on boosting arts education since 2004. The government Korea Arts & Culture Education Service (KACES) was developed in 2005 to promote arts and cultural education projects in Korea resulting from new legislation. The agency provides training for teachers, sends artists to the schools, creates collaborations with arts organizations and community cultural venues, and conducts research (Korea Arts & Culture Education Service [KACES] n.d.). The yearly arts requirements for most grades in the nation's Nationalized Basic Curriculum consists of 68 hours in music, 68 hours in arts, and 68 to 102 hours in practical arts. In addition, there are yearly requirements for 68 hours of special activity and 68 to 136 hours of independent activity (Common Core 2009).

Finally, Russia has recently begun to collaborate on a UNESCO project to improve its historically strong, centralized arts education system. The nation has a strong network of state music, ballet, and fine arts schools for children, as well as specialized conservatories. Russia requires music, visual arts, and dance instruction in preschool institutions, and fine arts, music, and world art history instruction in school (Alexeeva et al. 2011). Russia has been participating in a UNESCO/IFESCCO (Intergovernmental Foundation for Educational, Scientific and Cultural Cooperation) arts education project along with other countries from the Commonwealth of Independent States (CIS) to improve arts education policy and enhance collaborations between the Ministries of Culture and the Ministries of Education. This project was created to help the member states implement the international standards created by the UNESCO Road Map for Arts Education (UNESCO n.d.). Russia revised its Law of Culture in 2010 to align its arts education system with the Road Map for Arts Education.

Results on the 2011 TIMSS and PIRLS international assessments revealed that Singapore, Hong Kong, Taiwan, Japan, Korea, Russia, and Finland all outperformed the United States on tests of fourth- and eighth-grade science and math and fourth-grade reading. Specifically, Singapore outperformed the United States in all subjects; Hong Kong outperformed it in all subjects except fourth-grade science; Taiwan, Japan, and Korea outperformed it in all subjects except fourth-grade reading; Russia outperformed it in all subjects except fourth-grade math; Finland outperformed it in science and reading; and Canada outperformed it in eighth-grade math and science (Provasnik et al. 2012; Thompson et al. 2012). Furthermore, out of the thirty industrialized nations that comprise the Organisation for Economic Co-operation and Development (OECD), the United States was one of eight other countries that had the largest achievement gap between students of different socioeconomic backgrounds (Organisation for Economic Co-operation and Development [OECD] 2007). The United States also shared the bottom with seven other countries for how strongly a student's socioeconomic background could predict his or her achievement (OECD 2007). In addition, when comparing student performance and cumulative student expenditures per student, the U.S. educational productivity level is one of the lowest in the world (Andere 2009). For countries where socioeconomic status is a strong predictor of student achievement and there are wide gaps between student outcomes based on socioeconomic status, the OECD recommends that governments make targeted efforts to improve the performance of economically disadvantaged, low-performing students (OECD 2007). With the recent emphasis on *all* students mastering the Common Core standards and the natural connections of these standards with arts integration and UDL, educational leaders in the United States should see this as the perfect time to implement arts integration as a targeted effort to close the achievement gap for disadvantaged populations.

For the present study, I was interested in examining the quality of arts integration research in order to determine the quantity and quality of studies needed to evaluate whether arts integration can be classified as an evidence-based practice. In Levin, O'Donnell, and Kratochwill's (2003) framework of educational research as a continuum with four stages, this study would fall more in the Stage 2 part of the continuum. The first stage involves observational, focused explorations and flexible methodology. Stage 2 research involves controlled classroom experiments and observational studies of classrooms to provide enough data to move to Stage 3. In Stage 3, well-documented intervention is implemented in classrooms by teachers using randomized controlled trials or single-subject design studies to determine whether the intervention could be classified as an evidence-based practice. Stage 4 involves research to determine factors that facilitate the adoption of evidence-based practices in school systems under natural conditions. It is important to note that I was

only interested in studies that examined the effects of arts integration on the success of disadvantaged students.

In this study, *disadvantaged students* were defined as students with disabilities, economically disadvantaged students, and English language learners. Since there is an overrepresentation of economically disadvantaged students and/or English language learners who are classified as having a disability (Kalyanpur and Harry 1999; Donovan and Cross 2002) as a result of their greater ethnic and linguistic diversity, *disadvantaged learner* was operationally defined to include all three classifications of students. Furthermore, Cook, Tankersley, and Landum (2009) have recommended that because of the complexities of conducting research in special education, reviews should focus on as broad a population as seems reasonable and meaningful. Finally, although no specific parameters were set for dependent variables, the studies included reported outcomes that could be classified under the following categories: cognition, affective measures, social measures, academic achievement, and school environment. Cognitive outcomes included critical thinking, creativity, memory, attention, and imagination. Affective outcomes included attitude (general and toward specific subjects), self-efficacy, self-esteem, identity, motivation, perseverance, and risk-taking. Social outcomes included engagement, listening skills, cooperation, language development, empathetic behavior, attendance, communication skills, and school readiness. Academic achievement outcomes included subject-specific achievement scores, teacher reports of gains in content knowledge, student grades, performance assessments, number and type of credits taken, writing quality, and phonemic awareness. School environment outcomes included increases in collaboration, inclusive attitudes, school organization, roles of teachers, school culture, authentic instruction, and community partnership development.

METHODS

In order to identify all relevant studies, published as well as unpublished, I searched sixteen electronic databases including studies from 1995 to 2011: EBSCO Academic Search Premier, EBSCO ERIC, EBSCO Military and Government Collection, EBSCO Professional Development Collection, EBSCO PsychInfo, JSTOR, ProQuest Dissertations and Theses, Ethnic NewsWatch, ProQuest Linguistics and Language Behavior Abstracts, ProQuest Education Journal, ProQuest Psychology Journals, ProQuest Religion, ProQuest Research Library, ProQuest Social Science Journals, ProQuest Social Services Abstracts, and ProQuest Sociological Abstracts. For the first string, the search terms were entered as follows: students with disabilities or economically disadvantaged students or English language learners or ESOL or special education students or low socioeconomic students or students on free or reduced lunch or students at-risk. For the second string, the terms entered were as follows: arts integration or

integrate arts or arts interdisciplinary education or learning through the arts or arts themed instruction or arts integrated curricula.

My search yielded 453 research records. A thorough review of these records indicated that many did not meet my inclusion criteria. Inclusion criteria were that: (a) the study employed a qualitative or quantitative research method; (b) the study included outcomes in the areas of academic achievement, affective measures, social relationships, school environment, or cognition; (c) only a co-equal cognitive arts integration or affective integration approach was used in the study; and (d) either the total sample of participants were disadvantaged students; the school was classified as a high-poverty school; the school population had a high percentage of disadvantaged students; or the study produced outcomes for subgroups of economically disadvantaged students, students with disabilities, or English language learners. To determine which arts integration approach was used, I read the implementation procedures and/or description of the treatment class or school and applied the definitions discussed previously. In order to determine which studies included disadvantaged learners, I analyzed the descriptive statistics and/or the background section in the studies. In studies that included economically disadvantaged students, the researchers would discuss the number of students receiving free or reduced lunch or would describe a school as a Title I school. In studies that included English language learners and/or students with disabilities, the researchers used the various districts' existing classifications of students.

After applying a set of strict inclusion criteria, I was left with only forty-four usable studies (see Table 1). I evaluated the studies using the Council for Exceptional Children's (CEC) Evidence-Based Practice Coding Rubrics. The Evidence-Based Practices Core Team of CEC piloted a process for analyzing and determining the evidence base of special education practices (Council for Exceptional Children 2008). The team used research methodology quality indicators that had been proposed by a team of prominent special education researchers who were commissioned by the Division of Research of the CEC under the leadership of Sam Odom (Cook, Tankersley, and Landrum 2009). Quality indicators were developed for four different research designs: group experimental studies, single-subject studies, correlational studies, and qualitative research. From these quality indicators, the team developed and piloted a set of coding guidelines and rubrics, which they insisted should be updated as understanding of the process for determining evidence bases matures. To date, the CEC has not posted any revised editions of the manual. There are separate coding rubrics for each of the following research designs: qualitative, experimental/quasi-experimental, causal approximating correlational, and single-subject design. Odom and colleagues (2005) discuss in great detail the complexity of special education as a field to explain why more than one research methodology is important in special education research.

TABLE 1
Studies by Research Design and Type of Arts Integration

Research Design: Qualitative

Author and Year	Type of Arts Integration	Sample Size	Duration	Outcome	Participant Characteristics	Grade Level	Outlet	EBP Rating
Feldman 2002	Visual arts—science	20	1 year	Attitude	Low SES	6th	Peer-reviewed journal	D = 3, I = 3, E = 5
Creel 2005	Visual arts—sculpture garden	80	1 year	Empathetic behavior	Low SES/at-risk	3rd–5th	Dissertation	D = 5, I = 5, E = 5
Jurand 2008	Visual arts	19 students, 5 teachers	3.5 weeks	Writing	Low SES	K–4th	Dissertation	D = 5, I = 5, E = 5
Wilhelm 1995	Visual arts	2	18 weeks	Reading comprehension	Learning disability	7th	Peer-reviewed journal	D = 4, I = 4, E = 5
Jacobs 2005	Drama/literacy/bibliotherapy	12	9 weeks	Self-efficacy	Emotional/behavioral disability	6th–8th	Dissertation	D = 4, I = 4, E = 5
Smith and McKnight 2009	Drama	Multiple sites	6 months	Self-efficacy/motivation/literacy/collaboration	Low SES/special education	K–8th	Peer-reviewed journal	D = 3, I = 4, E = 5
Brouillette and Jennings 2010	Drama	1 school	1 year	Student learning/social-emotional/school culture	Low SES/ESL	K–5th	Peer-reviewed journal	D = 4, I = 1, E = 5
Bassett 2010	Music	3 classes	1 year	Self-esteem/listening/communication/engagement	Low SES	4th–6th	Thesis	D = 3, I = 2, E = 5
Lorimer 2011	Multiple arts	5 classes, 2 schools	4 months	Self-efficacy/engagement	Low SES/ESL	6th–8th	Peer-reviewed journal	D = 5, I = 3, E = 5
Mason, Steedly, and Thormann 2008	Multiple arts	Multiple sites	2 years	Social/cognitive/academic/artistic	Teachers of artists with disabilities	K–12th	Peer-reviewed journal	D = 4, I = 2, E = 5
Mason, Thormann, and Steedly 2004	Multiple arts	92	3 months	Social/cognitive/academic	Teachers of artists with disabilities	Pre-K–12th	Peer-reviewed journal	D = 4, I = 3, E = 5
Durham 2010	Multiple arts	140	4 weeks	Content/self-efficacy/memory/attention/cooperation	Learning disability	1st–6th	Dissertation	D = 5, I = 5, E = 5
Magee 2009	Multiple arts/studio	88	5 weeks	Inclusive collaborative learning environment	Low SES	Pre-K	Case study	D = 5, I = 5, E = 4
Aulgur 1997	Multiple arts	2 classes	6 weeks	Teacher organization/student cognition	Low SES/ESL	1st–2nd	Dissertation	D = 5, I = 5, E = 5
Corbett, Wilson, and Morse 2002	Multiple arts	29 schools	4 years	Student achievement/organization/cultural	Low SES	K–5th	Case study	D = 4, I = 5, E = 3
Feilen 2009	Multiple arts	23	1 year	Identity/community/partnership development	Low SES/ESL	6th–8th	Dissertation	D = 5, I = 3, E = 3
Catterall and Waldorf 1999	Multiple arts	37 schools	Many years	Reading and math achievement	Low SES	K–8th	Evaluation	D = 3, I = 4, E = 2
Scriven 2008	Multiple arts	19	1 year	Motivation/writing skills	Low SES/at-risk–rural	6th	Dissertation	D = 5, I = 5, E = 5
Prager 2006	Multiple arts	Several schools	1 year	Motivation/self-efficacy/engagement/critical thinking	ESL/special education	K–5th	Dissertation	D = 5, I = 5, E = 4
Brouillette 2009	Multiple arts	1 school	1 year	Social skills	ESL–Urban	1st–4th	Peer-reviewed journal	D = 4, I = 2, E = 1
Alabari et al. 2009	Multiple arts	1 school	1 year	Motivation/attendance/credits	Low SES	9th–12th	Thesis	D = 5, I = 3, E = 3

Study	Art form	Sample size	Duration	Outcome	Population	Grade level	Publication type	Rating
Ponder and Kissinger 2009	Multiple arts	Multiple sites	2 years	Self-esteem/engagement	Special education	K–12th	Report	D = 4, I = 2, E = 5
Batson 2011	Multiple arts	18	1 year	Social/communication skills	Autism	K–8th	Dissertation	D = 4, I = 2, E = 5
Research Design: Quasi-Experimental								
Andrzejszak and Trainin 2006	Drama	346	1 year	Language arts and reading	Low SES	5th	Report	D = 3, I = 1, E = 5
Cawthon, Dawson, and Ihorn 2011	Drama	19	1 year	Engagment/authentic instruction	Teachers of disadvantaged students	6th–8th	Peer-reviewed journal	D = 1, I = 3, E = 3
de la Cruz 1995	Drama	35	12 sessions	Social skills/expressive language	Learning disability	Ages 6–15	Dissertation	D = 3, I = 4, E = 5
Walker-Qualls 2008	Multiple arts	50	6 months	Reading/motivation/ attitude	Special education	2nd–8th	Dissertation	D = 1, I = 4, E = 5
Matthews 2001	Multiple arts	252	1 year	Reading skills	Low SES–urban	3rd–5th	Dissertation	D = 3, I = 5, E = 5
Brouillette et al. 2008	Multiple arts	782	1 year	Writing skills	Low SES/ESL	9th–12th	Peer-reviewed journal	D = 3, I = 2, E = 3
Nelson 2007	Multiple arts	184	1 year	Writing skills	Low SES	4th	Dissertation	D = 3, I = 4, E = 4
Brown, Benedett, and Armistead 2010	Multiple arts	165	2 years	Receptive vocabulary	Low SES	Pre-K	Peer-reviewed journal	D = 3, I = 3, E = 5
Phillips et al. 2010	Multiple arts	181	1 year	Emergent literacy/school readiness	Low SES/at-risk	Pre-K	Peer-reviewed journal	D = 1, I = 4, E = 5
McMahon, Rose, and Parks 2003	Dance	91	20 sessions	Phonemic awareness skills	Low SES	1st	Peer-reviewed journal	D = 5, I = 4, E = 5
Research Design: Correlational								
Yorke-Viney 2007	Multiple arts	158	1 year	Reading and math skills/creativity	Special education/ESL	5th	Dissertation	D = 5, I = 4, E = 5
Ingram & Riedel 2007	Multiple arts	5,007	3 years	reading and math skills	Low SES/special education/ESL	3rd–5th	Report	D = 5, I = 4, E = 5
Folkes-Bryant 2008	Multiple arts	408	1 year	Self-esteem/attitude	Low SES–urban	4th–5th	Dissertation	D = 2, I = 2, E = 3
Wolf 2011	Drama	17	1 year	Reading skills/attitudes	Low SES–urban	3rd–4th	Peer-reviewed journal	D = 5, I = 5, E = 5
Mages 2008	Drama	12 sites	27 days	Language cognition/imagination	Low SES/ESL	Pre-K	Thesis	D = 5, I = 5, E = 5
Andrzejszak and Trainin 2006	Drama	186	3 years	Reading fluency and comprehension	Low SES/ESL	5th	Report	D = 5, I = 3, E = 5
Neville et al. 2008	Music	88	8 weeks	Attention/language	Low SES	Pre-K	Peer-reviewed journal	D = 5, I = 5, E = 3
Ray 1997	Music/ESL	8 classes	2 weeks	Language increase	Low SES/ESL	Pre-K–2nd	Dissertation	D = 5, I = 5, E = 4
Campbell 2008	Multiple arts	898	3 years	Language arts/student grades	Low SES	5th	Dissertation	D = 5, I = 4, E = 5
Research Design: Single-Subject								
Kariuki and Honeycutt 1998	Music	2	4 weeks	Writing quality/attitude	Behavioral disability	4th	Conference paper	D = 3, I = 3, E = 3

Correlational rubrics were created because sophisticated causal modeling or exclusion methods can statistically control for competing hypotheses and suggest causal relationships when researchers are not able to conduct experimental or single-subject research studies (Thompson et al. 2005). Although qualitative studies are not used to determine evidence-based practices, the CEC explains why they created rubrics to evaluate qualitative studies as follows: "qualitative studies can (a) contribute to the development of a more robust intervention by helping to define an intervention more precisely, (b) assist in choosing outcome measures and developing valid research questions, and (c) helping to understand heterogeneous results from studies of effect" (Council for Exceptional Children 2008, 12).

The experimental/quasi-experimental and single-subject rubrics were organized into the following three dimensions: causal design quality, implementation quality, and effects for targeted variables. The correlational rubric was divided into causal approximation, study quality, and effects for targeted variables. The qualitative rubric was divided into design quality, implementation quality, and strength of outcome or effect(s) of targeted practices. Quality indicators for each of the three dimensions were listed, along with criteria that should be met if that quality indicator is to be rated highly. Ratings ranged from one to five, with five being the highest. In general, the more criteria that a study includes under the quality indicator, the higher you score that quality indicator. Furthermore, the more quality indicators that are rated highly in each dimension, the higher each dimension is rated. The summative dimension ratings (causal design quality, implementation quality, and effects) were analyzed to classify the practice as either a positive effects evidence base; an insufficient evidence base, which was further divided into a potentially positive evidence base, a mixed-effects evidence base, and a no discernible effects evidence base; or a negative effects evidence base. The summative rating of each dimension of quality for every study is included in Table 1.

Coding Procedure

The overall breakdown of studies yielded a total of ten studies using the mixed-method design, three using the correlational design, one using the single-subject design, and twenty-two using the qualitative design. Since ten of my studies used a mixed-method design and there was no rubric for a mixed-method design, I evaluated them with either one of the quantitative rubrics or the qualitative rubric, depending on which method had a greater weight in the study.

Each study was coded in terms of a variety of basic characteristics. These included the following: author and year of publication, sample size, type of arts integration (visual art, drama, dance, music), duration of study, participant characteristics (economically disadvantaged, type of disability, English language learner, at-risk), outcome, age/grade level, outlet (peer-reviewed journal, conference presentation, dissertation, thesis, evaluation report), CEC evidence-based practice rating (causal design rating, implementation rating, and effects rating), and research design.

After coding all the studies for these basic characteristics, the next step was to classify the studies by their research approach as either qualitative or quantitative. Studies that used a quantitative approach were further classified as either experimental/quasi-experimental, correlational, or single-subject research design. Studies that were classified as qualitative were further analyzed to determine which qualitative approach was used; however, all qualitative studies were evaluated with the same rubric. There were ten mixed-method studies, twenty-two qualitative studies, eight experimental/quasi-experimental studies, three correlational studies, and one single-subject study. Mixed-method studies were evaluated using either the qualitative rubric or one of the quantitative rubrics, depending on the dominant research design used in the study; if equal, the quantitative rubric was used. This coding produced twenty-five studies evaluated with the qualitative coding rubric, sixteen studies evaluated with the experimental/quasi-experimental coding rubric, three studies evaluated with the correlational coding rubric, and one study evaluated with the single-subject coding rubric.

Next, the studies were evaluated for causal design quality, causal approximating design, or only design quality, depending on whether they were experimental/quasi-experimental, single-subject, correlational, or qualitative studies, respectively. Each study was also critiqued for implementation quality and for effects of the practice on the target population. If a study was ranked with a four or five in the design quality, implementation quality, or effects on the individual study-coding rubrics, then it was classified as having strong causal design, being well implemented, or having positive effects to match the CEC Evidence-Based Practice Coding Rubric. The only longitudinal study in which more than one study was evaluated was Andrzejszak (2006), in which two of three studies were evaluated. Each study in the Andrzejszak report produced independent data points, as the outcome measures were not performed on the same sample of participants. Additionally, for studies that had multiple outcomes, the study was determined to have positive effects if any of the outcomes were found to have at least a moderate effect. Furthermore, if the study compared multiple grade levels, it was classified as having a positive effect if it produced at least a moderate effect on one of the grade levels. To rate the effect overall, a study that produced at least one outcome with a small effect (0.1–0.2) was ranked as a four, and a study that produced outcome(s) with a moderate or large effect (0.3–2.0) was rated as a five on the rubric. If no data were provided to calculate an effect size, it was rated as a three for neutral. Negative effects were rated as either two or one. If Cohen's d effect size was not reported but there were data to compute it, I used the Practical Meta-Analysis Effect Size Calculator, created by Dr. David Wilson from George

Mason University, to calculate effect size and confidence intervals for the effect size. In qualitative studies, effect was estimated, when possible, based on the narrative description in the study using the CEC coding guidelines. After each study was thoroughly evaluated, they were organized by the type of arts integration (multi-arts as compared to single-art integration), and the summative CEC Evidence-Based Coding Rubric was used to determine whether the practice could be classified as having positive effects, potentially positive effects, mixed effects, no discernible effects, or negative effects (see Table 2). After this evaluation, the studies were reorganized to evaluate those studies that produced specific outcomes for students with disabilities and to determine the evidence base for arts integration specifically targeted to students with disabilities. Finally, the studies were organized and evaluated to determine the effects of arts integration on school environment.

RESULTS

Of the forty-four studies analyzed for this study, nineteen were studies examining the effects of using one art form and integrating it with one or more academic subjects. These studies were evaluated using the art form they integrated. There were nine studies on drama integration, four on music integration, five on visual arts integration, and one on dance integration. The other twenty-four studies examined the impact of multi-arts integration (integration of two or more art forms). After the studies were evaluated and ranked as a single-art integration practice or as a multi-arts integration practice, they were reorganized to include both single-art integration and multi-arts integration studies that included outcomes for students with disabilities. This produced thirteen studies, which were evaluated for their effects on the subgroup of students with disabilities to determine whether they had positive effects, potentially positive effects, mixed effects, no discernible effects, or negative effects. Finally, studies were categorized by and evaluated on the basis of school environment outcomes. There were five studies reporting school environment outcomes. The results of each of the evaluations (single art, multi-arts, effects on students with disabilities, school environment outcomes) are discussed later.

For the purposes of this study, the CEC criteria for labeling a practice as evidence-based were used to evaluate all studies that included any students with disabilities, economically disadvantaged students, or English language learners. Although these rubrics and criteria were developed and pilot-tested only on students with disabilities, it seemed appropriate to use them for both economically disadvantaged students and English language learners, since there is an overrepresentation of economically disadvantaged students and/or English language learners who are classified as having a disability (Kalyanpur and Harry 1999). Of the four art forms

TABLE 2
Calculated Effect Sizes for Quantitative Studies
Reviewed

Source	Effect Size
Matthews 2001	
IBTS:	
3rd grade	1.10
4th grade	.62
5th grade	.37
Brown et al. 2010	1.11
Campbell 2008	
NJASK LAL	.21
Yorke-Viney 2007	
Reading Ed	1.09
Reading ESE	.62
Creativity Ed	.73
Math Ed	1.32
Math IEP	−.12
Philips et al. 2010	
ELSI	.95
GRTR	.66
PPVT	.18
TERA	.09
Mages 2008	
Language:	
PPVT	.50
MMSC	.50
DFLU	.87
Theory of Mind:	
RFFB	.55
RFE	.07
DFLUTOM	.28
Imagination:	
Telephone	.54
Pretend	.34
Andrezejczak and Trainin 2006	
Reading recognition	.31
Reading comprehension	.53
Walker-Qualls 2008	.50–.80
Folkes and Bryant 2008	Data not specified
Brouillette et al. 2008	Data not specified
McMahon et al. 2003	
Constant sound recognition	1.58
Vowel recognition	.96
Phoneme segmentation (overall)	1.51
Neville et al. 2003	Data not specified
Cawthon et al. 2001	Data not specified
Ray 1997	Data not specified
Nelson 2007	
Ideas	.12
Organization	.25
Voice	.25
Word choice	.14
Sentence fluency	.22
Conventions	.26

(drama, music, dance, and visual art), only drama integration met the criteria for having positive effects on disadvantaged populations. Of the nine studies evaluated in this category, there were no studies with negative effects; two studies that had a strong causal design, were well implemented, and had

positive effects (Mages 2008; Campbell 2008); and one moderately strong causal design study that was well implemented and had positive effects (de la Cruz 1995). Based on the results of this one evaluation, drama integration can cautiously be regarded as an evidence-based practice for increasing disadvantaged populations' grades in reading and math, social skills, expressive/receptive language, and creative thinking.

Dance integration was found to have potentially positive effects on consonant sound recognition, vowel recognition, and phoneme segmentation; however, there was only one study included on dance integration (McMahon, Rose, and Parks 2003). Of the five studies on visual arts integration, there was one moderately strong causal design study that was well implemented and had positive effects (Andrzejszak and Trainin 2006) and no studies reporting negative effects. These findings classify visual art integration as a potentially positive practice in increasing reading/math achievement, writing, and empathetic behaviors for disadvantaged students (Andrzejszak and Trainin 2006; Creel 2005; Jurand 2008). Music integration was ranked as having no discernible effects, as the two studies that had a strong or moderately causal design did not provide the data needed to calculate an effect size (Ray 1997; Neville et al. 2008) and the other two studies included a single-subject design study (Kariuki and Honeycutt 1998) and a qualitative study (Bassett 2010).

In the next category of studies, multi-arts integration, 50 percent of the inclusion criteria for group experimental/quasi-experimental designs and 50 percent of the inclusion criteria for studies using a causal approximating correlation design were used to determine where the practice fell on the continuum of evidence-based practice. This was a recommendation made in the CEC evidence-based practice manual for when a researcher finds studies that meet a mix of group, single-subject, and/or correlational criteria (Council for Exceptional Children 2008). Under these guidelines, multi-arts integration was found to be a practice with positive effects for disadvantaged populations' reading achievement and potentially positive effects for math achievement, creativity/critical thinking, self-efficacy, motivation, cooperation, and student engagement (Lorimer 2011; Scriven 2008; Prager 2006; Smith and McKnight 2009; Yorke-Viney 2007; Ingram and Riedel 2003; Nelson 2007; Brouillette et al. 2008; Catterall and Waldorf 1999). Therefore, it can cautiously be regarded as an evidence-based practice to increase reading achievement based on this one evaluation of the studies. Out of the eighteen studies, there were two studies with a strong causal approximating design that were well implemented and had positive effects (Yorke-Viney 2007; Ingram and Riedel 2003) and one moderately strong causal design study that was well implemented and had positive effects (Matthews 2001). In addition, there were no strong causal or approximating design studies that were well implemented and had negative effects.

After reclassifying the studies, thirteen studies included outcomes related to arts integration for students with dis-

abilities. There was one moderately strong causal design study that was well implemented and had positive effects (de la Cruz 1995) and one strong causal approximating design study that was well implemented and had positive effects (Yorke-Viney 2007). In addition, there was only one moderately strong causal design study that was well implemented and produced neutral effects (Kariuki 1998), so the twelve studies with positive effects outnumbered the one study with neutral effects. Furthermore, the one study that produced neutral effects used an affective arts integration approach and not the co-equal cognitive arts integration approach that the other studies used. Arts integration was found to have potentially positive effects on students with disabilities' reading/math achievement, expressive/receptive language, social skills, perseverance/motivation, memory, attention, risk-taking, learner ownership, and self-efficacy (Yorke-Viney 2007; de la Cruz 1995; Smith and McKnight 2009; Jacobs 2005; Wilhelm 1995; Durham 2010). However, with one more well-implemented strong or moderately strong causal design study that produced positive effects, arts integration could become an evidence-based practice for students with disabilities.

Finally, the last category of studies that was evaluated was arts integration effects on school environment for disadvantaged students. There were five qualitative studies located. Two of these five studies were well implemented and had positive effects (Magee 2009; Aulgur 1997). After reviewing these studies, it appears that arts integration is a potentially positive practice to facilitate positive schoolwide changes in school organization, roles of teachers, teacher planning, and differentiated instruction that allows different ways of demonstrating knowledge. It also appears to facilitate school environments that are collaborative, caring, and inclusive of students with special needs.

LIMITATIONS

There were several limitations to my study. I first report on limitations to some of the studies I evaluated and then on limitations to the methodology I used to evaluate the studies. First, of the nineteen quantitative studies that were evaluated, only six reported an effect size for each outcome, and none of the studies reported confidence intervals of the effect size. Reporting the confidence interval of the effect size would help to more accurately estimate population parameters by comparing intervals across studies. Additionally, it would help to interpret effect sizes in the context of effect sizes from previous studies rather than by the strict benchmark for small, medium, and large effects (Thompson 2002). Small effects that have important outcomes and are replicated can produce a significant effect in a meta-analysis.

Furthermore, of the remaining thirteen quantitative studies, I could only calculate an effect size and confidence intervals for eight of the thirteen studies, since five of the studies

did not even provide the data needed to calculate an effect size. Additionally, of the fifteen group experimental/quasi-experimental design studies, only six used random sampling and received a strong causal design rating, and three studies received a weak causal design rating, as they did not include a control group. Furthermore, six of the nineteen studies were not well implemented. In summary, of the nineteen quantitative studies, only ten had a strong or moderately strong causal design and were well implemented. Of these ten studies, only nine either reported effect size or provided the data needed to be able to calculate effect size.

One consistent weakness in the implementation quality of these studies was in the area of data analysis. Only one study out of the nineteen quantitative studies used hierarchical linear modeling (HLM) to reflect the nested relationships of students within different classes that were sometimes within different schools and even different districts. Since multi-level modeling would provide more conservative estimates of standard errors, confidence intervals, and significance tests because it takes into account the clustering that occurs with student data, some caution must be taken in interpreting the results of these studies. Additionally, using HLM allows the researcher to explore the extent to which differences in results between schools or classes are the result of organizational practice or some other characteristics of the students. It can also help to evaluate how schools differ among subgroups of the student population (Goldstein 1999).

Another common weakness across both the quantitative and qualitative studies in the implementation quality category was that insufficient information regarding the interventionist or teacher was provided, making it difficult to compare this variable across conditions. Furthermore, some of the studies did not provide detailed information on the procedures so that the critical steps of the practice could be replicated with fidelity. It was difficult to determine the implementation fidelity for many of the studies. Although most of the studies assessed the implementation fidelity at various points during the intervention, very few used a "low-inference measurement" with the components operationally defined in the form of a checklist. Most of the studies just reported that the observer(s) recorded notes, which could lead to subjective interpretations.

Finally, in most of the qualitative studies, it was very difficult to locate the findings. Only a few of the studies produced a summary of the findings, and very few displayed their findings using graphics. This would allow a researcher to evaluate qualitative studies more efficiently.

There were some limitations to the methodology of my study. However, it is important to remember that this evaluation of research was planned as Stage 2 research (Levin, O'Donnell, and Kratochwill 2003) to offer a preliminary evaluation of studies for other researchers to replicate and also to influence the future design and implementation of studies in this area. Hopefully, if there is an awareness of how close we are to supporting arts integration as an evidence-based practice for disadvantaged populations, there will be an increase in the quantity and quality of research in this area. My findings must be interpreted with caution, as they were not triangulated with those of other evaluators. It is important to know how other researchers would evaluate and rate the same studies in order to determine interrater reliability. In addition, it is important to know whether they would locate the same studies using my search criteria, search terms, and databases. Additionally, I did not evaluate every study in the few longitudinal studies used, as these studies included separate studies for each year. Furthermore, I did not distinguish outcomes based on grade levels, another variable that could be controlled for in a future evaluation of the studies.

DISCUSSION

This evaluation of research studies reviewed studies published between 1995 and 2011 on the impact that arts integration has on disadvantaged students' success. The CEC coding rubrics and the CEC Evidence-Based Practice Rubric were used to evaluate design quality, implementation quality, and outcome effects. Positive effects were reported for drama integration and multi-arts integration. Potentially positive effects were reported for dance integration, visual arts integration, arts integration for students with disabilities, and arts integration as a means to improve school environment.

One way to interpret the findings is by using the conceptual framework proposed by Durham (2010). She proposes that students engaged in arts-integrated instruction develop metacognition, which bi-directionally influences cognitive processing skills, content knowledge, perseverance, and self-efficacy. This conceptual framework can be viewed through the lens of Bandura's (2001) social cognitive theory, which claims that learning is interactional within and across the domains of thinking and knowledge and is influenced by personal, environmental, and behavioral variables.

Another way to interpret the findings and understand the power of arts integration for promoting disadvantage students' success is through the lens of both Bandura's (2001) social cognitive theory and Honneth's (2002) theory of recognition. I propose this new theory as a conceptual framework that could explain why implementing the UDL guidelines through an arts integration approach may help us to bridge the gap for disadvantaged learners.

Axel Honneth (2002) claimed that the formation of a personal identity, which is needed for human self-realization, is dependent on three dimensions of recognition: love and friendship, rights, and solidarity. These forms of recognition are obtained from primary relationships, legal relationships, and communities of value, and they provide emotional support, cognitive respect, and social esteem, respectively. Without recognition from primary relations (love and friendship), an individual will not develop self-confidence. Without recognition from legal relations (rights), a person will

not develop self-respect. Finally, without recognition from valued communities (solidarity), a person will not develop self-esteem. Solidarity develops from the symmetrical social esteem between autonomous and individualized persons who share a common horizon of values. Everyone is recognized not only as legally autonomous, but as contributing in a positive way to the community, which allows each person to actually experience him or herself as valuable from the perspective of the whole community (Heidegren 2002).

Experiences in arts-integrated learning seem to provide all three forms of recognition, which could create environments that facilitate high self-efficacy in students. Several studies reviewed in this study reported gains in student self-efficacy and self-esteem (Jacobs 2005; Lorimer 2011; Bassett 2010; Prager 2006; Ponder and Kissinger 2009; Smith and McKnight 2009; Durham 2010). Zimmerman (2000) reported that self-efficacy beliefs are sensitive to subtle changes in students' performance context. Self-efficacy beliefs regulate human functioning through cognitive, motivational, affective, and selection processes (Bandura 1990). Students who have a stronger belief in their capability to perform a specific task successfully (self-efficacy) demonstrate more self-regulation behaviors such as goal-setting, self-monitoring, self-evaluation, and the use of learning strategies. Because students in an arts-integrated learning environment are being provided multiple means of representation, multiple means of action and expression, and multiple means of engagement, they demonstrate these behaviors and naturally receive recognition (emotional support, cognitive respect, and social esteem) within their *community of value*, because they are contributing in a positive way. They can experience the feeling of being valuable from the perspective of their peers, which could increase their academic motivation as they feel less stressed, anxious, and depressed. Hence, they may be more likely to select more challenging activities and work with increased effort and persistence. This increased effort and persistence could result in increased academic achievement.

Eisner (1989) claimed that there was a need for a theoretical framework to explain the connection between the cognitive skills developed in the arts and the functions these skills perform in academic work. This proposed conceptual framework could explain this relationship. Furthermore, it explains why arts-integrated learning experiences are a natural partner with UDL and can create learning environments in which all students can achieve in classrooms implementing the Common Core standards. Future research could explore the relationships among arts-integrated learning environments, the implementation of UDL guidelines, and mastery of the Common Core standards for students with disabilities, English language learners, and economically disadvantaged students. Mixed-method studies that provide thick descriptions of the environments as well as quantifiable subject-specific academic achievement data, student and teacher affective outcome data, and class/school environment data may provide

a deeper understanding of best practices and may help to narrow the achievement gap for disadvantaged student populations.

In order for administrators to seriously consider implementing arts integration and recognize it as an evidence-based practice, there must be an increase in both the quantity and the quality of the research. This study should be replicated by other researchers using the same coding rubrics with the same studies in order to provide interrater reliability and move to Stage 3 research in order to support arts integration as an evidence-based practice. Additionally, other researchers should expand upon this study to evaluate more studies so that outcomes can be specified by grade levels and/or specific disadvantaged learner classifications. Future research could explore how my proposed theory may account for the impact of arts integration specifically for disadvantaged populations. In addition, future research should have strong causal design, use multilevel modeling, and report effect sizes and confidence intervals in order to determine the evidence base. Using the CEC coding rubrics to guide the development of future research plans will produce more quality research that can help add to the evidence base. Finally, research that uses only quantitative designs will not give us a full understanding of how arts integration is impacting the many unique educational contexts that are being studied, and so researchers should use more mixed-method designs to provide the best mix of rich, thick descriptions and quantifiable data in order to provide a more complete picture of the effects of arts integration on disadvantaged populations.

As educational leaders, researchers, and politicians, we should take a closer look at the use of an co-equal cognitive arts integration approach as an excellent strategy for planning and teaching the Common Core standards and creating opportunities for students to use twenty-first-century learning skills in an environment shaped by the UDL guidelines. In these environments, where all students are provided with multiple means of representation, multiple means of action and expression, and multiple means of engagement, we can begin to bridge the achievement gap and increase our global educational ranking as our disadvantaged students gain opportunities to enjoy a high-quality education. All students can learn, and we must work together to achieve this!

REFERENCES

Alabari, M., A. Harder, C. Jarvis, J. Mogoko, and M. Munoz. 2009. *The impact of art at Plymouth Youth Center arts and technology*. Minneapolis, MN: Hubert H. Humphrey Institute of Public Affairs.

Alexeeva, L. L., I. M. Bykhovskaya, T. S. Fedrova, N. A. Kochelyaeva, V. V. Martynova, E. P. Olesina, and L. V. Shkolyar. 2011. *Arts education in the Russian Federation: Building creative capacities in the 21st century*. Moscow: UNESCO Office in Moscow. Accessed August 12, 2013, at http://unesdoc.unesco.org/images/0021/002120/212073m.pdf.

Andere, E. 2009. Comprehensive education outside the United States. In *Why we are behind: What top nations teach their students but we don't*, ed. Common Core, 79–84. Washington, DC: Common Core.

Andrzejszak, N., and G. Trainin. 2006. *Project RAISE, Reading and Arts Integrated for Student Excellence, final report*. Accessed September 5, 2013 at http://digitalcommons.unl.edu/cehsgpirw/3

ArtsEdge. n.d. Arts integration and universal design for learning. Accessed September 1, 2012, at http://artsedge.kennedy-center.org/educators/how-to/arts-integration-beta/why-arts-integration-beta/why-connections-beta/universal-design-for-learning-beta.aspx.

Aulgur, L. 1997. First and second graders coming to know the role of students and teachers in an expressive arts school. Ph.D. diss., University of Missouri–Columbia.

Bamford, A. 2009. *The wow factor: Global research compendium on the impact of the arts in education*. New York: Waxmann.

Bandura, A. 1990. Perceived self-efficacy in the exercise of personal agency. *Journal of Applied Sport Psychology* 2 (2): 128–63.

Bandura, A. 2001. Social cognitive theory: An agentic perspective. *Annual Review of Psychology* 52 (1): 1.

Bassett, D. A. 2010. West African drumming, geography, history, language, multiculturalism and at-risk students in the music classroom. M.A. diss., University of Kansas.

Batson, R. D. M. 2011. Effects of an arts integration curriculum versus a non-arts integration curriculum on the school experiences of kindergarten through middle school students with autism. Ed.D. diss., Trevecca Nazarene University.

Bresler, L. 1995. The subservient, co-equal, affective, and social integration styles and their implications for the arts. *Arts Education Policy Review* 96 (5): 31–37.

Brouillette, L. 2009. How the arts help children to create healthy social scripts: Exploring the perceptions of elementary teachers. *Arts Education Policy Review* 111 (1): 16–24.

Brouillette, L. R., K. Burge, W. Fitzgerald, and P. Walker. 2008. Teaching writing through the arts in urban secondary schools: A case study. *Journal for Learning through the Arts* 4 (1): 1–28.

Brouillette, L., and L. Jennings. 2010. Helping children cross cultural boundaries in the borderlands: Arts program at Freese Elementary in San Diego creates cultural bridge. *Journal for Learning through the Arts* 6 (1): 1–17.

Brown, E. D., B. Benedett, and M. E. Armistead. 2010. Arts enrichment and school readiness for children at risk. *Early Childhood Research Quarterly* 25 (1): 112–24.

Burger, K., and E. Winner. 2000. Instruction in visual art: Can it help children learn to read? *Journal of Aesthetic Education* 34 (3/4): 277–93.

Burnaford, G., S. Brown, J. Doherty, and J. McLaughlin. 2007. *Arts integration frameworks, research and practice—Literature review*. Washington, DC: Arts Education Partnership. Accessed September 5, 2013 at http://www.aep-arts.org/

Butzlaff, R. 2000. Can music be used to teach reading? *Journal of Aesthetic Education* 34 (3/4): 167–78.

Campbell, M. P. 2008. *The infusion of theater arts in the teaching of language arts: Its impact on the academic achievement of fifth grade students*. Ed.D. diss., Seton Hall University.

Catterall, J., and L. Waldorf. 1999. Chicago Arts Partnership in Education summary evaluation. In *Champions of change: The impact of the arts on learning*, ed. E. Fiske, 47–62. Washington, DC: The Arts Education Partnership and The President's Committee on the Arts and the Humanities. Accessed September 5, 2013 at http://www.artsedsearch.org/summaries/chicago-arts-partnerships-in-education-summary-evaluation#sthash.ty1kiUNi.dpuf

Cawthon, S. W., K. Dawson, and S. Ihorn. 2011. Activating student engagement through drama-based instruction. *Journal for Learning through the Arts* 7 (1): 1–29.

Center for Applied Special Technology (CAST). n.d. Universal Design for Learning proving valuable in advancing education reform nationwide. Accessed September 1, 2012, at http://www.cast.org/about/news/2012-05-18.html.

Common Core. 2009. *Why we are behind: What top nations teach their students but we don't*. Accessed February 15, 2013, at http://www.commoncore.org/_docs/CCreport_whybehind.pdf.

Cook, B. G., M. Tankersley, and T. J. Landrum. 2009. Determining evidence-based practices in special education. *Exceptional Children* 75 (3): 365–83.

Corbett, D., B. Wilson, and D. Morse. 2002. *The arts are an "R" too*. Jackson, MS: Mississippi Arts Commission.

Council for Exceptional Children. 2008. *Classifying the state of evidence for special education professional practices: CEC practice study manual*. Accessed August 30, 2012, at http://www.cec.sped.org/AM/Template.cfm?Section=Evidence_based_Practice&Template=/TaggedPage/TaggedPageDisplay.cfm&TPLID=24&ContentID=4710.

Creel, M. S. 2005. The endangered species sculpture garden: An interdisciplinary environmental art education curriculum for at-risk children. Ph.D. diss., Florida State University.

de la Cruz, R. 1995. The effects of creative drama on the social and oral language skills of children with learning disabilities. Ph.D. diss, Illinois State University.

Donovan, M. S., and C. T. Cross, eds. 2002. *Minority students in special education and gifted education*. Washington, DC: National Academy Press.

Durham, J. L. 2010. The effects of an art-based and integrated curricular approach on the cognitive process and personal learning characteristics of students with learning disabilities. Ph.D. diss., George Mason University.

Eisner, E. 1998. Does experience in the arts boost academic achievement? *Arts Education Policy Review* 100: 32–38.

Feilen, K. V. 2009. Arts for my sake: Identities of urban youth in the local "artistic" community. Ph.D. diss., University of California, Los Angeles.

Feldman, R. 2002. Listening to student voices. *Visual Arts Research* 28 (1): 68–81.

Folkes-Bryant, B. 2008. Investigating the effect on student attitudes, motivation and self-esteem in performing arts elementary schools incorporating arts integration. Ed.D. diss., St. John's University (New York).

Goldstein, H. 1999. *Multilevel statistical models*. London: Institute of Education, Multilevel Models Project. Accessed September 5, 2013, from http://www.ats.ucla.edu/stat/examples/msm_goldstein/goldstein.pdf

Gullatt, D. E. 2008. Enhancing student learning through arts integration: Implications for the profession. *High School Journal* 91 (4): 12–25.

Heidegren, C.-G. 2002. Anthropology, social theory, and politics: Axel Honneth's Theory of Recognition. *Inquiry* 45 (4): 433–46.

Hetland, L., and E. Winner. 2001. The arts and academic achievement: What the evidence shows. *Arts Education Policy Review* 102 (5): 3–6.

Honneth, A. 2002. Grounding Recognition: A Rejoinder to Critical Questions. *Inquiry* 45 (4): 499–519.

Ingram, D., and E. Riedel. 2007. *Arts for academic achievement: What does arts integration do for students?* Minneapolis: Center for Applied Research and Educational Improvement, College of Education and Human Development, University of Minnesota. Accessed September 5, 2013 at http://www.cehd.umn.edu/carei/publications/documents/DoforStudents.pdf

Jacobs, M. N. 2005. Drama discovery: The effect of dramatic arts in combination with bibliotherapy on the self-efficacy of students with emotional and/or behavioral disabilities regarding their understanding of their own exceptionalities. Ed.D. diss., Duquesne University.

Jurand, E. K. 2008. Visualization in the writing process: A case study of struggling K–4 learners in a summer writing camp. (Ph.D. diss., Kansas State University.

Kalyanpur, M., and B. Harry. 1999. *Culture in special education—building reciprocal family-professional relationships*. Baltimore: Brookes Publishing Company.

Kariuki, P., and C. Honeycutt. 1998. An investigation of the effects of music on two emotionally disturbed students' writing motivations and writing skills. Paper presented at the annual conference of the Mid-South Educational Research Association, New Orleans, LA.

Korea Arts & Culture Education Service (KACES). n.d. Accessed February 17, 2013 at http://eng.arte.or.kr/arte_eng/what/formal.html.

Levin, J. R., A. M. O'Donnell, and T. R. Kratochwill. 2003. Educational/psychological intervention research. In *Handbook of psychology, vol. 7: Educational psychology*, ed. W. Reynolds and C. Miller, 557–81. Hoboken, NJ: John Wiley & Sons.

Lorimer, M. R. 2011. Arts-infused learning in middle level classrooms. *Journal for Learning through the Arts* 7 (1): 1–13.

Magee, C. M. 2009. A phenomenological, hermeneutic case study of two studio learning environments: Reggio Emilia pre-school atelier and MIT TEAL freshmen studio physics. (Ed.D. diss., George Washington University.

Mages, W. K. 2008. Language and theory of mind development in the context of a Head Start theatre-in-education program. Ed.D. diss., Harvard University.

Mason, C. Y., K. M. Steedly, and M. S. Thormann. 2008. Impact of arts integration on voice, choice, and access. *Teacher Education and Special Education* 31 (1): 36.

Mason, C. Y., M. S. Thormann, and K. M. Steedly. 2004. *How students with disabilities learn in and through the arts: An investigation of educator perceptions*. VSA, John F. Kennedy Center for the Performing Arts, August 23.

Matthews, J. 2001. Impact of fine arts integration on third, fourth and fifth graders' reading achievement in an urban magnet school. Ph.D. diss., Oklahoma State University.

McMahon, S. D., D. S. Rose, and M. Parks. 2003. Basic reading through dance program: The impact on first-grade students' basic reading skills. *Evaluation Review* 27 (1): 104–25.

McTighe, J., G. Wiggins, and the Association for Supervision and Curriculum Development (ASCD). 2011. *The understanding by design guide to creating high-quality units*. Alexandria, VA: ASCD.

Nelson, E. A. 2007. Impact of an integrated arts curriculum on student achievement in writing. Ed.D. diss., Nova Southeastern University.

Neville, H., A. Andersson, O. Bagdade, T. Bell, J. Currin, J. Fanning, S. Klein, et al. 2008. Effects of music training on brain and cognitive development in underprivileged 3-to 5-year old children: Preliminary results. In *Learning, arts, and the brain: The Dana Consortium report on arts and cognition*, ed. C. Asbury and B. Rich, 105–16. New York/Washington, DC: Dana Press.

Odom, S. L., E. Brantlinger, R. Gersten, R. H. Horner, B. Thompson, and K. R. Harris. 2005. Research in special education: Scientific methods and evidence-based practices. *Exceptional Children* 71 (2): 137.

Organisation for Economic Co-operation and Development. 2007. *PISA 2006: Science competencies for tomorrow's world. Executive summary*. Paris: OECD Publishing.

Parsad, B., and M. Spiegelman. 2012. *Arts education in public elementary and secondary schools: 1999–2000 and 2009–10*. NCES Publication No. 2012–014. Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Accessed August 13, 2013, at http://www.gao.gov/new.items/d09286.pdf.

Phillips, R. D., R. L. Gorton, P. Pinciotti, and A. Sachdev. 2010. Promising findings on preschoolers' emergent literacy and school readiness in arts-integrated early childhood settings. *Early Childhood Education Journal* 38 (2): 111–22.

Podlozny, A. 2000. Strengthening verbal skills through the use of classroom drama: A clear link. *Journal of Aesthetic Education* 34 (3/4): 239–75.

Ponder, C., and L. Kissinger. 2009. Shaken and stirred: A pilot project in arts and special education. *Teaching Artist Journal* 7 (1): 40–46.

Prager, J. J. 2006. Through the eyes of art: Uncovering promising practices in arts-themed learning in California charter elementary schools. Ed.D. diss., University of Southern California.

Provasnik, S., D. Kastberg, D. Ferraro, N. Lemanski, S. Roey, F. Jenkins, and I. Westat. 2012. *Highlights from TIMSS 2011: Mathematics and science achievement of U.S. fourth- and eighth-grade students in an international context*. NCES Publication No. 2013-009. Washington, DC: National Center for Education Statistics. Accessed August 13, 2013, at http://www.eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED537758.

Ravitch, D., and A. Cortese. 2009. Why we're behind: What top nations teach their students but we don't. *Education Digest* 75 (1): 35–38.

Ray, J. 1997. For the love of children: Using the power of music in "English as a second language" programs. Ph.D. diss., University of California, Los Angeles.

Robinson, A. H. 2011. Differentiating instruction in higher education. In *Selected papers from the 22nd international conference on college teaching and learning*, ed. J. Chambers, 181–203. Jacksonville: Florida State College at Jacksonville.

———. 2012. Using creativity and collaboration to develop innovative programs that embrace diversity in higher education. *Collected Essays on Learning and Teaching* 5:6–12.

Scriven, T. V. 2008. The short-term qualitative impact of an interdisciplinary arts-centered curriculum on rural, at-risk middle school students. Ph.D. diss., Florida State University.

Smith, K., and K. S. McKnight. 2009. Remembering to laugh and explore: Improvisational activities for literacy teaching in urban classrooms. *International Journal of Education & the Arts* 10 (12). Accessed August 13, 2013, at http://www.ijea.org/v10n12/.

Thompson, B. 2002. What future quantitative social science research could look like: Confidence intervals for effect sizes. *Educational Researcher* 31 (3): 25–32.

Thompson, B., K. E. Diamond, R. McWilliam, P. Snyder, and S. W. Snyder. 2005. Evaluating the quality of evidence from correlational research for evidence-based practice. *Exceptional Children* 71 (2): 181.

Thompson, S., S. Provasnik, D. Kastberg, D. Ferraro, N. Lemanski, and S. Roey. 2012. *Highlights from PIRLS 2011: Reading achievement of U.S. fourth-grade students in an international context*. NCES Publication No. 2013-010. Washington, DC: National Center for Education Statistics. Accessed August 13, 2013, at http://www.eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED537758.

United Nations Educational, Scientific and Cultural Organization (UNESCO). 2010. *Survey and results on the implementation of the road map*. Accessed August 13, 2013, at http://www.unesco.org/new/en/culture/themes/creativity/arts-education/official-texts/road-map/survey-and-results-on-the-implementation-of-the-road-map.

———. n.d. UNESCO and IFESCCO supports arts education in CIS countries. Accessed August 13, 2013, at http://www.unesco.org/new/en/moscow/culture/arts-education-in-cis-countries/.

U. S. Government Accountability Office. 2009. *Assess to arts education*. GAO Publication No. 09-286. Accessed February 13, 2013, at http://www.gao.gov/new.items/d09286.pdf.

Vaughn, K. 2000. Music and mathematics: Modest support for the oft-claimed relationship. *Journal of Aesthetic Education* 34 (3/4): 149–66.

Vaughn, K., and E. Winner. 2000. SAT scores of students who study the arts: What we can and cannot conclude about the association. *Journal of Aesthetic Education* 34 (3/4): 77–89.

Walker-Qualls, G. M. 2008. The use of creative arts to enhance the reading levels of students with disabilities. Ph.D. diss., Loyola University Chicago.

Wilhelm, J. D. 1995. Reading is seeing: Using visual response to improve the literary reading of reluctant readers. *Journal of Reading Behavior* 27 (4): 467–503.

Winner, E., and M. Cooper. 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.

Wolf, S. 2011. The flight of reading: Shift in instruction, orchestration and attitudes thought classroom theatre. *Reading Research Quarterly* 33 (4): 382–415.

Yorke-Viney, S. 2007. An examination of the effectiveness of arts integration in education on student achievement, creativity and self perception. Ph.D. diss., Marywood University.

Zimmerman, B. J. 2000. Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology* 25 (1): 82–91.