

A young boy with short dark hair and glasses is playing a brown ukulele. He is wearing a black t-shirt, a red beaded necklace, and a blue wristband. He has a blue earpiece in his right ear. The background is a plain, light-colored wall. The text 'THE KENNEDY CENTER' is in the top left corner. The title 'VSA Intersections: Arts and Special Education' is in the middle left. Below it is the subtitle 'A Jean Kennedy Smith Arts and Disability Program'. At the bottom left is 'Exemplary Programs and Approaches Professional Papers Series' and 'VOLUME 4'.

**THE
KENNEDY
CENTER**

VSA Intersections: Arts and Special Education

A Jean Kennedy Smith Arts and Disability Program

**Exemplary Programs and
Approaches Professional Papers Series**

VOLUME 4

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Table of Contents

Introduction	4
Jenna Gabriel, Ed.M.	
Necessary Connections between the Arts and Special Education: A Collaborative Framework for Practice, Research, and Policy.	7
Alida Anderson, Ph.D., Katherine A. Berry, Ed.D., Jean B. Crockett, Ph.D.	
Dancers Realize Excellence through Arts and Movement (DREAM): An Inclusive Dance Program to Promote Participation in Children with Developmental Disabilities	23
Agnes McConlogue Ferro DPT, PCS, Lori Quinn PT, Ed.D., Kay Gayner-Wood, Aileen Barry	
Music!Words!Opera!: Curriculum Adaptations for Students with Complex Communication Needs	34
Lisa Pierce-Goldstein, M.M., M.S. CCC-SLP	
The Arts, Project-Based Learning, and Students with Challenging Behaviors: The Alignment of Standards with Student Characteristics	55
Jonte C. Taylor, Ph.D., Benjamin Riden, M.Ed., Andrew Markelz, M.Ed.	
About the Authors	68
About the Kennedy Center Office of VSA and Accessibility	71

Introduction

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The John F. Kennedy Center for the Performing Arts

Driven by the belief that equitable access to arts education for students with disabilities is indeed an issue of civil and human rights, the Office of VSA and Accessibility at the John F. Kennedy Center for the Performing Arts drives ambitious goals to advance the field of arts and special education. Through the annual VSA Intersections conference, resources we publish, and trainings we conduct throughout the year, the special education team acts as both clearinghouse and convener, bringing together educators across the country to develop and disseminate best practices for educating students with disabilities in and through the arts.

This fourth volume of VSA's Professional Papers Series, *VSA Intersections: Arts and Special Education Exemplary Programs and Approaches*, comes following an exciting year for the field. In the summer of 2017, the Kennedy Center published *The Arts and Special Education: A Map for Research*. Written in collaboration with some of the field's eminent scholars, this publication invites institutions of higher education, research, and policy development to join us in building a body of literature focused in the areas of Access & Equity Research, Instructional Design & Innovation Research, and Effectiveness, Efficacy, & Scale-Up Research. Just half a year later, in early 2018, the field's progress was recognized with the publication of the first Handbook of the Arts and Special Education, a seminal volume edited by Drs. Sharon Malley and Jean Crockett. These two publications share many contributors, and many of those scholars and authors also lent their voices to this volume.

The four papers in this volume span disability category, art form, and educational setting. They address best practices, model programs, and rigorous research. The authors represent master teachers, related service providers, community-based educators, researchers, and more. They offer perspectives and strategies to support us in the work of this field: meaningfully engaging and educating students with disabilities in and through the arts.

In "Necessary Connections between the Arts and Special Education: A Collaborative Framework for Practice, Research, and Policy," Alida Anderson, Katharine Betty, and Jean Crockett offer a broad overview of the arts and special education field across the areas practice, research, and policy. They propose a framework to support increased collaborations across roles and perspectives, and share findings from focus groups conducted with practitioners, researchers, and policymakers. Dr. Anderson is an Associate Professor in the School of Education at American University whose research focuses on language and literacy for exceptional learners. She is also a contributing author of *The Arts and Special Education: A Map for Research* and the *Handbook of Arts Education and Special Education*. A former special educator, Dr. Berry received is a recent doctoral graduate from the George Washington University and now works at the University of Texas, Austin. Dr. Crockett is a Professor in the School of Special Education, School Psychology, and Early Childhood Studies at the University of Florida and a co-editor of the *Handbook of Arts Education and Special Education*.

From that expansive look at the field, we hone in on two art forms and instructional practices to support two different learner profiles. First, Agnes McConlogue Ferro, Lori Quinn, Kay Gayner-Wood, and Aileen Barry share findings from a pilot study examining the impact of inclusive, peer-partnered dance programming on children with physical and developmental disabilities. Their paper, “Dancers Realize Excellence through Arts and Movement (DREAM): An Inclusive Dance Program to Promote Participation in Children with Developmental Disabilities” shows promising effects from the National Dance Institute’s approach, which includes the use of physical therapists and age-matched peers in addition to dance instructors. Dr. Ferro is a Clinical Assistant Professor in Stony Brook University’s Physical Therapy program, a practicing clinician, and the co-creator/director of the Dancers Realize Excellence through Arts and Movement (DREAM) Project. Dr. Quinn is an Associate Professor in the Department of Biobehavioral Sciences at Teachers College, Columbia University, who research focuses on the development of effective interventions to improve functional abilities and quality of life for people with motor control impairments through physical therapy and exercise-based interventions. Ms. Gayner-Wood is the Associate Artistic Director of NDI, an NDI Master Teaching Artist, and the co-creator and co-director of the NDI DREAM Project. Ms. Barry is the Senior Director of Education & Outreach for National Dance Institute, where she oversees the administration of NDI programs serving 6,500 children in NYC public schools, NDI Teaching Artist Training initiatives, and the NDI DREAM Project.

Next, we examine music education. In her paper “Music!Words!Opera!: Curriculum Adaptations for Students with Complex Communication Needs,” Lisa Pierce-Goldstein presents a comprehensive approach for analyzing and creating complex operatic performances with students who have significant communication-related disabilities, such as nonverbal autism and/or significant intellectual disabilities. Through her use of customized picture exchange systems and evidence-based practices to support speech and language development, Ms. Pierce-Goldstein’s students are able to create and perform in operas of their own. Ms. Pierce-Goldstein is a speech language pathologist and classically trained singer with degrees from Oberlin College and Conservatory, Yale School of Music and Teachers College Columbia University. Currently, she works as a speech and language pathologist in the Boston Public Schools.

To conclude the volume, Jonte Taylor, Benjamin Riden, and Andrew Markelz help us look once again across art forms to examine how the arts intersect with project-based learning to meet the unique needs of students with emotional and behavioral disabilities. “The Arts, Project-Based Learning, and Students with Challenging Behaviors: The Alignment of Standards with Student Characteristics” draws connections between the skills developed in project-based learning, evidence-based practices for students with EBD, and the core arts standards to show theoretical foundations for using the arts in instruction with this student group. Dr. Taylor is a professor in special education at Pennsylvania State University, where his research focuses on STEAM education for students with disabilities, classroom and behavior management, school and classroom climates. Mr. Riden is an Assistant Professor at the University of Minnesota, where he researched classroom management, teacher preparation, and STEM education for students with disabilities. Mr. Markelz is an Assistant Professor at Ball State University, where his research focuses on technology in teacher education.

The *Exemplary Programs and Approaches* series is essential reading in the field of arts and special education. As of publication, the 31 professional papers put forth through this series together comprise one of the largest collections of academic writing specifically addressing arts learning for students with disabilities—a mammoth contribution to the field and the foundation for a forthcoming journal of the arts and special education, another important milestone in our growth. We hope that the papers that follow sharpen your thinking, inspire new questions, and deepen your connection to this work. It is our pleasure to share this latest volume with you.

Necessary Connections between the Arts and Special Education:

A Collaborative Framework for Practice, Research, and Policy

Alida Anderson, PhD, Katherine A. Berry, EdD, Jean B. Crockett, PhD

ABSTRACT: *This paper examines the connections between the arts and special education practice, research, and policy, which support a collaborative framework with shared outcomes among these domains. First, we present the historical background of the arts and special education practice, research, and policy to provide a context for the development of a collaborative framework with shared outcomes. Next, we describe the current state of practice, research, and policy in the arts and special education and highlight needs for strengthening collaboration among the three domains. Following, we offer an interconnected model that identifies shared roles and outcomes among practice, research, and policy in the arts and special education. The final section provides recommendations and conclusions for practice, research, and policy in the arts and special education, as informed by a focus group of arts and special education professionals.*

Introduction

In 2017, we convened a focus group with 40 stakeholders—school-based arts educators, special educators, administrators, and researchers—to answer the following question: *How do we strengthen connections among practice, research, and policy to advance shared outcomes at the intersection of the arts and special education?* As facilitators, we were especially interested in the development of shared outcomes of accessible, high quality, and innovative arts opportunities for students with disabilities in any educational settings in which special education is provided.

Our vision for a collaborative framework with shared outcomes among practice, research, and policy reflects a goal within the broader context of the arts and special education research agenda (The Kennedy Center, 2017); specifically, to determine how the connections between practice, research, and policy support accessible, high-quality arts learning experiences for students with disabilities. We maintain that there are necessary connections among practice, research, and policy in the arts and special education; and that harnessing these connections advances the development of future collaborative frameworks across the three domains.

Defining the Context

In this section, we summarize the history and seminal developments at the intersection of the arts and special education practice, research, and policy to understand the current connections among these academic disciplines. We also note influential theoretical frameworks that support the rationale for connecting the arts and special education.

Necessary Connections between the Arts and Special Education: A Collaborative Framework for Practice, Research, and Policy

History of the Arts and Special Education

Over a decade ago, the Consortium of National Arts Education Associations (2002) defined the goal of interdisciplinary arts education as enabling students to “identify and apply authentic connections between two or more disciplines and/or understand essential concepts that transcend individual disciplines” (p. 3). Despite differences in focus and scope, arts education and special education perspectives share the core assumption that learning in and through the arts is linked to learning in non-arts domains—cognitively, linguistically, motivationally, affectively, or socially—and that those linkages enhance teaching and learning (Loughlin & Anderson, 2015).

Historically, students with disabilities have experienced academic and behavioral challenges in conventional inclusive classrooms (Klem & Connell, 2004; Montague & Rinaldi, 2001) and have primarily achieved access to education through the arts (Malley & Silverstein, 2014). Arts approaches have been integral to teaching students with disabilities, with the 21st century marking a trend toward increased access, participation, and progress. Arts accessibility promotes enhanced engagement, opportunities in education, creativity, and lifelong learning experiences for students with disabilities and their teachers (Silverstein, 2012).

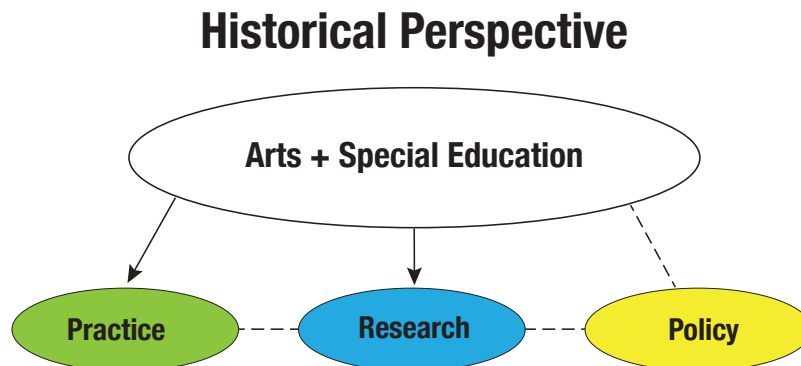
Diverse bodies of practice- and research-based literature featuring various art forms, settings, and delivery models support the idea that the arts provide authentic learning opportunities for students with varied learning needs, including students with disabilities. Broadly speaking, the connection between the arts and special education is associated with improved student outcomes that are both individualized and developmental in nature (Loughlin & Anderson, 2015). Arts participation also has served as an academic and motivational entry point for students with disabilities (see Berry & Loughlin, 2015, for a discussion) with research providing specific examples of how arts participation has improved student outcomes through emotional-behavioral, linguistic, and cognitive engagement (see Anderson, 2015, for a discussion).

Figure 1 graphically represents the historical connections among the arts and special education in practice, research, and policy domains. Note the solid connections between the arts and special education and practice, indicating its strong history. A second solid line connects the arts and special education research, which has become more prevalent over the past decade. Although there are solid connections between the arts and special education in practice and research domains, there is a weaker connection between practice and research (as identified by the dotted lines). We attribute this weaker connection to differing goals, initiatives, and outcomes for practice and research. The recent decade has been marked by increased attention to the reciprocal relationship (i.e., how each is mutually influenced by the other) between research and practice, both in special education (see Cook & Cook, 2013, for a discussion) and more recently in the arts and special education, as evident from the Kennedy Center’s five-year research map (The Kennedy Center, 2017). This research map for the arts and special education explicates practice and research connections through action plan items aimed at promoting (a) access and equity, (b) instructional design and innovation, and (c) effectiveness, efficacy, and scale-up research.

Necessary Connections between the Arts and Special Education: A Collaborative Framework for Practice, Research, and Policy

The connections among the arts and special education and policy, and among policy and practice and research domains, however, are indicated by more nascent connections (as illustrated by the dotted lines in Figure 1). Policy is concerned with the degree to which issues of fiscal incentives, equity, adequacy, accountability, and efficiency influence the generation of research and the delivery of effective, evidence-based practice in the arts and special education. Policies governing public education have shifted in priority over the past two decades from ensuring equitable access to instruction for all learners to requiring accountability for their academic outcomes. In some cases, this narrow approach to accountability occurred without evident connections to the arts and special education practice or research initiatives. Instead, routine pullouts for high-stakes testing and test preparation became commonplace, as did a lack of commitment to scheduling arts classes or adopting thoughtful approaches to integrative learning (Sabol, 2013).

FIGURE 1.



Historical Perspective on the Arts and Special Education Practice, Research, and Policy.

Theoretical Frameworks in Support of the Arts and Special Education

This section provides a summary of the theoretical frameworks in support of the arts and special education to inform the development of current models and frameworks at the intersection of the arts and special education. Theoretical frameworks generated across disciplinary fields (e.g., performing arts, psychology, neurology, and special education) support the connection between the arts and special education in practice, research, and policy domains, and provide a rationale for developing a collaborative framework with shared outcomes. Collaborative frameworks across practice, research, and policy in the arts and special education have the potential to strengthen desired goals within and between each respective domain.

Theoretical frameworks ranging from social, cognitive, linguistic, and behavioral science have been referenced in the arts and special education practice and research. For example, several have framed research on the arts as a new learning context (i.e., change in environmental stimuli), as related to on-task behavior or behavioral engagement (e.g., Amato-Zech, Hoff, & Doepke, 2006; Bassette & Taber-Doughty, 2013; Berry, 2015; Gill & Remedios,

Necessary Connections between the Arts and Special Education: A Collaborative Framework for Practice, Research, and Policy

2013). Other practice and research frameworks in the arts and special education have utilized activity theory, or activity participation, with the activity rather than skill serving as the focus of the learning and to describe students' learning (Zinchenko, Davydov, & Brushlinksii, 1985). Performing and dramatic arts, linguistics, and special education research and practice have used activity theory to describe the relationship between particular skills (e.g., narrative competence, expressive and receptive language) and activity (e.g., tableau, characterization, acting in-role) (Anderson, 2012; Anderson & Berry, 2015; Berry, 2015; see Anderson, Lee, & Brown, 2017, for a review).

Another theoretical framework used in the arts and special education practice and research literature features the use of physical movement and whole-body actions (e.g., gesture, pose, body language) to facilitate linguistic, social-emotional, and cognitive engagement in arts contexts (Berry, 2015; Davis & Anderson, 2015; Ukrainetz, 2006). Anderson's (2015) engagement model draws upon the aforementioned frameworks (e.g., activity theory and physical movement) to describe the nature of the relationship between arts learning contexts and cognitive, linguistic, and social-emotional/behavioral domains of student engagement. Although a relationship between special education and the arts has been established through these interdisciplinary frameworks, to date a model further connecting practice, policy, and research does not exist. As such, there is a significant need to develop an interconnected model that identifies shared roles and outcomes across practice, research, and policy.

The Current State of Practice, Research, and Policy in the Arts and Special Education

Prior to presenting our collaborative framework across the arts and special education in practice, research, and policy domains, we describe the current state of practice, research, and policy in the arts and special education in terms of how each influences the other domains (i.e., how practice influences research and policy; how research influences practice and policy, etc.). This section provides a snapshot of the current connections, challenges, and needs for strengthening connections across the three domains. By considering each domain (practice, research, policy), we are positioned to better understand existing connections, potential synergies, and shared outcomes.

Practitioner Evidence

Practitioner evidence in the arts and special education has long been recognized for its authenticity in reaching and teaching students with diverse learning needs, as well as in being culturally responsive, and in offering feasible approaches for working with students across a variety of educational contexts (see Loughin & Anderson, 2015, for a discussion). Learning in and through the arts has a rich history in special education settings (Smith, 2001). There have been numerous exploratory investigations (e.g., Clements & Clements, 1984) and policy papers (Anderson, 1975; Andrus, 1994; Keifer-Boyd & Kraft, 2003; Kraft, 2003; Kraft, 2004) written on the ways in which the arts enhance inclusive learning opportunities for students identified as 'at-risk' for school failure, including students with disabilities. More recently, practice-

Necessary Connections between the Arts and Special Education: A Collaborative Framework for Practice, Research, and Policy

based evidence, or demonstrations of practice (e.g., Bosch & Anderson, 2015; Chapelle & Faltis, 2013; Davis & Anderson, 2015; Nagy & Anderson, 2015) emphasize the importance of culturally responsive, feasible, and authentic arts learning experiences with students who have disabilities in a variety of educational settings. This practice-based evidence base provides a means of garnering and strengthening connections across practice, research, and policy for improving individual student outcomes as well as teacher outcomes in and through the arts.

Practice connections to research and policy. One of the primary reasons for promoting the connection from practice to research and policy in the arts and special education is that it contributes to an inherently iterative, cyclical, and ongoing process among the domains, or a “connection cycle.” Practitioner evidence is integral to both research and policy in the arts and special education due to the face validity it provides to each domain. Not only does practitioner evidence in the arts and special education promote feasibility and authenticity in research and policy domains, but also without practitioner evidence as an equal part of the connection cycle, research and policy in the arts and special education is likely to lack feasibility and authenticity.

Practice connections to research. Specific to research in the arts and special education, feasibility and authenticity of practitioner evidence informs appropriate outcomes for formal investigation. For example, findings from demonstrations of practice in which particular student and/or teacher outcomes have been identified as most strongly influenced by arts participation (e.g., social-communication through creative drama; teacher/student linguistic engagement and process drama) may be relevant and useful to larger scale arts and special education research investigations. Thus, the integration of practitioner evidence in the arts and special education could lead to more feasible, authentic, and culturally responsive outcomes as well as more highly individualized outcomes, as practitioner evidence provides more nuanced information to researchers on the relative contributions of arts forms (i.e., drama, music, visual, dance) to individualized developmental outcomes (e.g., motor, social, language, cognition skills).

Practice connections to policy. Practitioner evidence in the arts and special education, relatively speaking, is disconnected from policy, and could more strongly connect in areas of professional development and student/school performance toward a model based on *improvement science* (The Kennedy Center, 2017). Practitioner methods using authentic assessment, conferencing, work sampling, observation, and interview techniques could be useful in professional learning communities with teaching artists and teaching staff/faculty across districts to facilitate thinking about transformative practices related to student performance/outcomes and development of culturally responsive pedagogies in the arts and special education practices. Along with professional development for the arts and special education pedagogies (practices), practitioner evidence connects with policy in terms of student and teacher performance outcomes identified at the school-, district-, and state-level.

Improvement science offers a methodology focused on practical measurement and data use for improvement through the connection between practice, research, and policy. Its research design provides processes and tools to organize the development and testing of instructional drivers in a networked manner, allowing for contextual variability (Bryk, Gomez,

Necessary Connections between the Arts and Special Education: A Collaborative Framework for Practice, Research, and Policy

Grunow, & LeMahieu, 2015). For example, improvement science models could be used to investigate longstanding questions of whether standardized practices work for some students or what aspects require adaptive integration. The Kennedy Center research map for the arts and special education emphasizes (The Kennedy Center, 2017) that for reliable implementation of the arts and special education practices at scale, a *coordinated and networked improvement community* may provide a research design and structure to systematically test practice-based interventions across varying contexts. The use of an improvement science model could connect practitioner evidence in the arts and special education within a collaborative cycle with practice and research and policy domains, in which stakeholders would be better positioned to understand causal bases and effects of practices, as well as environmental variables (The Kennedy Center, 2017).

Summary. Practitioner evidence in the arts and special education remains robust, with a rich history highlighting efficacious and innovative approaches and individualized developmental outcomes. Practitioner evidence in the arts and special education highlights feasibility issues of conducting research in classroom settings, underscoring the need for collaborative and networked methods of inquiry such as those found in improvement science. A collaborative and networked method of inquiry could address longstanding disconnections between practice and research, as well as between practice and policy in terms of feasibility and authenticity of outcomes.

Research Evidence

Arts research and special education have a longstanding connection to practice as mentioned previously, and as marked by numerous exploratory, practice-based investigations (e.g., Clements & Clements, 1984; Gerber & Kellman, 2010; Smith, 1991; 2000; 2001; VSA, 2014). Despite the longstanding history of practitioner evidence, researchers and practitioners at the intersection of arts and special education largely have been at odds, presenting with different needs and goals. Practitioners are faced with increasing demands of standardized test preparation, scheduling, and paperwork. In many cases, the arts have become an afterthought with educators lacking time and energy to devote to conducting their own action-based research or to establishing research collaborations using the arts to support students with disabilities.

Research connections to practice. By contrast, research evidence in the arts and special education has been recognized and valued for its use of confirmatory investigations (see Loughlin & Anderson, 2015, for a discussion), including single subject designs, quasi-experimental designs, true experimental designs, and high-quality qualitative research (i.e., data triangulation corroborated across at least three sources of evidence) to inform practice. However, such research is challenging to implement due to feasibility issues. Difficulty gaining access to schools, demonstrating teacher fidelity and cooperation, resolving scheduling conflicts, and meeting inclusion criteria can hinder the design, development, and implementation of high quality research and evidence (Berry, 2015).

Thus, the current state of empirical research at the intersection of the arts and special education is relatively nascent as compared with the field of special education, with a limited

Necessary Connections between the Arts and Special Education: A Collaborative Framework for Practice, Research, and Policy

number of studies presenting emerging to promising evidence, as defined by special education standards. Some recent reviews of the arts and special education research about students with disabilities (Anderson & Berry, 2018; Anderson et al., 2017; Crockett, Berry, & Anderson; 2015) utilized the *What Works Clearinghouse (WWC) Practice Guidelines* (2014) and the *CEEDAR Center Evidence Standards* (n.d.) to categorize findings in the arts forms of drama, music, visual arts, and dance. Results revealed low to moderate evidence levels for a wide range of study designs including experimental, pre- post-test, quasi-experimental, exploratory, case study, qualitative, and single-case. The strongest evidence was reported for the use of dramatic arts and social-communication and –language outcomes, with low to moderate effect sizes calculated from experimental and quasi-experimental designs (Anderson et al., 2017). Research evidence from drama, music, visual arts, and dance arts forms has been gathered using different lenses, and has utilized quantitative and qualitative methods of varying rigor, by special education research standards. While selected art forms (e.g., drama) appear to map to special education research methods more seamlessly than others (e.g., dance, visual arts), a significant need remains for high quality research evidence to support and articulate connections between the arts and special education.

Research connections to policy. The research connections to policy are even weaker, with no direct or evident connections between research and policy in the arts and special education. Several large-scale policy reform initiatives have highlighted research involving arts education; however, the investigation of arts strategies inclusive of students with disabilities has not been undertaken. Reports from North Carolina, Oklahoma, and Arkansas’s networks of A+ schools, the Chicago Arts Partnership in Education (CAPE), Arts Education in Maryland Schools Alliance (AEMS), Arts for Academic Achievement (AAA) in Minneapolis, and Schools, Parents, Educators, Children, Teachers Rediscover the Arts (SPECTRA+) have documented the benefits of arts curricula and programs that include drama, music, visual art, and dance for students of all ages (President’s Committee on the Arts and Humanities, 2011). Although valuable, these reports rarely included or targeted students with disabilities. In addition, professional policy guidance papers (Hourigan, 2014; Malley & Silverstein, 2014) have provided recommendations to establish a technical assistance center for stakeholders to ensure opportunities for students with disabilities to learn in and through the arts. The extent to which such consortia have been implemented across the arts education and special education communities is unknown; however, encouragingly, the Kennedy Center’s Research Map for the arts and special education (The Kennedy Center, 2017) specifies this item as a priority within the next five years.

Summary. With the acknowledgement of the current status of research in the arts and special education as it connects with practice and policy domains, we are better positioned to design and implement research investigations that collaboratively address the current limitations and contribute to advancing shared practice and policy goals. In particular, developing unified theories of action and strengthening the rigor of research studies can serve as important next steps.

Developing unified theories of action. Primarily, and essential to the arts and special education research, there is a need to address underlying conceptual frameworks used to explain and hypothesize relationships between the arts and learning outcomes. Such

Necessary Connections between the Arts and Special Education: A Collaborative Framework for Practice, Research, and Policy

frameworks, or *unifying theories of action*, are critical for moving seminal research forward, as well as for advancing shared outcomes with practice and policy in the arts and special education. By developing unified theories of action/framework(s) that draw on contributing allied research disciplines, we can develop and test hypotheses that bridge multidisciplinary needs. The arts and special education practice, research, and policy are primed for collaboration to elevate the state of related research in their respective disciplines. Although previous studies have been conducted at the intersection of the arts and special education, our review of the extant research underscores notable methodological and design weaknesses and the weak to non-existent connections among the three domains of practice, research, and policy.

Strengthening the rigor. An additional need for future research in the arts and special education is to utilize methodologies that meet the standards set forth by the What Works Clearinghouse (2014) and other indicators of high quality educational research. Randomized control trials and true experimental designs with randomly assigned control and treatment groups can confirm links between specified arts contexts and improved student outcomes. High quality single-case designs also are warranted to examine the potential of arts interventions for improving academic and behavioral outcomes for disability populations (Horner et al., 2005). Single-case designs frequently are used in special education research and can provide a beneficial way to implement high-quality research studies when resources, sample size, and human capacity are limited.

When developing a study, researchers in the arts and special education could collaborate with practitioners to consider how type, duration, intensity, and quality of the arts programming affects student outcomes. This type of collaboration could extend to policymakers to consider and identify the most effective ways to incorporate the arts within schools and districts to ensure the broadest impact on student achievement across various academic areas. Fostering greater communication among practice, research, and policy stakeholders proves an important entry point for identifying shared goals and initiatives and overcoming feasibility issues.

Policy Evidence

From a national perspective, little is known about how students with disabilities actually engage in and benefit from arts education, and empirical research is needed to support practitioners and to inform policymakers (Crockett & Blakeslee, 2018). However, “research does not speak for itself” (Tseng, 2012, p. 1) and key research findings need to be translated into readily comprehensible and compelling words and images to have influence in the worlds of practice and politics. Teachers need professional development with examples of evidence-based practices to enhance the individual outcomes of students with disabilities, and policymakers need heart-felt stories and powerful data to inform difficult decisions about “who gets what, when, and how” (Gallagher, 2006, p.5).

Policy connections to practice and research. The connection of policy to practice and research is important to consider because together they make the cardinal rules of educational advocacy easier to enact: “First, do a good job of teaching [i.e., use sound practice grounded in research] and then tell someone in power about the great work that has been done [i.e., influence policy]” (Crockett & Blakeslee, 2018, p. 13).

Necessary Connections between the Arts and Special Education: A Collaborative Framework for Practice, Research, and Policy

Policy is concerned with issues at the heart of practice and research, addressing four basic questions: (a) Who receives the resources; (b) who delivers them; (c) what are the resources and how are they distributed; and (d) under what conditions are the resources delivered to the recipients (Gallagher, 2006). When these questions are applied to practice and research in the arts and special education, they can assume the following form with regard to accessibility, professional development, and individual outcomes:

Accessibility:

Do students with disabilities share equally with other students in the resources of arts education?

- How frequently do students with disabilities receive arts education?
- Is their participation mandatory or voluntary?

What supports are in place (e.g., paraeducators, assistive technology, etc.) to enhance their participation and learning?

Professional Development:

Who provides arts education to students with disabilities?

- What kind of professional learning do these practitioners receive?
- What are some ways to support effective educators and school leaders?

Individual Outcomes:

What kinds of arts educational experiences are provided to students with disabilities and under what conditions do they receive them?

- Are school systems organized to support students' learning differences?
- How might innovations in technology and school environments be leveraged with arts-based and arts integrated learning strategies to meet students' needs (Arts Education Partnership [AEP], 2017)?
- How might state and local assessment systems incorporate student achievement in the arts in measures of school success (AEP, 2017)?

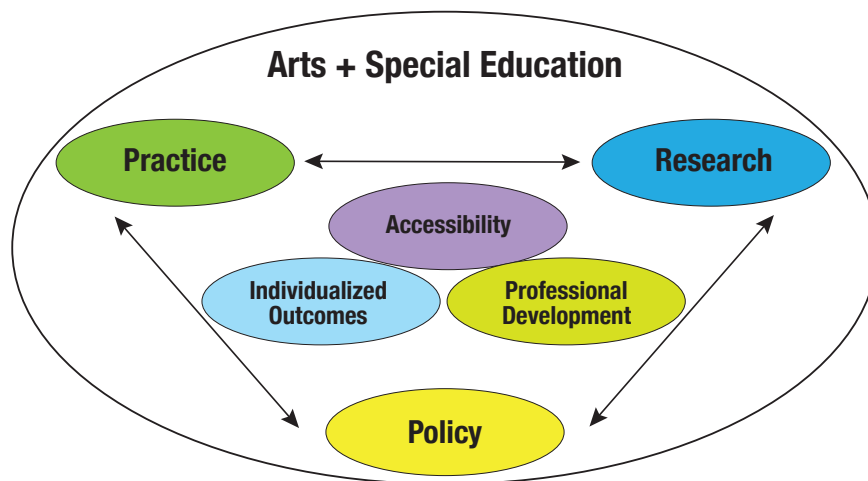
Summary. Policy research highlights professional development efforts and practical issues surrounding school systems and districts to facilitate the conceptualization of policies supporting accessibility, professional development, and individualized outcomes in the arts and special education. Specific to practice and research are ongoing professional development

Necessary Connections between the Arts and Special Education: A Collaborative Framework for Practice, Research, and Policy

and training initiatives (e.g., train-the-trainer models, teaching artists/arts integration coaching models, cross-grade and discipline mentoring), which have the potential to contribute to practice and research. One of the challenges identified at the policy level has been the “buy-in” from stakeholders to prioritize professional development resources to the arts and special education, with initiatives being sought at the local or district level, rather than at state levels of policy.

FIGURE 2.

Where we are going...



A Collaborative Framework for the Arts and Special Education Practice, Research, and Policy.

An Interconnected Framework for Identifying Shared Outcomes

Our description of the current state of the arts and special education practice, research, and policy underscores the need for a collaborative framework across the three domains to address the common initiatives and desired goals within each respective domain. Figure 2 illustrates our aspirational model for the field.

Our conception for the future of the field of the arts and special education reflects an equal and necessary emphasis on the relationships among practice, research and policy, as illustrated by the solid arrows between each domain to the others. We use bidirectional arrows between practice, research, and policy to represent optimal and necessary connections involved in a cyclical, iterative process, in which there is reciprocity for promoting shared outcomes. For instance, in this view, practice in the arts and special education must inform research design and policy development and implementation; likewise, research design and implementation has a direct influence on policy development as well as on practice, particularly as research best addresses issues of efficacy. Additionally, policy development and implementation has direct influence on how practice occurs, as well as on the focus of research. These direct connections are necessary to advancing the field and promote shared outcomes of accessibility, professional development, and individualized outcomes for students with disabilities.

Necessary Connections between the Arts and Special Education: A Collaborative Framework for Practice, Research, and Policy

Accessibility. When we ‘zoom in’ and take a closer look at the bidirectional connections between practice, research, and policy in the arts and special education, accessibility emerges as an important shared outcome. Interconnected practice, research, and policy supports increased accessibility to innovative, arts, inclusive, and high-quality experiences for students with disabilities and their teachers.

Professional development. Professional development presents another shared outcome among practice, research, and policy initiatives. Professional development opportunities to reform and strengthen student performance, teacher performance, and school/district performance are essential to all three domains.

Individualized outcomes. The goal of supporting individual outcomes for students with disabilities is shared among practice, research, and policy stakeholders alike. As such, interdisciplinary initiatives targeted at enhancing student outcomes serve as an important bridge for deepening the connections among practice, research, and policy in the arts and special education. For example, individualized outcomes are supported through research-practice connections as well as policy-practice connections and policy-research connections. Likewise, professional development outcomes (traditionally viewed in the policy domain) are related directly to individualized outcomes that are more traditionally considered in the practice and research domains. Deepening connections among the three domains can support the social-emotional, physical/motor, cognitive, and language outcomes for students with disabilities.

Insights from Professionals in the Arts and Special Education

In this final section, we offer insights and recommendations for practice, research, and policy in the arts and special education, which we gathered from focus groups conducted with 40 arts and special education professionals at the 2017 VSA Intersections: Arts and Special Education Conference. These participants engaged with us in small group discussions centered on practice, research, and policy domains.

Practice Group Insights

The practice discussion group comprised 15 teachers and self-identified arts and special education practitioners. Key insights from this group’s discussion included using advocacy as a mechanism for connecting practice, research, and policy domains in the arts and special education. Specifically, practitioners recommended that community leaders, thought leaders, and luminaries might serve as advocates to share important resources for researchers and policy makers, fostering dialogue with community members and organizations, and developing research and policy partnerships. The practice group identified concrete ways that practitioner evidence in the arts and special education could inform/influence research through identified questions and paradigms. For example, group members identified ways that practice could inform policies in the arts and special education by ensuring requirements for professional development and tools for training teachers in arts learning approaches with students who have disabilities. Moreover, the practitioner group emphasized the role of practice-based evidence in highlighting feasibility and access issues in arts and special

Necessary Connections between the Arts and Special Education: A Collaborative Framework for Practice, Research, and Policy

education approaches of current research and policy, to improve appropriateness based on learner and contextual variability.

Research Group Insights

The research discussion group comprised 15 researchers and university students. Key insights from this group's discussion included research aimed at teacher training and professional development. Similar to the practice discussion group, the research group emphasized the role of advocacy as a mechanism for empowering teachers and shaping policies. The research group recommended the use of action research methods to foster interdisciplinary collaboration among practice, research, and policy in arts and special education.

Policy Group Insights

The policy discussion group comprised 12 state- and district-level arts and special education administrators. This group focused on the problem of *why* policy was not influencing practice and research in the arts and special education. This group's discussion led to a similar insight as practice and research groups in identifying advocacy as a mechanism for connecting practice, research, and policy efforts in the arts and special education. Through advocacy efforts aimed at improving federal (e.g., Every Student Succeeds Act of 2015), state, and local policies, all levels could better support practice-research-policy connections and potentially lead to better operationalization within each domain as well as across domains.

Conclusion

We conclude by underscoring the importance of connecting the arts and special education across domains of practice, research, and policy through a collaborative framework to support accessibility, improved student and teacher performance, professional development, and high-quality arts learning experiences for students with disabilities in educational settings. We maintain that an improved vision for the future must include the unique and reciprocal contributions of the many stakeholders in the arts and special education, including students, families, teachers, researchers, administrators, and policymakers. As our analysis of the practice, research, and policy evidence (both past and present) and focus group findings indicate, the longstanding problem of disciplinary silos persists. We highlight an imperative next step in building collaborative and interdisciplinary bridges through shared initiatives and outcomes across practice, research, and policy in the arts and special education.

Necessary Connections between the Arts and Special Education: A Collaborative Framework for Practice, Research, and Policy

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Dancers Realize Excellence through Arts and Movement (DREAM): An Inclusive Dance Program to Promote Participation in Children with Developmental Disabilities

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ABSTRACT: *This paper presents the findings from a series of three consecutive pilot studies conducted during a week-long day camp offering an inclusion-based dance program (Dancers Realize Excellence through Arts and Movement, DREAM). The purpose of these studies was to report the perceived benefits of an inclusive dance program for children with developmental disabilities. A wide range of motoric/cognitive/social-emotional abilities and diagnoses was represented by 15 children with developmental disabilities (CWDD), aged 5-15. Partnerships were assigned to 29 age-matched peers (AMP), primarily in 1:2 ratios. An assessment for CWDD was completed prior to the start of DREAM by the Physical Therapist (PT) and reviewed with the Master Dance Instructor (MDI) to identify movement potential and create a plan as basis for individualized inclusion during structured warm-up and choreography. The PT and MDI collaborated to promote participation during the week-long program, culminating in a performance. Student physical therapists and teaching artists participated with supervision provided by the PT and the MDI. Overall the authors found a positive effect on students, as reported by parent and participant surveys. This paper will outline the program structure, analyze survey data, and discuss implications for future programs and research.*

Introduction

Research indicates that sports, recreation and leisure programs for CWDD are limited and rarely inclusive and that children with complex disorders have significant limitations in resources/programs aimed at promoting participation (See, for example, Colver et al., 2011; Mel et al., 2015; Wiart, Darrah, Kelly & Legg, 2015). Dance, as a cultural activity that embodies self-expression through movement, is closely related to and supported by such programs. If we have identified that the programs and opportunities are limited; it leads to the question of “How?” How do we promote participation for the child with developmental disabilities?

Parents feel there is a paucity of available programs (Eyssen, Steultjens, Dekker & Terwee, 2011; Orlin et al., 2010; Teixeira-Machado, Azevedo-Santos, & DeSantana, 2017), This was identified as a primary concern for many families (Chang, Coster, & Helfrich, 2013; Orlin et al., 2010; Wiart et al., 2015; Woodmansee, Hahne, Imms, & Shields, 2016). Programs that were available were primarily diagnosis- or mobility-specific (e.g., limited to children diagnosed with Down Syndrome). Availability of these programs tend to diminish as the child ages; by the time of adolescence there are significantly fewer offerings (Eyssen et al., 2011; King, Mcdougall et al., 2009; King, Petrenchik, Law, & Hurley, 2009; ;Shikako-Thomas et al., 2012; Verschuren et al., 2007).

Community-based programs that focus on movement are known to promote health and well-being (See, for example, Chang et al., 2013; King, Petrenchik et al., 2009; Majnemer et al., 2008; Orlin et al., 2010; Shikako-Thomas et al., 2012; Wiart et al., 2015). Providing children

Dancers Realize Excellence through Arts and Movement (DREAM): An Inclusive Dance Program to Promote Participation in Children with Developmental Disabilities

with developmental disabilities the opportunity to participate in a movement-based program that allows for inclusion of multiple diagnoses and partnership with age-matched peers offers multifactorial benefits, including social-emotional, cardiovascular and musculoskeletal benefits (King, Petrenchik, et al., (2009); Majnemer, Shikako-Thomas, Schmitz, Shevell, & Lach., 2015; Shikako-Thomas et al., 2012; Størvold & Jahnsen (2010)). Despite these benefits, there is a significant limitation for children with developmental disabilities to participate in community-based programs alongside their age-matched peers (Majnemer et al., 2008).

The effectiveness of dance as rehabilitation has been supported in research involving Parkinson's disease (Hackney & Earhart, 2010) and recently, cerebral palsy (Lopez-Ortiz, Egan, & Gaebler-Spira, 2016; Teixeira-Machado, et al., 2017). Results indicate a preference for partnered versus non-partnered dance movement (Becker & Dusing, 2010). Improvements in balance, gait, and social/emotional/physical well-being were also reported (Becker & Dusing 2010; Hackney & Earhart, 2010; Lopez-Ortiz et al., 2016; Størvold, & Jahnsen, 2010; Teixeira-Machado et al., 2017). Movement-based programs should be developed and adapted to the participants' unique abilities (Becker & Dusing, 2010; King, Petrenchik et al., 2009; Størvold & Jahnsen, 2010).

The National Dance Institute (NDI) was founded in 1976 by New York City Ballet Principal dancer, Jacques d'Amboise "in the belief that the arts have a unique power to engage all children—regardless of background, ability, or socioeconomic status—and motivate them toward excellence,"([http:// http://nationaldance.org](http://nationaldance.org)). This statement has been actively supported by NDI and their programming for children with auditory and visual impairments, and starting in 1998, by a program for children with physical disabilities at a New York City public school (PS 199). The latter served as the foundation for what would become the DREAM Project. As a regional center for children with physical disabilities, the program at PS 199 provides an in-school opportunity for children with a wide variety of physical, cognitive and social-emotional abilities to participate in the NDI pedagogy alongside their classmates and peers. This is where the model of collaboration between physical therapist and NDI teaching artist began. Together, the collaborators worked side by side to identify individual movement opportunities and highlight each child's strength and ability as an integral part of the choreography. For almost 20 years, the collaboration has continued and the need for additional community-based programming became readily evident, sparking the creation of the DREAM project to be held at the NDI Center for Learning and the Arts in Harlem, NYC in 2014.

The DREAM project was created as a weeklong daily offering intended for children with physical impairments only. As a result of the response from families interested in registering their children who had complex diagnoses, DREAM was quickly changed to a fully inclusive program that provides the opportunity to participate alongside their age-matched peers to children representing the full breadth of abilities, both motoric and cognitive. The DREAM Project completed its sixth camp in August of 2017. Participants represented a wide variety of diagnoses and motoric/cognitive abilities. The model for DREAM aligns itself with the core of NDI pedagogy, highlighting the ability of each child while maintaining an expectation of excellence, creating choreography around a specific theme, providing live music for each class, and culminating in a performance in front of an audience.

Dancers Realize Excellence through Arts and Movement (DREAM): An Inclusive Dance Program to Promote Participation in Children with Developmental Disabilities

Programs such as DREAM can provide unique opportunities to facilitate inclusive participation for children with a wide range of functional abilities. This program identifies and amplifies the abilities of each participant, highlighting partnerships with age-matched peers. Over the course of the three pilot studies, research into the program's efficacy was conducted. The following summary details the methods and findings of the three studies as well as an analysis and discussion of limitations and future directions. It is hoped that the DREAM Project may serve as a model for additional programming, not limited to dance, intended to improve the level of participation for children with a wide variety of developmental disabilities.

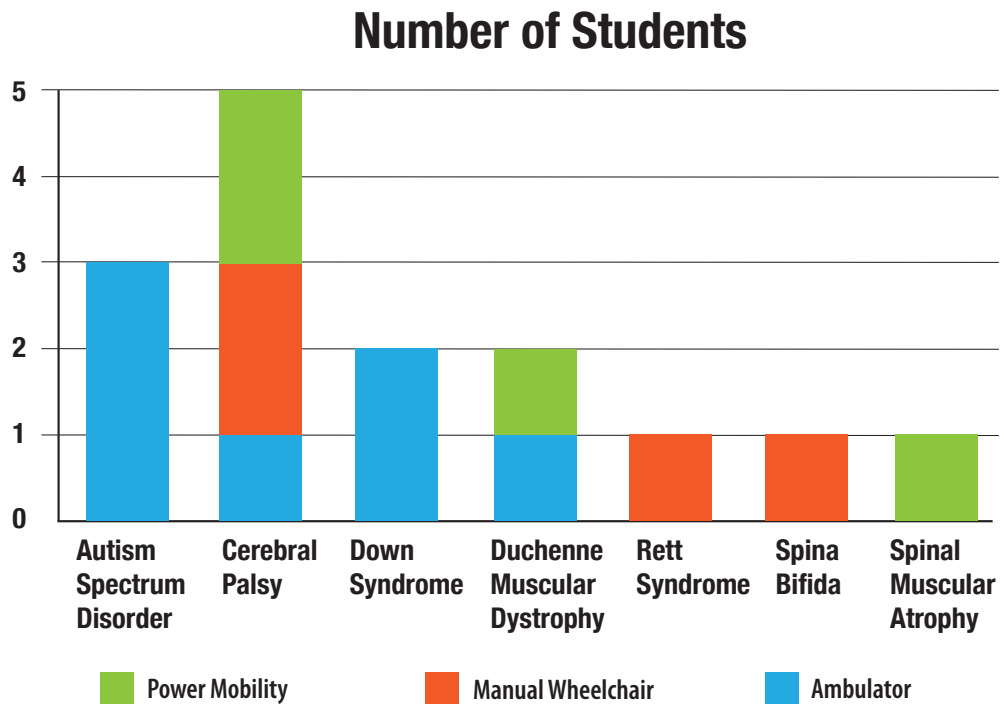
Methods

Participants

Participants were recruited from the New York City region via print and/or email sent to physical therapists, hospital rehabilitation clinics, and specialized schools. Recruitment focused on participants who were between 8 and 13 years of age and diagnosed with a developmental disability. There were no restrictions on motoric ability (use of assistive device/means of mobility) or cognitive level. Inquiries about children who were older/younger were encouraged. A sample of 15 children with developmental disabilities completed the pilot studies spanning three consecutive DREAM Projects in February 2016, August 2016 and February 2017. The diagnoses represented in this sample included: Down syndrome, autism spectrum disorder, cerebral palsy, Duchenne muscular dystrophy, Rett syndrome, spina bifida and spinal muscular atrophy. It should be noted that the children diagnosed with cerebral palsy were classified according to the Gross Motor Classification System (GMFCS) as levels IV and V, indicating a decreased level of motoric ability. Despite this categorization, which typically requires assisted seated mobility, one child was motivated to utilize a gait trainer for the week, including the performance. Of the CWDD, six walked independently, one utilized a gait trainer; four utilized power mobility, and four were dependent for mobility (manual wheelchair or adapted stroller). Diagnoses and motoric ability are represented in Figure 1. Twenty-nine age-matched peers were recruited, the majority from NDI's advanced dance troupe known as the "Celebration Team." Three sets of siblings (CWDD and AMP) were represented in this study.

Dancers Realize Excellence through Arts and Movement (DREAM): An Inclusive Dance Program to Promote Participation in Children with Developmental Disabilities

FIGURE 1. Medical Diagnoses and Mobility Levels of Participants



The wide range of medical diagnoses and mobility levels of fifteen CWDD (mean age: 11 (+/- 5) years). Reprinted from McConlogue Ferro, & Quinn (2016), Dancers Realize Excellence through Arts and Movement (DREAM): An inclusive dance program to promote participation in children with developmental disabilities, Poster session presented at IV STEP conference. http://u.osu.edu/ivstep/poster/abstracts/022_ferro-et-all/. Reprinted with permission.

Procedure

Prior to the start of each DREAM Project, the PT conducted an informal initial screening in order to identify each child’s physical ability to move. Each assessment was adapted to the individual child and could include rise to stand from the floor as much as it could the use of eyebrows to communicate. In addition, the use of supportive means of mobility (power mobility, gait trainers, walkers) was assessed to determine the child’s preference/motivation, amount of assistance required, and potential affordances that the equipment might provide for partnered choreography. The MDI is typically part of the initial screening. This was followed by collaborative input to determine potential movement, partnerships, use of assistive devices, and how to highlight individual abilities and strengths. This process identifies the foundation for the choreography. Figure 2 outlines the steps involved in the pre-DREAM Project process.

Held at the NDI Center for Learning and the Arts in New York City, the DREAM Project ran 5 days a week for 4 hours each day. The specific pedagogy includes a choreographed warm-up targeted for all participants based upon information gathered at the initial screening; break-out sessions for partnership choreography (both self-driven and mentored);

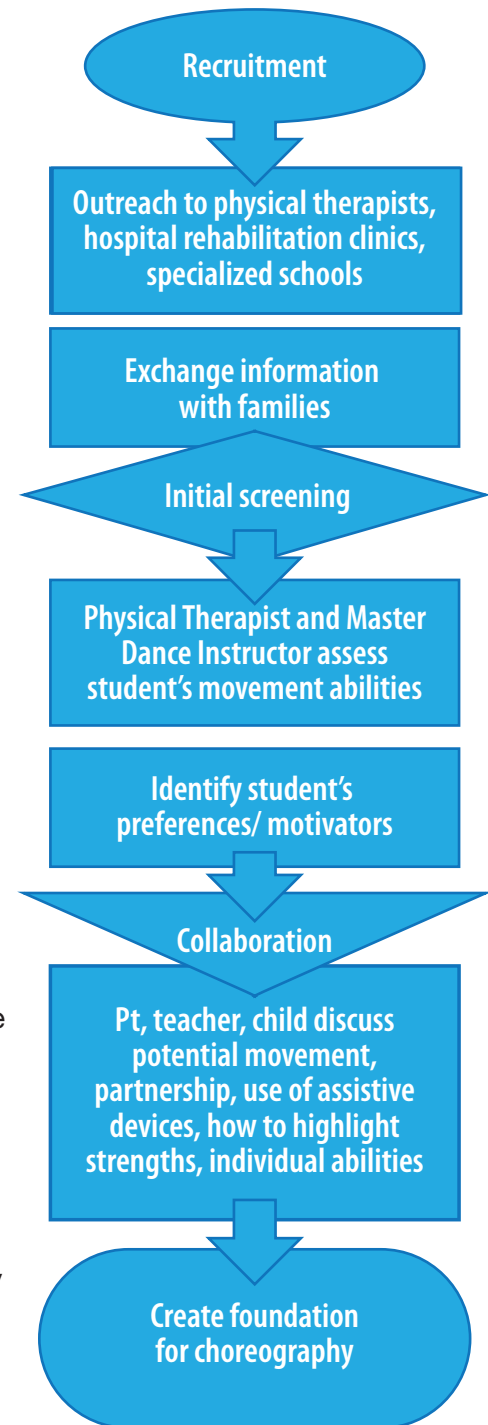
Dancers Realize Excellence through Arts and Movement (DREAM): An Inclusive Dance Program to Promote Participation in Children with Developmental Disabilities

choreographed dance highlighting unique abilities and partnerships; and daily de-briefing and collaboration between PT, MDI and additional teaching artists/musicians. All of this resulted in a performance showcasing the accomplishments of the partnerships. Future research will delve deeper into pedagogical implications.

Data Collection

Study data was collected via online surveys or print form, per parent preference. Survey results were compared before and after the DREAM Project using descriptive statistics. Frequency and percentage response *distributions* were calculated in addition to mean (SD) and ranges for each survey item. Pre- and post-DREAM questionnaires were analyzed for 15 CWDD, their parent(s), and 20 AMP. (In the case where both parents wanted to provide information, they completed one questionnaire together.) Due to the wide variety of cognitive and motoric ability, CWDD, as needed, utilized augmentative communication or parent report to complete their questionnaires. Pre-DREAM questionnaires were sent 1 week prior to the start of the DREAM Project and focused on children's feelings and perceptions pertaining to the program. Each child responded to questions about why they wanted to be in DREAM, what they most looked forward to, what they expected, and how they felt overall. Post-DREAM questionnaires asked the children to identify highlights of the program and to identify what was most and least important. These surveys were given to all children participating in the program. For those CWDD with cognitive or motoric difficulties that would preclude them from responding, parents were asked to assist in completing the surveys on behalf of their child. In addition, parent(s) of CWDD were given post DREAM questionnaires asking them to (a) identify why they chose to sign their child up for this program and what they perceived as unique about this program and (b) to rate importance of various aspects of the DREAM Project (live music, performance, inclusive movement-based class, opportunity for socialization for their child, collaboration between physical therapist and dance teacher, and use of an initial screening). There was also an opportunity for parents to share their own comments regarding additional observations.

FIGURE 2.



Pre-DREAM Project Process

Dancers Realize Excellence through Arts and Movement (DREAM): An Inclusive Dance Program to Promote Participation in Children with Developmental Disabilities

Results

Each student and parent of CWDD completed the questionnaires. The pre-DREAM results revealed that 60% of AMP and 40% of CWDD expressed apprehension about their peer partnerships. Post-DREAM results revealed 100% of AMP and CWDD identified their partnerships as being the most memorable highlight of the program.

AMP indicated that they were surprised that they were able to communicate with their CWDD partners, even if the partners were non-verbal, and that they had more common interests than they expected prior to completing the program. In contrast, they also indicated that the most challenging part of the program was learning how to work with partners who exhibited behaviors that were not conducive to the partnership; as well as learning to work with children who were significantly delayed motorically and “to manipulate the chair to do the dance moves.” When asked to describe how they felt after DREAM, one student stated, “As everyone should’ve felt, I felt proud. Proud of myself, proud of the other dancers, proud to be able to be given such an opportunity.”

CWDD (100%) reported feelings of “happy” and “excited” in both their pre- and post-questionnaires.

All parents of CWDD reported that there were limited extracurricular programs available for their children, and 73% indicated that there are “no other programs like it” as their reason for signing their child up for DREAM. The majority of parents (73%) identified inclusive participation as being the most beneficial aspect of this program. In addition, 46% of parents identified improved performance with skills such as posture, endurance, transfers and upper extremity use during the course of the week. Collaboration between the PT and MDI was deemed important by 33% of the parents. Of interest, those who ranked collaboration as important were parents of children with complex diagnoses involving physical/cognitive/social-emotional factors.

An important observation of some of the families (26%) was that their children slept better. Although this may not seem like an important finding to most, to those particular families, whose children have sleep disturbances associated with their diagnosis, this was deemed as “something all of us could celebrate.” This was an unexpected finding--that the improvement in sleep for children with significant disturbance to their sleep-wake cycle and the subsequent impact on the whole family proved to be the most important variable to families whose 24 hour day revolves around the constant wake cycle of their child. Although these percentages (26-100%) vary a great deal, the authors felt it was vital to report the variety in order to reflect the respondents’ individual perceptions of importance.

Parents utilized words such as “acceptance” and “collaboration” when describing what makes DREAM different from other programs they may have completed. Parents identified feelings of inclusion for their children, no matter the level of ability, with one parent stating, “My child feels like a dancer here, she is able to approach other children in a safe environment where other children see her for who she is as a person and not a child with a disability.”

Dancers Realize Excellence through Arts and Movement (DREAM): An Inclusive Dance Program to Promote Participation in Children with Developmental Disabilities

Discussion

To our knowledge, this study is the first to examine the perceived benefits of a fully inclusive dance program with children exhibiting a wide range of diagnoses and motoric, cognitive and social-emotional abilities. The majority of findings indicated perceived benefits for all participants and their ability to participate within an inclusive partnership. Parents' report of limited available programming for their child aligned with current research (Colver et al., 2011; King, Petrenchik et al., 2009; Orlin et al., 2010). This finding, for a group of parents in a richly diverse and arts-infused area like New York City, is, however, surprising. The limited programming may have many causal factors. Verschuren, Wiart, Hermans, & Ketelaar (2012) identified issues with ease of access/space within the community, lack of knowledge regarding specific diagnoses, implications for movement opportunities, potential contraindications, and lack of teacher/physical therapist training for teaching an inclusive class as issues that could be factors limiting available programs. If we are to answer the question, "How do we promote participation for the child with developmental disabilities?" we can start by providing the potential instructors of an inclusive program with the appropriate tools for how to prepare, collaborate, identify and successfully highlight the potential of all the children in their class. This is supported by the parents' identification and appreciation of collaboration by the physical therapist and dance instructor. The thorough initial assessment, consistent collaboration, choreography based on unique abilities and partnerships, and emphasis on highlighting the accomplishments of the partnerships are all facets of this program that appeared to benefit students and are ripe for further investigation.

The finding that the majority of AMP, commonly referred to as "typically developing," indicated apprehension in working with CWDD was not a surprising revelation. Based upon the limited number of programs available for inclusive participation as evidenced in research and reported by the parents, limited opportunity exists for inclusive interaction (Colver et al., 2011; King, Petrenchik et al., 2009; Orlin et al.; 2010; Wiart et al., 2015). It was interesting to see that this apprehension was reversed by the end of the week. The additional finding that children expressed difficulty with managing behaviors and assistive devices merits additional thought. Programming such as this, fully inclusive and immersive, requires that all children are mentored in how to be a partner for all types of partnerships and abilities. This suggests that as much as we prepare and request that the child with developmental disabilities participate in an initial screening, perhaps we need to equally prepare the age-matched peers prior to the program in order to lay the groundwork on how to interact with partners who are differently-abled. Of interest is the observation that throughout the course of the week, as activities and strategies were modeled and reinforced, apprehension reportedly decreased. Due to this finding, the authors are in the process of expanding the pre-DREAM training module in order to provide a more thorough presentation of potential partnerships with children representing a wide variety of diagnoses and the potential expectations for age-matched peers.

The research by Shikako-Thomas (2012) supports the finding that CWDD reported feelings of excitement and happiness surrounding participation in this program. Their parents were able to identify additional benefits of improved performance with skills such as posture, endurance, transfers and upper extremity use during the course of the week. These findings support implications for additional research: What specific benefits, (physical, motoric,

Dancers Realize Excellence through Arts and Movement (DREAM): An Inclusive Dance Program to Promote Participation in Children with Developmental Disabilities

functional) would result when children with developmental disabilities are provided with inclusive and movement-based opportunities?

A limitation of the pilot study was the realization that the majority of CWDD involved in this study required assistance from their parent in order to complete the questionnaires. Most of the students with complex developmental disabilities were unable to respond to the surveys due to cognitive/communication difficulties. Based upon these findings, the authors have recently completed an Internal Review Board approved (Stony Brook University and Teachers College, Columbia University) study aiming to 'give voice' to each participant in the DREAM Project. A mixed method approach; utilizing individualized daily diaries, parent focus group and pre/post surveys was utilized to authentically capture the experiences of all child participants. This included options for all children based upon their individual abilities: use of eye-gaze to respond to questions; use of photo elicitation; video diaries; journal; collage...even a puppet theater. The aim was to ensure daily reflections of how each child felt during DREAM as the week progressed. In addition, student physical therapists maintained field diaries on the partnerships they were assigned in order to support or provide background to the individual entries. This type of research, which allows the child to have a strong voice, is of great importance in a field which takes aim at providing benefit through the arts: It is the individual's perceptions and responses that determine if the programs we are attempting to provide are, in fact, effective.

Conclusion

This pilot study documents the reported benefits to children with developmental disabilities after participating in an inclusive dance class. We found child and parental reports of improvement in feelings regarding participation with their peers. The findings from the parental reports revealed improvement in performance skills for mobility and function. Parents identified opportunity for inclusive participation as the most important variable when considering participation in the DREAM Project. In addition, this research continues and is currently taking a closer look at giving voice to each child to determine individually perceived benefits. Programs such as DREAM, not limited to dance, can provide unique opportunities to facilitate inclusive participation for children with a wide range of functional abilities to participate with their age-matched peers. The opportunity to promote participation for children with lower levels of functional abilities is extremely limited. This program's pedagogy identifies and amplifies the abilities of each participant while highlighting the partnerships. We encourage programs in arts education to develop, instruct and support teachers and collaborators in providing programming that truly promotes participation for all children.

Acknowledgements

The authors wish to express deep gratitude to each child, their families, and National Dance Institute's Traci Lester, Ellen Weinstein and Jacques d'Amboise for making this DREAM a reality.

Dancers Realize Excellence through Arts and Movement (DREAM): An Inclusive Dance Program to Promote Participation in Children with Developmental Disabilities

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Music!Words!Opera!:

Curriculum Adaptations for Students with Complex Communication Needs

Lisa Pierce-Goldstein, M.M., M.S. CCC-SLP

ABSTRACT: *This paper describes the steps taken to adapt OPERA America’s Music!Words!Opera! curriculum for students with complex communication needs at the Jackson Mann K-8 School in Allston, MA. This work took place from 2014-2017 and used many best practices from the fields of speech language pathology and augmentative and alternative communication to make the curriculum accessible to students with autism spectrum disorder and multiple communication challenges. This paper describes several steps in the process of curriculum adaptation. First it describes the Music!Words!Opera! curriculum. Next, it describes the school district, the school, and the specific students and staff involved in the program. It discusses the visually based communication supports used by ASD students to access the curriculum. Following is a detailed investigation of instructional adaptations and strategies used in the two parts of the curriculum: “Listen and Discover,” in which students learn about opera by studying and watching a full-length masterwork and, “Create and Produce”, in which the students participate in the creation and performance of an original sung drama. Finally, a discussion will consider the overall experience of the students and staff involved and adjustments to be made for future implementations.*

Music!Words!Opera!, The Jackson Mann K-8 School, and Boston Lyric Opera

Music!Words!Opera! (M!W!O!) is a comprehensive, language-based curriculum created by Clifford Brooks and Roger Ames in the 1980s through OPERA America (Brooks & Ames, 2013). OPERA America is a national nonprofit service organization for the opera field, based at its National Opera Center in New York City. The curriculum, a major program of OPERA America for several decades, seeks to engage students in the process of learning about opera and participating in story telling through music. *M!W!O!* is available online at <http://operaamerica.org/MWO>. It comes in two parts. The first is called “Listen and Discover,” in which students learn about opera and its conventions by watching and studying a full-length masterwork, such as *Hansel and Gretel* (Humperdinck, & Wette, A. 1986/1893), *The Magic Flute* (Mozart, W.A. & Schikaneder, 1951/ 1791) or *Aida* Verdi & Ghislanzoni, 1986/1870). The second part of the curriculum is called “Create and Discover,” in which students engage in the process of creating and performing an original, sung drama. While the curriculum can be done in its entirety, each part can be done on its own.

There are several appealing aspects to the *M!W!O!* curriculum. It is a published curriculum that is highly structured. Each lesson is aligned with content standards. It is appropriate for use with all age groups in the K-12 setting. Boston Lyric Opera (<https://blo.org>), a community partner to the Boston Public Schools, provides support in the implementation

Music!Words!Opera! Curriculum Adaptations for Students with Complex Communication Needs

of the curriculum. Drama based instruction can provide an excellent vehicle for targeting a wide range of speech and language goals, particularly narrative skills goals (Anderson, Lee, & Brown, 2017). This was an essential element, as the author of this paper is a musically trained, speech language pathologist whose primary responsibility is to target the communication goals found in students' IEPs. Also, it is within the scope of practice for speech language pathologists to address "comprehension and expression in oral, written, graphic, and manual modalities; language processing; pre-literacy and language-based literacy skills, including phonological awareness." (American Speech-Language-Hearing Association [ASHA], 2010) All of these factors were helpful in gaining support from the administration and engaging the staff of the Jackson Mann School in the use of the curriculum.

The Jackson Mann K-8 School is located in Allston, Massachusetts with an enrollment for 2017-18 of 705 students. It is part of the Boston Public School system, which serves approximately 56,000 students. The Jackson Mann School has an ethnically and racially diverse student body of which 39.7% of students are English Language Learners and 25.2% of students have IEPs. Students learn in many specialized programs including substantially separate classes for students with autism spectrum disorders (ASD), special education inclusion classes, sheltered English instruction classes and advanced work classes. The Jackson Mann School also boasts many successful partnerships with distinguished community organizations including Berklee College of Music, Big Brother, Big Sister, Boston College and Boston Connects, Boston University School of Education, College for Every Student, Franciscan Children's Hospital, Harvard University, Steppingstone and Tenacity, West End House, and Boston Lyric Opera.

Boston Lyric Opera, which recently celebrated its 40th anniversary, is currently the largest and longest running opera company in New England. It produces four mainstage productions each year and has an active education wing. It trains K-12 educators and teaching artists in the *M!W!O!* curriculum and provides outreach and support to a variety of school district partners in the form of ongoing professional development, teaching artist visits, and technical assistance in the form of provision and operation of sound equipment.

Each year, four classes have participated in the *M!W!O!* curriculum: one inclusion class (2nd or 3rd grade) and three substantially separate classes for students with ASD (upper elementary and middle school). The inclusion classes typically have 16 students, half of whom are general education students and half of whom have IEPs with at least 120 minutes per week of intervention in reading, math and self-regulation. Students receiving special education services in inclusion classes at the Jackson Mann typically have mild to moderate disabilities and communicate verbally. They may also have additional related services such as speech language therapy or occupational therapy. The substantially separate classes for students with autism have a maximum of 10 students per class, all with IEPs. They are served by one teacher and two paraprofessionals. Many of these classes contain students that may also have a 1:1 paraprofessional. Students in these classes have moderate to profound disabilities. Several communicate verbally and many are minimally verbal or non-verbal.

The majority of students in the substantially separate classes for students with ASD present with complex communication needs and all receive speech and language services,

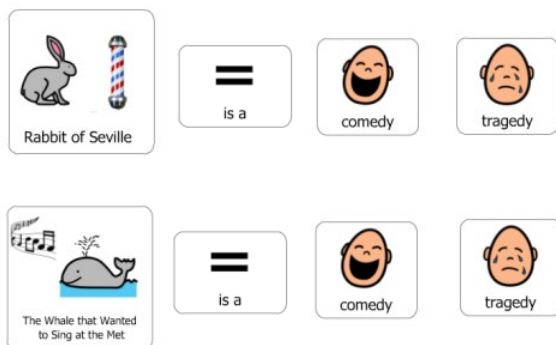
usually on a twice weekly basis. *Complex communication needs* is defined thus: “People with complex communication needs have communication problems associated with a wide range of physical, sensory, and environmental causes which restrict/limit their ability to participate independently in society. They and their communication partners may benefit from using augmentative and alternative communication (AAC) methods either temporarily or permanently.” (Balandin, S, 2002)

Jackson Mann students with ASD work on a variety of communication goals such as expressing basic wants and needs, developing motivation to communicate, protesting and refusing, following visual and verbal directions/routines, asking and answering questions, sequencing information, retelling stories and events, engaging socially with adults and peers and using language in the context of vocational and leisure activities. Many of these students use picture-based communication support in the form of communication books, topic boards and voice output technology, referred to as augmentative and alternative communication (AAC) (Cumley, 2009; Light, 1989). Students with autism, whether they present with mild, moderate or severe ASD, benefit significantly from picture-based visual supports to support their learning and communication (Shane, 2015).

Listen and Discover

During the fall and early winter, students learn about opera by watching and studying a variety of videos of and about opera. They also learn about comedy and tragedy. Students are introduced both to the conventions of opera and the concepts of comedy and tragedy through vocabulary lessons and watching three classic cartoons: *What’s Opera Doc* (Seltzer & Jones, 1957); *The Rabbit of Seville* (Seltzer & Jones, 1950) and *The Whale Who Wanted to Sing at the Met* (Disney, Geronimi & Luske, 1946).

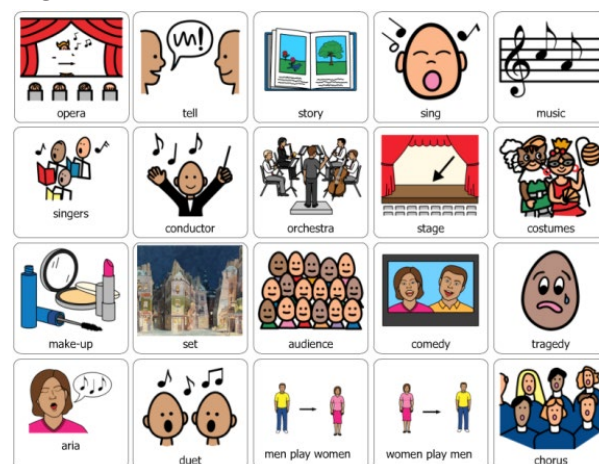
FIGURE 1.



Examples of picture-based visual supports. Figure 1 is a comprehension quiz and figure 2 is a topic board used to review vocabulary

from the lesson. Topic boards created by Lisa Pierce-Goldstein, using *The Picture Communication Symbols* ©1981-2016 by Tobii Dynavox. All Rights Reserved Worldwide. Used with permission. Boardmaker © is a trademark of Tobii Dynavox.

Figure 2.



Music!Words!Opera!:

Curriculum Adaptations for Students with Complex Communication Needs

These cartoons provide excellent examples of the conventions of opera and all of the basic vocabulary students need to know to participate in this portion of the curriculum. They are also very clear examples of comedy (*The Rabbit of Seville*) and tragedy (*What's Opera Doc*, *The Whale Who Wanted to Sing at the Met*). Most important, they are a fun and appealing way to learn to listen to and watch opera. During each lesson, characters, setting and plot points are reviewed using picture based visual supports (Figures 1 and 2), created by the author of this paper. These videos create buy-in from both the students and staff, after which they are ready to watch and study a full-length masterwork.

The author found that the culturally diverse students with complex communication needs responded very receptively to opera when it was presented gradually and systematically and with clear objectives in mind. Each year the classes have watched one full-length opera, including *Hansel and Gretel* (Humperdinck & Wette, 1986/1893), *The Magic Flute* (Mozart & Schikaneder, 1951/1791); *Aida* (Verdi, G. & Ghislanzoni, 1986/1870); and *The Elixir of Love* (Donizetti, G.& Romani, 1992/1832). These operas are appealing to elementary and middle school students. Productions are chosen that have excellent quality singers and, if possible, are presented in English. Students watched the *Hansel and Gretel* production from the Metropolitan Opera (1982), the *Aida* production from the San Francisco Opera (1981), *The Elixir of Love* from the Metropolitan Opera (1991), and *The Magic Flute* production from the Metropolitan Opera (2006).

Each class watches the chosen masterwork over the course of a few months. Each half hour in-class lesson consists of three parts: 1. Pre-teach plot and vocabulary, 2. Watch 10-15 minute excerpt of opera, 3. Engage class in comprehension exercise. In order to be prepared to watch, comprehend and discuss an excerpt from the chosen masterwork, it is vitally

FIGURE 3.

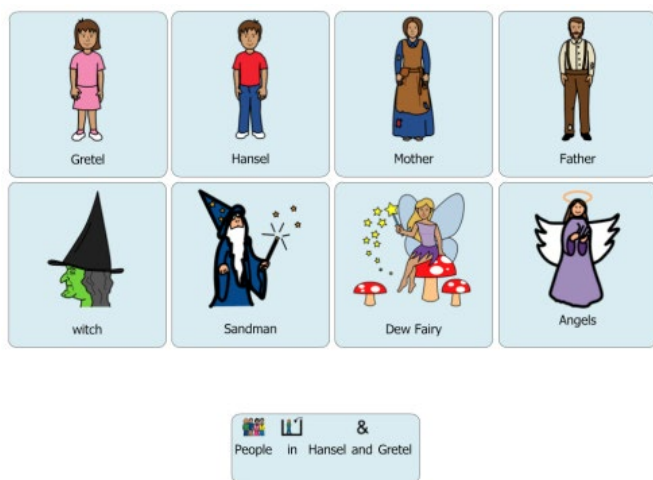
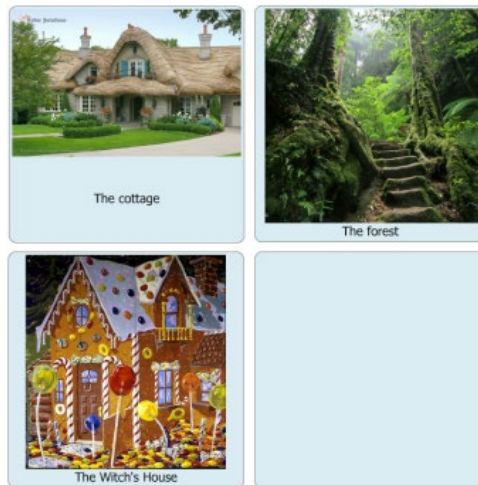


FIGURE 4.



Figures 3 and 4. Topic board of *Hansel and Gretel* characters and topic board of *Hansel and Gretel* settings . These photo- and picture-based supports help to prepare students to watch, comprehend, and discuss excerpts of operas. Topic boards created by Lisa Pierce-Goldstein, using *The Picture Communication Symbols* ©1981-2016 by Tobii Dynavox. All Rights Reserved Worldwide. Used with permission. Boardmaker © is a trademark of Tobii Dynavox.

Music!Words!Opera!:

Curriculum Adaptations for Students with Complex Communication Needs

important that students be familiar with the characters, settings, important objects and plot points contained in any given excerpt. In order to achieve that, students are presented with photo- and picture- based topic boards of the characters, settings and important objects in the opera (Figures 3 and 4). While picture symbol programs such as Boardmaker have many excellent line drawings of different types of people, it is ideal to use photos of the singers in the production of the opera the class is watching. Many pictures are available on Google Images and can be used for educational purposes.

In order to familiarize the students with the plot points before watching, they are taken through an 8-10 page adapted chapter of each scene created on Boardmaker online (Figure 5),. Once they are familiarized with the plot of the excerpt, they are provided with a topic board (Figure 6) and, as a group, watch the excerpt of the opera, approximately 10-15 minutes in length. Staff members sit with certain students and help them access the picture vocabulary on the topic board by pointing at icons of pertinent vocabulary.

FIGURE 5.

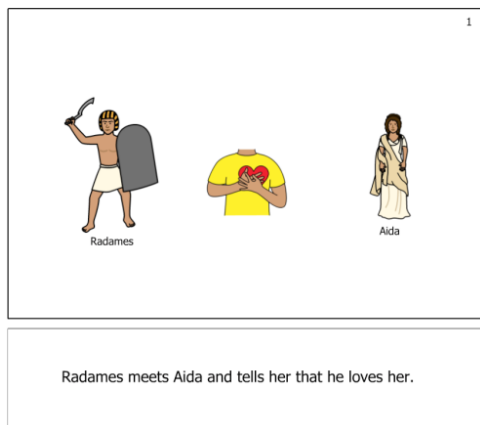
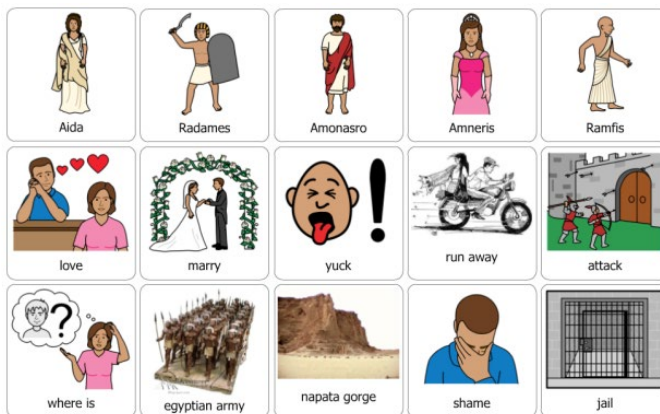


FIGURE 6.




Figures 5 and 6. Pages from Aida, Act 3, Part 2, adapted chapter and topic board for Aida, Act 3, Part 2. These help to familiarize students with the plot of the excerpt. Topic boards created by Lisa Pierce-Goldstein using The Picture Communication Symbols ©1981-2016 by Tobii Dynavox. All Rights Reserved Worldwide. Used with permission. Boardmaker © is a trademark of Tobii Dynavox.





After the students have watched the excerpt and once again reviewed the plot and characters, they engage in a comprehension exercise. This may take the form of a multiple-choice quiz (Figure 7), a matching exercise (Figure 8) or a sequencing exercise.





Music!Words!Opera!: Curriculum Adaptations for Students with Complex Communication Needs





FIGURE 7.

Aida Questions  Name: _____

Directions: Answer the questions ?

1 . The story happens in    

2 . Which characters die?    

3 . Which characters live?    













4 . The opera Aida is a?    

FIGURE 8.

Match each item on the left with the one on the right that it goes with.

 Nemorino	 reads
 Adina	 marches
 Dulcamara	 cheats
 Belcore	 falls in love

Figures 7 and 8. Example of Multiple-Choice quiz, Aida and example of Matching Exercise, Elixir of Love. These comprehension exercises may take the form of a multiple-choice quiz, matching exercise, or a sequencing exercise. Topic boards created by Lisa Pierce-Goldstein, using The Picture Communication Symbols ©1981-2016 by Tobii Dynavox. All Rights Reserved Worldwide. Used with permission. Boardmaker © is a trademark of Tobii Dynavox.

This process is continued each week until the viewing of the opera is complete. At the end of this unit of instruction, students and staff vote on their favorite character. The votes are then tabulated and the results of each class compared. This is an important part of the process, in order to continue to provide agency and buy-in to all stakeholders in the process.

Create and Produce

Certainly the most exciting and daunting part of the *M!W!O!* process is the “Create and Produce” portion of the curriculum, in which classes create and perform their own original works. Relying on structure, consistency, integration of many techniques and strategies, openness to what the students bring to the table, and a sense of adventure helps to guide students and staff alike through the process. During the earlier portion of the school year, concurrent with the ‘Listen and Discover’ portion of the curriculum, the students work on a series of basic paired musical and language concepts: stop/go, fast/slow, loud/quiet, high/low, as well as some basics of rhythmic notation.

As with other parts of the curriculum, all instruction is accompanied by picture-based, visual supports. Instruction in stop/go, loud/quiet, fast/slow is done using unpitched, hand held percussion instruments. Instruction in high/low is done using a xylophone, Boomwhackers® and the staff’s and students’ voices. Instruction follows a straightforward procedure. First the concept is demonstrated to the students. Then the students practice the concept by following instructions given on picture cards (Figures 9 and 10). For example, a ‘go’ icon is held up to tell them to play their instruments, followed by a ‘stop’ icon to tell them to stop playing. Once the students demonstrate a basic understanding of each paired concept, they compose pieces using the paired concepts, by placing a series of cards (stop/go etc.) on Velcro strips on a large piece of foam core board. A staff member or student then conducts the class in performing the piece.

FIGURE 9.

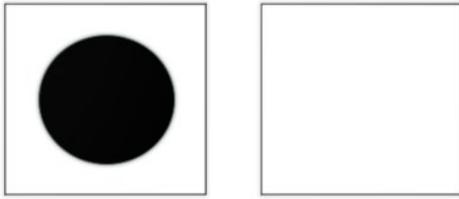


FIGURE 10.



Figures 9 and 10. Sound/Silence and Stop/Go, These picture cards provide instruction to the students as they practice their own original works. Topic boards created by Lisa Pierce-Goldstein, using The Picture Communication Symbols ©1981-2016 by Tobii Dynavox. All Rights Reserved Worldwide. Used with permission. Boardmaker © is a trademark of Tobii Dynavox.

Teaching these skills gives the students a vocabulary to draw from when it comes time to compose. While a number of students have difficulty producing original tunes or answering open-ended questions, they can all make choices, especially when provided with visual supports. (Shane, 2015) This provides them a means to express their opinions and a voice in the decision making process during the composition process.

Choosing the topic of each opera is very exciting and, like all other portions of this process, is done systematically, collaboratively, and with heavy use of picture-based visual supports. Each opera topic is chosen by classroom vote, in which each stakeholder, student or staff member, gets a vote. Prior to the day of the vote, staff members confer with each other and students to determine topics of greatest interest. The choices are narrowed down to four. Each stakeholder votes on his or her two favorites. The ballots are collected and counted in front of the whole class. The topic with the most votes is the topic that the class will turn into an opera. Over the past three years, the students have chosen to create works based on the following stories; *Gerald McBoing Boing* (Dr. Seuss, 2017), *Star Wars* (Kurtz, Lucas & McCallum 1977), *Mary Shelly's Frankenstein* (Shelly, 1998), *Big Hero 6* (Conli, Reed, Hall, & Williams, 2014), *Sneetches* (Dr. Seuss, 1998), *It's the Great Pumpkin Charlie Brown* (Schulz, Melendez, Melendez, & Mendelson, 1966.), *Superman vs. Godzilla* (Mori, a Tanaka, & Honda, 1954), *Grimsby* (McQuaid, 1988), *Pink and Say* (Polacco, 1994), *Frog and Toad: A Lost Button* (Lobel, 2017) and *Snow White* (Grimm, Grimm, & Applebaum, 2003/1812). Choosing the opera through a voting process, based on topics of interest to the students, has proven to be very exciting to the stakeholders. The students and staff become very invested in their choice and the creation process starts out with commitment from students and staff alike.

Once the topic is chosen, the classes spend time getting to know the story and engaging in a variety of exercises to target narrative skills goals, wh-question goals and story grammar goals. Methods used include read alouds, wh-question activities, sequencing activities and character mapping. It is also helpful, and a lot of fun, to get to know the locations in the stories. For example, the class learned about Tokyo when preparing for *Superman vs. Godzilla*. The students preparing *It's the Great Papi, Charlie Brown*, did vocabulary retrieval exercises on the topic of baseball, e.g., what would you find at Fenway Stadium. (Papi is the nickname for David Ortiz, the now retired designated hitter for the Red

Music!Words!Opera!:

Curriculum Adaptations for Students with Complex Communication Needs

Sox.) The results of this type of work not only target and reinforce classroom and language therapy goals, but often become lyrics and music for each class' opera.

Several of the pieces were based on cartoons or films. Printing out action shots found on Google Images or created through screen shots provides a means for students to work on describing and sequencing skills by placing the pictures in order and describing characters and action.

Several strategies were used to facilitate student participation in the creation of text for songs and dialogue, including using text from the source material, wh-question worksheets, fill in the blank worksheets, carrier phrases, lists, improvisation, and facilitated and spontaneous student comments.

The source material is the most obvious place to go for text. In some cases, the topic is so well known and culturally relevant that an audience expects to hear certain lines. For example one could hardly write an opera based on *Star Wars* without “may the force be with you” or “ help me Obi-Wan Kenobi, you’re my only hope.” Likewise, a piece based on the antics of the Peanuts gang would require some use of “rats”, “blockhead,” and some reference to Frieda’s “naturally curly hair.” Dialogue found in source material, if a book, is also very useful.

Creating lists, using carrier phrases and performing wh-question activities are also useful ways to generate text for songs. These are also techniques commonly used in speech language therapy to expand utterances (Girolametto,Weltzman, & Greenberg, 2000; Shane, 2015; ASHA, 2017). For example, at the beginning of writing *Snow White*, the classes engaged in a multiple choice, picture and text based lesson using questions and answers about Snow White and the evil queen to write the text for the opening song (Figures 11 and 12).

FIGURE 11.

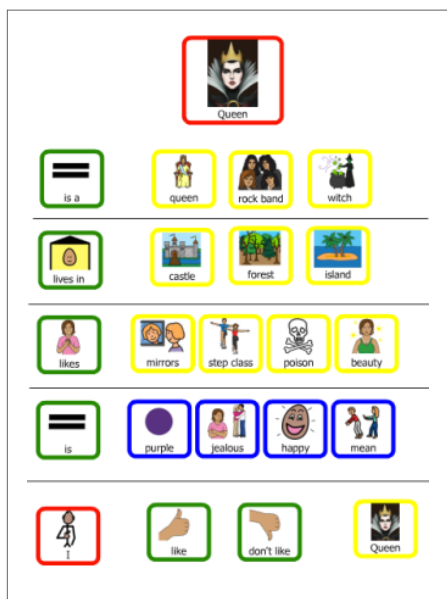


FIGURE 12.



Figures 11 and 12. Character mapping, multiple-choice/fill in the blank exercise for Snow White. Topic boards created by Lisa Pierce-Goldstein, using The Picture Communication Symbols ©1981-2016 by Tobii Dynavox. All Rights Reserved Worldwide. Used with permission. Boardmaker © is a trademark of Tobii Dynavox.

This exercise was turned into the following text for the opening song:

*Once upon a time,
 In a castle,
 Lived a princess,
 Named Snow White.
 She was pretty,
 She played with animals,
 She was kind,
 And she liked apples.
 Then one day, Her mother died, And her father,
 Got a new wife.
 She was beautiful,
 She was mean,
 She was a witch,
 And she liked mirrors.*

In *Superman vs. Godzilla* the opening song was created after using a carrier phrase/list activity based on vocabulary gained from the lessons in which the students got to know the city of Tokyo through watching tourism videos and engaging in vocabulary building activities, such as Tokyo bingo (Figure 13).

FIGURE 13.

Bingo Calling Card

Start over
Stop

 Are you ready?	 Tokyo	 cherry blossoms	 Imperial palace	 sushi
The item is	 Shinto temple	 Tokyo bay	 Mt. Fuji	 Godzilla
Mark your card	 Tokyo zoo	 Tokyo subway	 cat cafe	 war memorial
Does anyone have bingo?	 Japanese garden	 tempura	 Tokyo Tower	 Edo Tokyo Museum
Quiet				

Tokyo! Tokyo! Tokyo!!!!

Here we are in Tokyo

Feeling sentence:

It is large/big/huge

It is majestic, energetic, busy

It is colorful, historical and modern

Figure 13. Tokyo Bingo board. This carrier phrase/list activity reinforces vocabulary learning about the city of Tokyo. Topic boards created by Lisa Pierce-Goldstein, using *The Picture Communication Symbols* ©1981-2016 by Tobii Dynavox. All Rights Reserved Worldwide. Used with permission. Boardmaker © is a trademark of Tobii Dynavox.

This generated lyrics for the opening song 'Tokyo'

*Tokyo, Tokyo, Tokyo
Here we are in Tokyo
It is huge,
It is majestic,
It is colorful.*

This activity gives agency to students who may not be able to generate text independently, but can make choices when given. It also gives the students with more advanced language skills the opportunity to work on building their ability to describe.

Gerald McBoing Boing is a 5-minute, Dr. Seuss animated short from 1950 in which a young boy, Gerald, finds himself unable to produce spoken words. Instead, when he opens his mouth, he produces sound effects. To create lyrics for the opening song for this piece, students identified words or phrases that each character might say in reaction to Gerald. Stills from the film were used as prompts to help the students think of what to say. After they came up with something for each character to say, they worked on matching and wh-questions using the phrases and pictures of each character (Figure 14).

FIGURE 14.

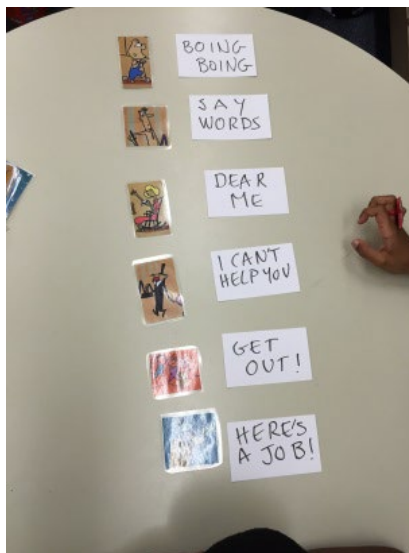


Figure 14. Character/phrase match, Gerald McBoing Boing. This activity helped create lyrics for the opening song.

This generated the following lyrics to the opening song for Gerald McBoing Boing:

This is the story of Gerald McLoy.

This is Gerald. He says 'boing, boing, boing, boing, boing, boing'

This is Dad. He says 'say words!'

This is Mom. She says 'dear me.'

Here's the doctor. He says 'I can't help you.'

Here are the kids. They say 'GET OUT!'

Here's Mr. Bong Bong Bong. He says 'here's a job'

And Gerald says, 'Boing, boing, boing, boing, boing, boing', 'Boing, boing, boing, boing, boing, boing', 'Boing, boing, boing, boing, boing, boing!'

Using spontaneous or facilitated student comments is another way to generate text for songs. For students who have difficulty answering questions or describing action when directly asked to do so, using pictures related to the stories, can help them demonstrate their skill at making spontaneous comments (Shane, 2015) During the composition of the *Frog and Toad* opera, a student looked at a picture in the book written and illustrated by Arnold Lobel and said, "Frog is sad and Toad is mad." This comment made an excellent refrain line for a song. Pictures can be used to facilitate comments. *Frog and Toad: A Lost Button* opens with the two main characters taking a walk. To help the students generate text for the opening song, students looked at several slides of outdoor scenes. Their spontaneous utterances were recorded. With some minor edits, this became the text to the opening song.

*It's a beautiful day,
White sun in the blue sky with clouds,
A robin is singing,
Purple flowers are blooming,
Yellow flowers and green grass,
Hi Frog,
Hi Toad,
Let's go for a walk,
Down by the river.*

Without a doubt, the most challenging and daunting part of the process is creating original music. The use of several adaptations and strategies help the students participate in the process of developing music for the operas. These strategies include using themes from well-known scores, creating themes using color and number sequences, using block grids to create rhythm, composing harmonically and making use of technology. Students also use their knowledge of basic musical concepts, described earlier, to make choices about musical elements of songs.

When the source material is a film with a very familiar score or a time period with some very familiar songs, there will be melodies that EVERYONE expects to hear. The class creating a *Star Wars* opera did not hesitate to use the three main themes from John Williams' iconic score: the main *Star Wars* theme, Darth Vader's theme and the Tatooine theme. In all three cases, the tunes were interwoven into both group and solo numbers. They were also combined with a few famous lines from the film. The opening song was called *Help Me Obi Wan Kenobi. You're My Only Hope*. This line was set to the main *Star Wars* theme and served as the refrain for that song. Darth Vader's solo number was built around the Darth Vader theme. The Tatooine theme, which is mournful in mood, was used when Obi Wan died.

Creating a theme or motif for a song is a significant part of the songwriting process. When that motif, or "melody seed" has been found, it is much easier to write the rest of the song. Creating melodic sequences using numbers and colors corresponding to notes is an accessible way to work with melody (Figure 15). There are a few ways to do this. Students can experiment on instruments (real or virtual) that have a clear 8-note scale. Interesting melodies can be notated or recorded. If playing instruments conventionally is a problem due to stimming behaviors, students can produce number sequences, using a series of numbers 1-8, written on cards. These number sequences can be played back for the students, who can then vote on preferred motifs. The same method can be used with color cards, representing different notes of the scale, as is used with Boomwhackers® and other color-coded pitched percussion instruments.

FIGURE 15.

Will You Be My Brother?
from "Frankenstein"

Lisa Pierce-Goldstein Lisa Pierce-Goldstein

Andante ♩ = 50

Will you be my bro-ther will you be my bro-ther?

Will you be my bro-ther will you be my bro-ther? Will you be my wife?

Figure 15. A Song from *Frankenstein*, built around a motif using scale degrees 1 4 7 6. Creating the motif or "melody seed" makes it easier to write the rest of the song.

The opening of *Superman vs. Godzilla* was a song called *Tokyo*. The class decided that this opera would be a tragedy and that the opening song would be slow. To find the *Tokyo* motif, two students used an iPad® piano app. Ultimately they decided on the sequence of 'e d b' as the *Tokyo* motif.

FIGURE 16.



Figure 16. Tokyo ‘e d b’ motif, as it appeared in the song. Students used an iPad® piano app to develop this motif.

When a compelling motif or ‘melody seed’ has been found for a song, it can be used repeatedly throughout the song in any number of familiar forms such as AABA, ABA, or Verse+Refrain.

Creating the rhythm as the first step can also drive composition. This technique was used successfully in a song from *Gerald McBoing Boing*. The character of Gerald produces many sound effects in the place of spoken language. The class had determined four of Gerald’s sound effects that they wished to highlight. The song was to start with the line, “These are the sounds that Gerald makes.” To find a way to incorporate the sounds, the students used a 4x4 block grid with Velcro on each block. They also had a collection of squares with notes on them, either a quarter note or a pair of eighth notes. The students filled in each square with a notation block, creating 4 lines (Figure 17). Each line represented a 4/4 measure. One of Gerald’s sounds was paired to each measure. The four measures were repeated three times with a line of text between each repetition. That produced a full song. This particular song was performed spoken, without melody.

FIGURE 17.



Figure 17. Rhythm grid with note patterns attached. Students used a 4x4 block grid and placed quarter or half notes in the blocks to develop the song’s rhythm.

Using harmony, rather than melody, to drive composition of a song, is another technique that can be successful. *Frog and Toad: A Lost Button* opens with the two main characters taking a walk in the woods and along the river. To generate text, the class looked at several pictures of nature scenes and the staff recorded their comments. The chords I, iii and vi were ‘borrowed’ from Grieg’s *Morgen*. The students were given laminated cards with each of those three chords on them and were given instructions to give each line of text a chord. The first line had to use the I chord and the last line had to end with I. Other than that, the students had free reign to decide what the order of the chords would be. They chose:

It’s a beautiful day (I)

Bright sun in the blue sky with clouds (vi)

A robin is singing (I)

Purple flowers are blooming (vi)

Yellow flowers and green grass (iii)

Hi Frog (I)

Hi Toad (vi)

Let’s go for a walk (iii)

Down by the river (iii) (I)

There are many excellent music-based apps and software that can be used in the composition and performance process. Sibelius 7 was used to transcribe the songs. Sound files were then exported from Sibelius to iTunes® to create playlists for each opera. This is useful when a pianist is not readily available for all rehearsals and performances. Play lists and sheet music files can be shared with classroom staff using Google Drive™. With classroom access to sound files and sheet music, regular practice can occur. The camera and voice recorder on a smart phone are indispensable tools for recording spontaneous text and musical ideas, or class work on the whiteboard.

Several music based iPhone®/iPad® apps were used in the creation, rehearsal and performance process. The Suggester app was used to assemble chord sequences that could be played from a phone. The students loved using ThumbJam to experiment with different instruments and scales. ThumbJam was also used to create sound effects in several operas. Garage Band® was used to play chords to accompany students during rehearsals and group sessions. Students were able to play accompaniments and experiment with chord progressions using Garage Band®. The number of music-based apps for tablets has expanded rapidly and students really seem to be drawn to using them.

All of the pieces that have been created at the Jackson Mann as part of this curriculum have been performed before a live audience. The rehearsal and performance process for students with complex communication needs, although done with some adaptations and supports, is very much like any rehearsal process for a show that involves learning lines, music and staging. Students work on learning and memorizing music and lines using written scripts, cue cards, and PowerPoint presentations with pictures paired with lyrics. Most important, as

with typical peers, repetition (aka., practice) is the most important element. Classroom staff members play a tremendously important role in the rehearsal and performance process, structuring regular practice, reinforcing staging and dialogue cues, and making costumes and props. The process of incorporating more elements of technical theater into the *M!W!O!* experience at the Jackson Mann is still developing. While the creation part of the process is well developed, many technical theater aspects of the process have yet to be explored. Thankfully, classroom teachers and paraprofessionals have shown their enthusiasm for the process by jumping in and exploring some of these aspects of the theater experience.

Working on costumes and set/properties is a place to engage students who do not feel comfortable being on stage. While almost all of the students in the ASD classes have been enthusiastic to be on stage, there have been a handful that have not, due to sensory challenges around the areas of noise and crowds. These students participate by helping with costumes and props. In most cases, these students enjoyed learning the music and participated in that process, but simply could not tolerate being a part of an onstage performance, due to their sensory and safety challenges.

Many students in the ASD classes are minimally verbal or non-verbal. For the most part, they love music and, in several cases, are able to sing, even if their speech production is minimal. This is where voice output technology is very useful. Students have used the SuperTalker Progressive Communicator (Ablenet®) (Figure 19), to perform roles. The SuperTalker is a device into which one can record speech or music. At a maximum, 8 different messages can be recorded into a level. The device can hold 8 levels, or pages of recordings. Non-verbal students have played solo roles in some of the operas and have also participated in the ensembles using voice output technology. In these cases, a staff member of the same gender as the student has recorded the character's lines into the device and the student has used the device on stage to speak their lines during the performance.

Minimally- and non-verbal students have also used single message voice output devices such as the GoTalk 1 (Attainment Company, Inc.) and dynamic display tablet based communication apps, such as ProLoQuo2Go (AssistiveWare®), CoughDrop (Figure 20) and Sonoflex Lite (Tobii Dynavox LLC) to participate in both the "Listen and Discover" and "Create and Produce" portions of the curriculum.

Music! Words! Opera!: Curriculum Adaptations for Students with Complex Communication Needs

FIGURE 19.



Figure 19. SuperTalker device, with different overlay frames and Figure 20. Device page on the CoughDrop app. Students recorded speech or music onto the SuperTalker in order to perform their roles. Students used the CoughDrop app to participate in the “Listen and Discover” and “Create and Produce” portions of the curriculum.

Various considerations inevitably come into play when staging a production. One must consider the possibilities and limitations of the performance space(s), the budget, the human resources and, in the case of students with ASD, their sensory and physical needs. Significant challenges can include keeping the students from wandering and keeping their orientation toward the audience consistent. To address these challenges, three types of supports can be used. First, picture and text based visual supports can be used to guide and prompt students. Pictures or text markers can be placed on the floor to help performers find and stay on their spots. Picture- and text-based visual supports can also be used in the form of signs, held up by someone at the back or side of the performing space, visible to the performers. These signs would typically remind students to move to a new location or to say a particular group line of dialogue. Second, human supports can be used. Classroom staff members join the productions as members of the ensemble and prompt as needed. Third, physical prompts can be used. In some cases, chairs may be used as part of the staging to help a performer or group of performers stay in place. This is especially useful for a large group of performers, if there is an extended period of time that the performers need to be on stage, or in the case that there is a student or students that have great difficulty staying in one place during their time on stage.

Our students on the autism spectrum perform in a large room that is often used for staff meetings and presentations. It is an intimate space that can seat about 60 people and is contained. This decreases the chances of students becoming overwhelmed by size of the room or number of people and allows staff to easily track all of their students. One or two microphones on stands are placed in strategic places on stage. Students are generally comfortable using the microphones, especially with a little practice. A portable PA system is used to amplify the sound and adjusted to fit the needs of the performing space

Discussion and Conclusion

Over the last 3 years, this adapted version of the *M!W!O!* curriculum has turned into a highly engaging, multi-disciplinary program that has produced performances of 11 short, original operas and has given students with mild to profound language and learning disabilities the opportunity to show their capabilities to a wider audience. There are several lessons that are reinforced by this experience: Music and theater are excellent vehicles for targeting a wide range of goals and are very appealing to students and adults alike. Participating in the creative process is tremendously engaging for all involved. Students in ASD classes often present with significant challenges in the areas of communication, sensory integration and social interaction, yet are, in many cases, as capable as their general education peers of learning songs, lines, staging and performing in front of an audience. They yearn to be challenged and long to have the opportunity to show what they are capable of doing. Indeed, students who are shy or reluctant to engage, communicate or initiate, can sometimes be terrific, confident performers. Students retain what they learn musically, often remembering songs they helped compose years later. Finding ways to engage and invest staff in the process makes the ventures much more successful, as does using best practices from related service disciplines, in this case speech language pathology and AAC. Given a supportive framework, students can readily accept and enjoy traditional, well-known operas, and engage in the process of creating their own mini masterworks.

Now that the program has shown itself to be replicable and has a successful track record, there are some potential areas of growth and questions to explore further. First, bringing more emphasis on elements of technical theater, such as lighting, costumes and set design, into the process would create additional avenues for learning. While some aspects of technical theater have been included in the *M!W!O!* experience at the Jackson Mann School, time, space, staff and budget limitations have prevented it from being a more robust part of the program. Indeed, technical theater provides opportunities for students to expand skills in visual arts, math, fine and gross motor skills and also provides a role for students who feel less inclined to be on stage. Second, developing and using strategies and technology to increase student involvement in the composition process should be an ongoing priority. There are so many music-based apps available that facilitate the production of chord progressions, tracks and melodies. These apps don't require extensive musical training or the ability to play an instrument. As technology can be highly motivating to students, this is an area with rich potential.

There is an emerging body of research on opera creation curricula for typically developing students. The Cobalt Report, commissioned by the Metropolitan Opera Guild (2015), tracked academic and social performance of students in multiple New York City schools over the school years from 2011 to 2014. They found consistent improvements in standardized math and ELA test scores, arts learning measures, classroom culture and social emotional growth in the study population when compared with students who did not participate in the curriculum. Reports based on work by the Cleveland Opera (1995, 1997) found that students who engaged in the Cleveland Opera on Tour project had higher test scores in all academic areas in 2nd grade when compared to students who did not participate in the program. "Positive effects" on language development were also observed from 2nd through 4th grade among program

participants (Oden, 1995, 1997). However, these studies primarily report the progress of typically developing students or those students with autism spectrum disorder who take standardized tests to track their academic skills. The potential to study the impact of opera creation curricula on students with complex communication needs is unique and potentially very valuable. Desirable areas for study would include narrative skills, vocabulary skills, asking and answering questions, social language and perspective taking skills. It would be useful to study behavior during participation in opera creation curricula. Areas to explore might include on-task behavior, rate of non-compliant behaviors (Walker, Ramsey, & Gresham, 2004), and level of prompting required to engage. The impact of using augmentative and alternative communication strategies and picture-based visual supports on acquisition of musical skills is another exciting area worth study.

Opera creation curricula can be used by a variety of educators, including classroom teachers, music teachers and related service providers, with success. One does not need to be highly knowledgeable about opera in order to engage in the curriculum. In order to prepare for a successful use of the curriculum with students with complex communication needs, certain steps are recommended. First, educators should familiarize themselves with the steps of the *M!W!O!* curriculum by reading the source materials. Training in the *M!W!O!* curriculum or other opera creation curricula may be available through a local opera company, especially in major metropolitan areas. In order to work effectively with students with complex communication needs, it is important to become familiar with the basics of using picture-based communication supports. Paper-based communication supports such as topic boards, adapted books, visual directions and comprehension worksheets can be created using software such as Boardmaker® or Symbolstix Prime®. Multiple examples of communication supports are available on platforms such as Google Images and Pinterest. Familiarizing oneself with voice output technology is also very useful. While static display devices such as the Supertalker are expensive, many picture based, voice output programs for use on tablets are available at low or no cost. Further, learning how to use music transcription software or apps, such as Sibelius or Garage Band®, is important in supporting the composition process.

The success of this interdisciplinary approach to instruction has potential implications for the fields of special education and music education. It serves to support the idea that the use of picture based visual supports and strategies used in speech language therapy may increase the effectiveness of instruction in music and drama and that the use of music in therapeutic activities (speech language, occupational and physical therapies) may increase efficacy of treatment and outcomes in related services and classroom based instruction for students with complex needs. This brings up questions about the training for all educators working with individuals with complex communication needs, including music educators, special educators and allied health professionals. Should all such educators receive training in best practices of communication development and augmentative and alternative communication? Since all individuals, regardless of disability, have the right to communicate (Brady et. al., 2016), it is the contention of the author, that any educator working with individuals with complex communication needs should acquire knowledge and skills that will help them support their students' communication skills. It is also the opinion of the author that training special educators and allied health professionals in how to use music in classroom education, in related services such as speech language, occupational and physical therapies and in ABA treatment would significantly benefit both provider and

Music!Words!Opera! Curriculum Adaptations for Students with Complex Communication Needs

client. These are potentially rich areas for ongoing research and incorporation in the body of best practices in several disciplines.

Music!Words!Opera! was created to engage a general education population in the world of opera, both from the role of spectator and that of creator/performer. Through the use of best practices from the disciplines of speech language pathology and augmentative and alternative communication to create adaptations, students with complex communication needs are able to engage in and enjoy this thorough and rewarding curriculum.

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The Arts, Project-Based Learning, and Students with Challenging Behaviors: The Alignment of Standards with Student Characteristics

Jonte C. Taylor, PhD, Benjamin Riden, MEd, Andrew Markelz, MEd

ABSTRACT: Students with challenging behaviors pose unique demands on teachers and on the process of teaching and learning in instructional settings. Students with challenging behaviors who are engaged and active in learning environments display improved academic and social outcomes. The authors propose that using the arts in conjunction with project-based learning (PBL) as a means of art utilization is an effective way to provide educational support and success for students with challenging behaviors. The authors assert that by implementing art utilization, both teachers of traditional content areas AND teachers of the arts can bolster the strengths of students with challenging behaviors while addressing their common academic and social/emotional needs. To facilitate this integration, the authors discuss pertinent research on the arts and PBL and provide suggestions for arts utilization through the intersection of the arts and PBL.

Introduction

Students with challenging behaviors pose unique demands on teachers and on the process of teaching and learning in instructional settings. Some of the reasons students present challenging behaviors may stem from boredom in the setting, uninteresting things to do in the setting, or having no effective outlet for their creativity or to display their understanding. Providing opportunities to participate in the arts and using instruction that emphasizes art in some way may allow students with challenging behavior increased access to teaching and learning options. Additionally, project-based learning (PBL) methods align well with arts utilization and with the academic and social strengths of students who display difficult behaviors. Moreover, the arts, art utilization, and PBL align well in providing all students, including those with more challenging behaviors, outlets [for](#) expressing their knowledge and experiences in creative and accessible ways.

For the purposes of this paper, we use the term *art utilization* as a broad catch-all that indicates the use of the arts in learning through PBL instructional methods. Riley (2016, 2017) details use of the arts during instruction as a continuum that ranges from basic to high levels. These are characterized as art enhancement (basic level; with no assessment in art standards) to art integration (high level; with arts and content area standards assessment). In acknowledgement of this continuum, we use the term arts utilization to encompass the spectrum of how arts can be used along with PBL for students with challenging behaviors in teaching and learning settings. Hence, we define arts utilization as the use of the arts as a means of access and engagement to core content areas AND/OR teaching and learning of the arts as part of core content area instruction.

The Arts, Project-Based Learning, and Students with Challenging Behaviors: The Alignment of Standards with Student Characteristics

PBL is defined as a teaching methodology that emphasizes teacher facilitation of student-centered projects (Mergendoller, 2006). PBL is an extensive, iterative process in which students identify a real world or authentic problem, follow an investigative plan, and produce a product for public consumption with teachers scaffolding instruction as guides. (Holm, 2011). It is essential to remember that PBL is an approach that allows teachers and students to reach outcomes. While researchers and advocates of PBL have identified standards and components that exemplify what PBL could *look like* in instructional settings, it is only a means for helping teachers and students reach instructional goals and standards. In discussing connections between the arts and PBL, we will provide a framework for utilizing the arts in combination with PBL specifically for students who may display challenging behaviors. This may include students with serious emotional/behavioral disorders (EBD) or students who can exhibit problem behaviors with no formal diagnosis.

Working with Students Who Display Challenging Behaviors

All students, regardless of age, disability, grade, gender, economic status, etc., can sometimes present challenging behaviors (e.g., off-task, out of seat, talking out of turn). Disruptive behavioral problems can have negative impacts on the progress of individual students and the educational setting as a whole (Higgins, Williams, & McLaughlin, 2001). Elevated levels of problem behaviors result in a loss of instructional time because the educational leader is forced to stop instruction to attend to ongoing disruptions (Mitchell, Tingstrom, Dufrene, Ford, & Sterling, 2015). This may be even more true for students with EBD, who tend to display elevated amounts of disruptive behavior, thereby resulting in higher probabilities of diminished academic and social outcomes.

Any discussion regarding student behaviors must include asking why challenging behaviors occur. Repeated behaviors typically serve a purpose for the student (O'Neil et al., 1997). As identified by Dixon, Vogel, and Tarbox (2012), behaviors occur and function for three reasons (i.e., positive reinforcement, negative reinforcement and/or automatic reinforcement). Beyond functions, behaviors are often categorized in two contexts: externalizing behaviors (e.g., yelling, hitting, challenging, coercion, etc.) and internalizing behaviors (e.g., eating disorders, anxiety, depression, etc.) (Achenbach & Edelbrock, 1991; Ennis, Harris, Lane, & Mason, 2014). More specifically, externalizing behaviors generally are exhibited as acting-out behaviors and internalizing behaviors are characterized by isolated behaviors associated with anxiety (Gresham, Lane, MacMillan, & Bocian, 1999). In addition to externalizing and internalizing behaviors, students with challenging behaviors experience many negative educational outcomes (Reid, Gonzalez, Nordness, Trout, & Epstein, 2004). Students with these types of challenging behaviors may struggle to find academic success (Reid et al., 2004). See Figure 1 for details and examples of behavioral functions.

The Arts, Project-Based Learning, and Students with Challenging Behaviors: The Alignment of Standards with Student Characteristics

FIGURE 1. Functions of Behavior for Challenging Students

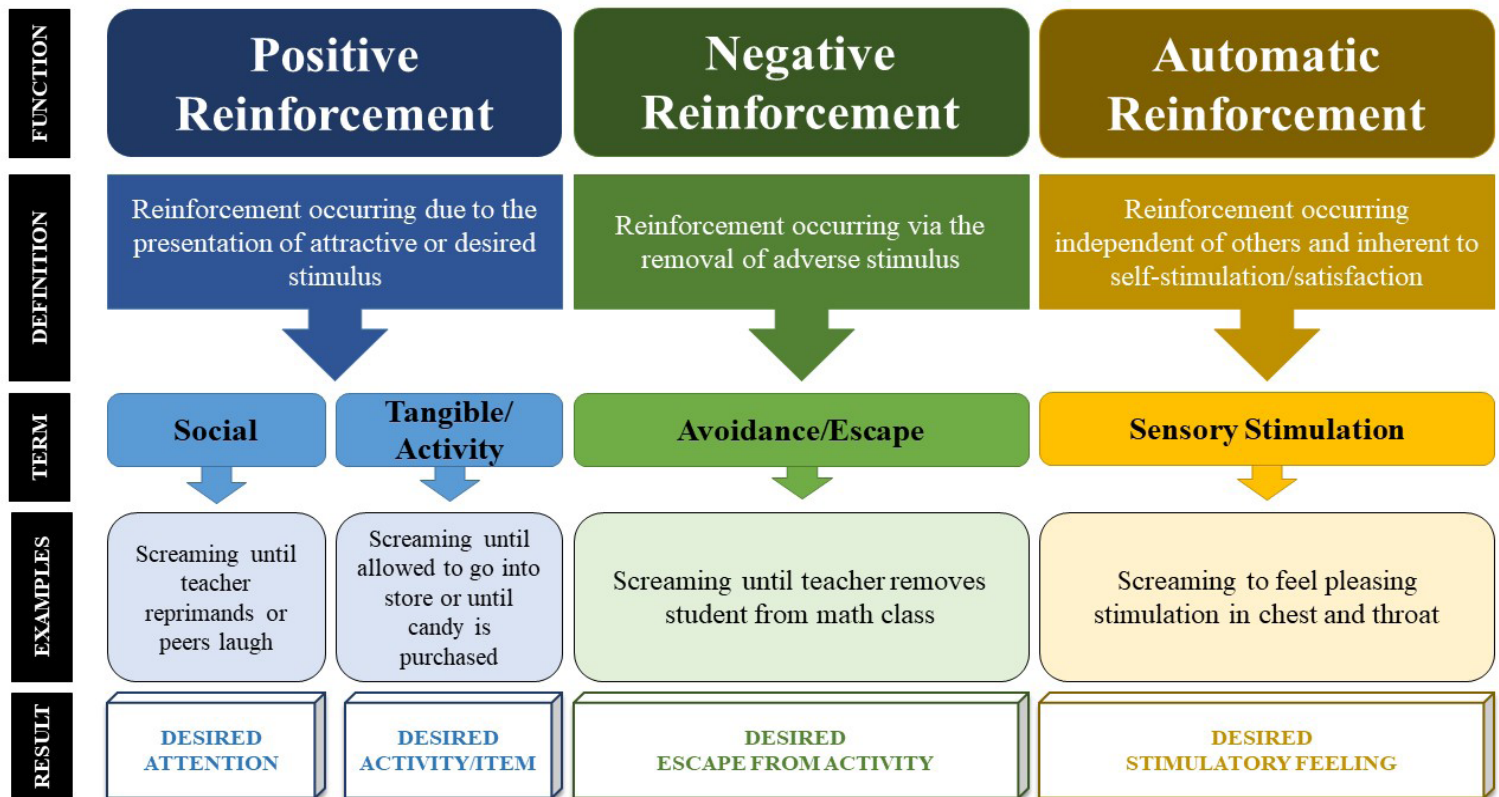


Figure 1. Functions of Behavior for Challenging Students. Adapted from “A Brief History of Functional Analysis and Applied Behavior Analysis” by D. Dixon, T Vogel, & J Tarbox, 2012. Copyright 2012 by Springer.

The traditional approach to supporting students with chronically challenging behavior is usually a deficit-based approach that focuses on the problem (Sointu, Savolainen, Lambert, Lappalainen, & Epstein, 2014). Recently, strength-based approaches for recognizing and measuring socioemotional functioning of students have received attention in the literature (Farmer, Farmer, & Brooks, 2010; Lewis, Jones, Horner, & Sugai, 2010). A strength-based approach in schools recognizes that: (a) every student has strengths, (b) student motivation can be increased by how individuals respond to their strengths, and (c) inability to demonstrate a strength does not mean it is a deficit on the part of the student, but rather that the child has not, as of yet, learned that skill (Epstein & Sharma, 1998). When assessing the strengths of students with chronically challenging behaviors, Reid, Epstein, Pastor, and Ryser (2000) identify several areas of possible advantage that these students may possess. These strengths can be characterized as interpersonal advantages (i.e., the ability to control emotions/behaviors in social situations), family involvement (i.e., participation and relations with family), intrapersonal strengths (i.e., perception of competence and accomplishment), school functioning (i.e., competence in school and classroom tasks), and affective strengths (i.e., ability to accept affect from others and to express emotion) (Reid et al., 2000). Ultimately, students with EBD

The Arts, Project-Based Learning, and Students with Challenging Behaviors: The Alignment of Standards with Student Characteristics

and chronically challenging behaviors have both disadvantages and advantages germane to their behavioral traits (see Figure 2). Consequently, teachers can assist students with behavioral challenges to develop their strengths and address their needs through the arts and PBL.

FIGURE 2.

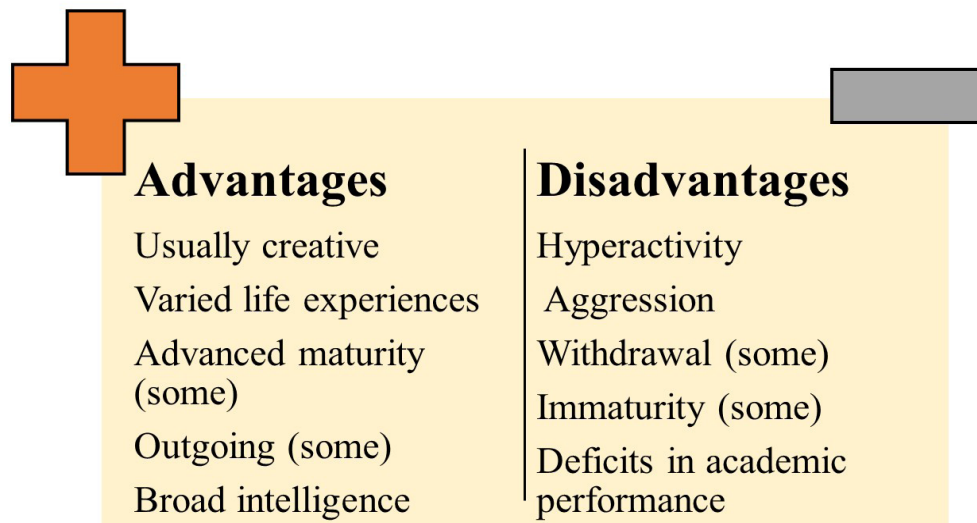


Figure 2. A Sample of Characteristic Advantages and Disadvantages of Students with Emotional/Behavioral Disorders and Challenging Behaviors.

Project-based Learning for Students with Challenging Behaviors

PBL originates from pedagogy that stresses that students learn best when experiencing and solving real-world problems (Vega, 2015). According to researchers, PBL encompasses the following: (a) students learning knowledge to tackle realistic problems as they would be solved in the real world, (b) increasing student control over his or her learning, (c) teachers serving as coaches and facilitators of inquiry and reflection, and (d) students working in pairs or groups (Barron & Darling-Hammond, 2008; Thomas, 2000). PBL can be further defined as student-centered instruction that occurs over an extended time period, during which students select, plan, investigate and produce a product, presentation, or performance that answers a real-world question or responds to an authentic challenge. Teachers generally serve as facilitators, providing scaffolding, guidance, and strategic instruction as the process unfolds (Holm, 2011). In their book *Setting the Standard for Project Based Learning*, Larmer, Mergendoller, and Boss (2015) highlighted what they describe as the “essential gold standards” for teaching practices for implementers and project design elements for students when using PBL. The standards include areas related to key knowledge, understanding, and success skills (Larmer et al., 2015). Specifically, Larmer et al. (2015) state that PBL instruction should include: a challenging problem, sustained inquiry, student voice & choice, authenticity, critique & revision, reflection, and a public product.

The Arts, Project-Based Learning, and Students with Challenging Behaviors: The Alignment of Standards with Student Characteristics

Research indicates that PBL (a) has a positive effect on student content knowledge and the development of skills such as collaboration, critical thinking, and problem solving; (b) benefits students by increasing their motivation and engagement; and (c) is challenging to implement, as teachers and students need supports (Krajcik et al., 1998). The support needs associated with PBL include teacher support in order to plan and enact PBL effectively, while student support includes help setting up and directing the initial inquiry, organizing their time to complete tasks, and integrating technology into projects in meaningful ways (Brush & Saye, 2008; Krajcik, et al., 1998). PBL has been shown to benefit a variety of students in developing collaborative skills. For example, through PBL, elementary students learned to understand multiple perspectives and gained conflict resolution skills (ChanLin, 2008), special education students developed social skills such as patience and empathy (Belland, Ertmer, & Simons, 2006), and low-ability students demonstrated initiative, management, teamwork, and conscientiousness as they worked in groups (Horan, Lavaroni, & Beldon, 1996). PBL research provides a glimpse into the possibilities for students with challenging behavior.

Using the Arts and Arts Utilization for Students with Challenging Behaviors

The components of PBL align well with standards in arts education and with art utilization. Through the arts, students are able to express ideas, fact knowledge, and feelings without having to rely heavily on words (Gullatt, 2008; O'Hara, Alter, & Hays, 2009). There are four domains that make up the core arts standards: (a) creating, (b) performing, presenting, and producing, (c) responding, and (d) connecting (National Coalition for Core Arts Standards [NCCAS], 2014). Under each domain there are several anchor standards. Anchor standards that reside under the creating domain are to

- a) generate and conceptualize artistic ideas and work,
- b) organize and develop artistic ideas and work, and
- c) refine and complete artistic work.

Three anchor standards are in the performing domain:

- a) analyze, interpret, and select artistic work for presentation,
- b) develop and refine artistic work for presentation, and
- c) convey meaning through the presentation of artistic work.

The third domain, responding, is comprised of three anchor standards:

- a) perceive and analyze artistic work,
- b) interpret intent and meaning in artistic work, and
- c) apply criteria to evaluate artistic work.

The final domain, connecting, has two anchor standards comprised of

- a) synthesize and relate knowledge and use personal experiences to make art and
- b) works with societal, cultural, and historical context to deepen understanding (NCCAS, 2014).

The core standards are aligned to match individual arts disciplines (i.e., dance, media arts, music and its subdivisions, theatre, visual arts). Understanding the standards for the

The Arts, Project-Based Learning, and Students with Challenging Behaviors: The Alignment of Standards with Student Characteristics

arts allows for art utilization during learning experiences. Art utilization provides students with creative outlets to communicate, display learning, and express emotion, which may be strengths that students with EBD and other challenging behaviors possess.

Arts utilization is conceptualized as integrating core subject matter with the arts to engage learners in that content area (Zhbanova, Rule, Montgomery, & Nielsen, 2010). The specifics of arts utilization are discussed and defined in a variety of ways by researchers and teachers (e.g., teaching through the arts, teaching with the arts) yet these definitions have commonality in regard to integrating arts and core content areas to support student learning in acquiring knowledge (Scorse, 2014). For teachers, the arts utilization spectrum can include art enhancement (i.e., using the arts as an engagement or access tool but focusing on content being taught) to art integration (i.e., teaching and assessing the arts equitably along with content (Riley, 2017). For students, arts utilization involves engaging in the creative process, which connects an art form and another subject area and meets evolving objectives in both (Silverstein & Layne, 2010). Like the arts and arts utilization, PBL provides students with challenging behaviors ways to engage in constructive learning opportunities.

Aligning Art Utilization, and PBL for Students with Challenging Behaviors

The arts and PBL share a number of parallel and interconnected threads that instructors can use to decrease challenging behaviors during teaching moments. As mentioned earlier, the NCCAS (2014) developed standards in artistic process for the fine arts that broadly outline what students should be able to demonstrate. Further, along with artistic processes, there are anchor standards that provide more specific details regarding what students should be able to do after instruction in the arts (see Figure 3). While less focused on content, Larmer and colleagues

FIGURE 3.

Artistic Processes & Anchor Standards			
<p>Creating: Conceiving and developing new artistic ideas and work</p> <ol style="list-style-type: none"> 1. Generate and conceptualize artistic ideas and work 2. Organize and develop artistic ideas and work 3. Refine and complete artistic work 	<p>Performing: Realizing artistic ideas and work through interpretation and presentation</p> <p>Producing: Realizing and presenting artistic work and ideas</p> <p>Presenting: Interpreting and sharing artistic work</p> <ol style="list-style-type: none"> 4. Select, analyze, and interpret artistic work for presentation 5. Develop and refine artistic techniques and work for presentation 6. Convey meaning through the presentation of artistic work 	<p>Responding: Understanding and evaluating how the arts convey meaning</p> <ol style="list-style-type: none"> 7. Perceive and analyze artistic work 8. Interpret intent and meaning in artistic work 9. Apply criteria to evaluate artistic work 	<p>Connecting: Relating artistic ideas and work with personal meaning and external context</p> <ol style="list-style-type: none"> 10. Synthesize and relate knowledge and personal experiences to make art 11. Relate artistic ideas and works with societal, cultural, and historical context to deepen understanding

Figure 3. Artistic Processes and Anchor Standards in the Arts. Adapted from “National Core Arts Standards” by National Coalition for Core Arts Standards, 2014. Copyright 2014 by State Education Agency Directors of Arts Education.

The Arts, Project-Based Learning, and Students with Challenging Behaviors: The Alignment of Standards with Student Characteristics

(2015) propose gold standards in PBL design elements for students to demonstrate. By using PBL, content area skills and standards can be taught and through art utilization, students can become more engaged and realistically display learning in both standards and processes of the arts. Figure 4 displays examples of how PBL gold standards align with the processes and standards in the arts.

FIGURE 4.

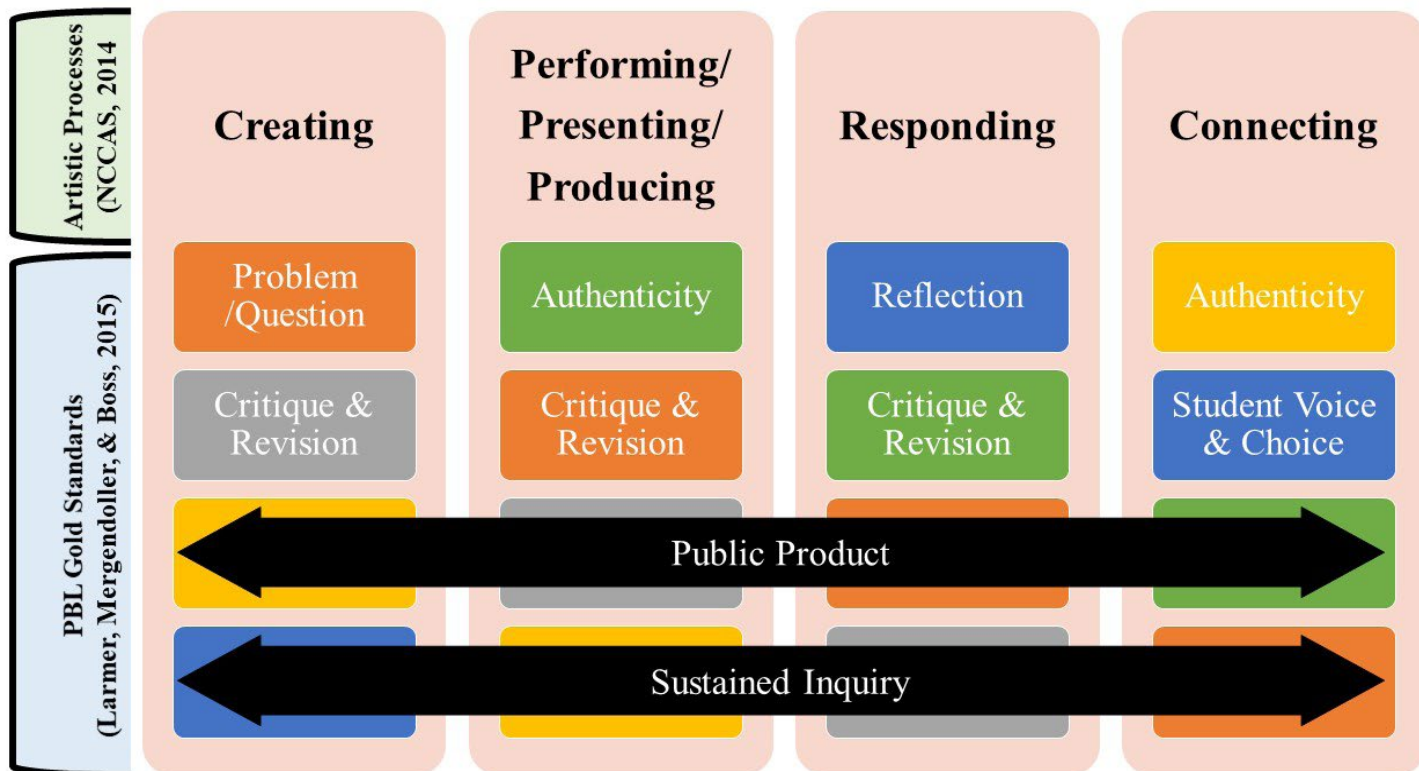


Figure 4. Intersections of how project-based learning project design gold standard elements connect with national core art standards artistic processes.

For example, the “creating” artistic process identified by NCCAS (2014) aligns well with the PBL gold standards of critique & revision and public product. In “creating” an artistic work, teachers can guide students through the process of making that work a public product (e.g., a school bulletin board), garnering of and interpreting critiques of that work (e.g. peer reactions), and revising that work based on critiques (e.g. reflecting on peer responses). Further, teachers can help students make artistic choices and “connect” those choices with their own individual voices (i.e., experiences).

The various needs and strengths of students with EBD and challenging behaviors make it essential to find ways to maximize their academic and social outcomes. Simultaneously, we must bolster the strengths that these students already have. PBL, the arts, and art utilization provide the perfect opportunity to get students with challenging behaviors learning and

The Arts, Project-Based Learning, and Students with Challenging Behaviors: The Alignment of Standards with Student Characteristics

experiencing success. Maximizing art utilization gives students with challenging behaviors broader opportunities for expression and displaying understanding beyond conventional contexts in core curriculum subject areas.

When working with students who display chronically challenging behaviors, we should strive for high levels of arts utilization (see Figure 5) as a means of giving our students optimal experiences with all content areas and disciplines. In Figure 5, we use the third grade Dance Arts: Performing standard to highlight arts utilization at a high level (art integration). Specifically, our example would have students perform an interpretive dance that represents the water cycle--evaporation, cloud formation, condensation, precipitation--a science-based standard) AND to “utilize performance space as described with terminology” (an arts standard; NCAAS, 2014).

FIGURE 5.

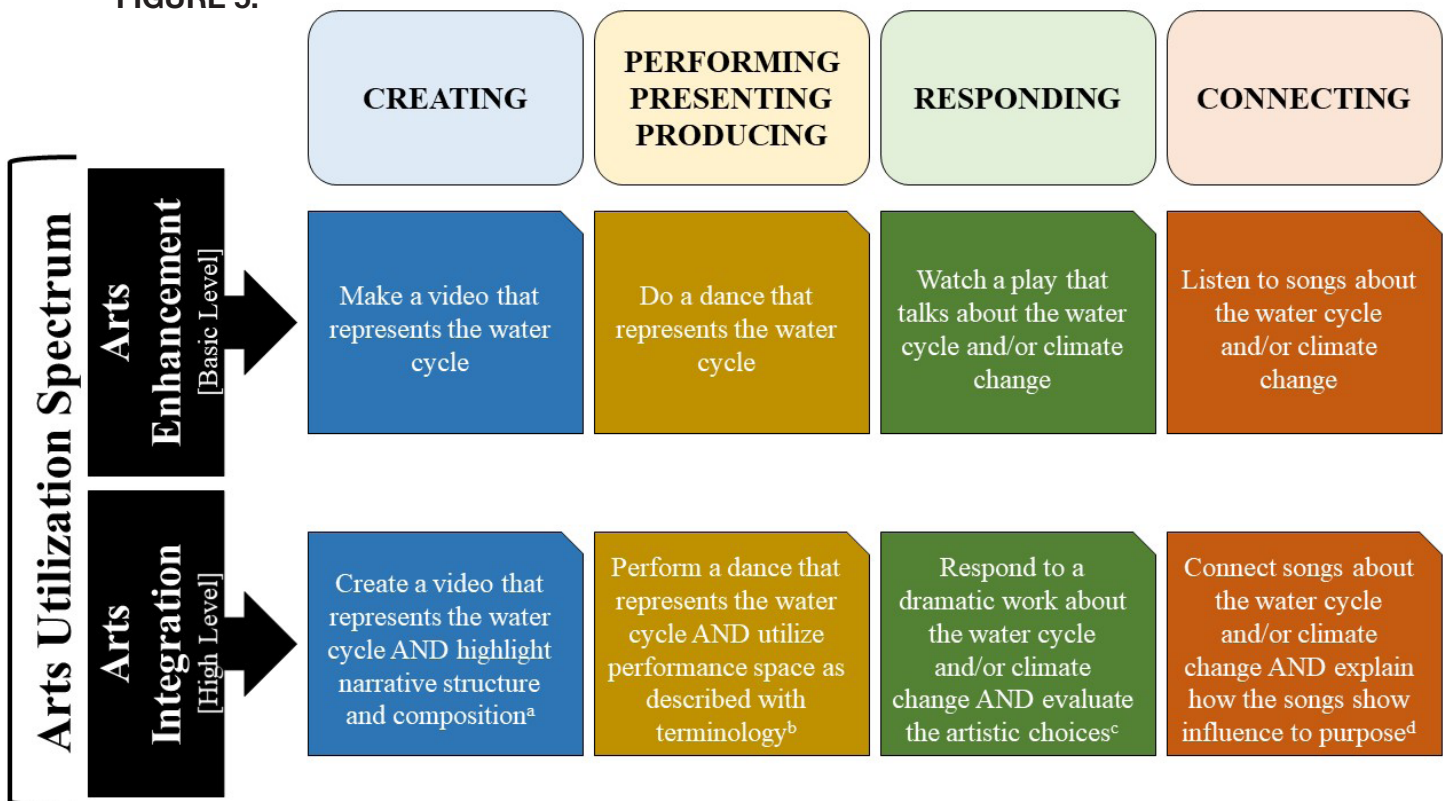


Figure 5. Arts utilization spectrum (basic and high level) using water cycle/climate change examples. Superscripts from National Core Arts Standards. ^a = 7th grade Media Arts: Creating 3.1.7. ^b = 3rd grade Dance Arts: Performing 6.1.3. ^c = 8th grade Theatre Arts: Responding 7.1.8. ^d = 4th grade Music: Connecting 7.1.4a. Adapted from “Is It Arts Integration or STEAM”, “The Arts Integration Continuum”, and “National Core Arts Standards” by S. Riley 2016 & 2017 and NCCAS 2014. Copyright 2016/2017 Education Closet and 2014 by State Education Agency Directors of Arts Education, respectively.

The Arts, Project-Based Learning, and Students with Challenging Behaviors: The Alignment of Standards with Student Characteristics

For students with behavioral challenges, that could mean students performing their interpretation of “condensation or evaporation” movement while describing their body position using the terms “stage left,” “stage right,” or “center stage.” Another example of high level arts utilization or true arts integration in Figure 5 is the *connecting* standard. Students are tasked with finding songs and “connecting” (an arts standard) the lyrics to the issue of climate change (a science and social studies standard). Students could possibly submit the song *Love Song to the Earth* (Bedingfield, 2015), sung by Paul McCartney and others, for their assignment.

Figure 6 provides an illustration of how PBL standards and arts standards may connect to leverage the disadvantages and advantages of students with challenging behaviors. For example, students with EBD often struggle with aggression. Teachers can provide students with EBD opportunities to channel their aggression (*a possible student disadvantage*) into public products (*a PBL standard*) through performing (*an arts standard*) in a variety of mediums (e.g., dance, stage acting, performance writing, etc.). An example that plays to the strengths of students with challenging behavior: An educational facilitator provides guidance for students to “create” (*an arts standard*) either a written, visual, or multimedia “creative” product (*a possible student strength*) that displays their voice (*a PBL standard*) regarding their neighborhood experiences.

FIGURE 6.

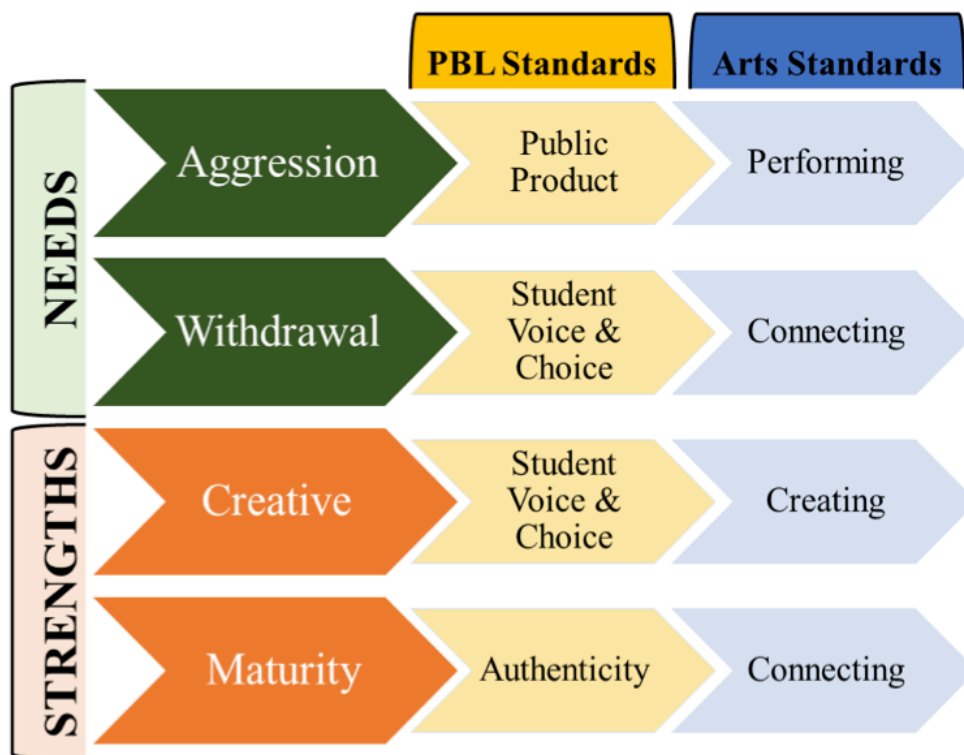


Figure 6. Examples of alignment of PBL standards and arts standards for students with challenging behaviors.

The Arts, Project-Based Learning, and Students with Challenging Behaviors: The Alignment of Standards with Student Characteristics

Ultimately for students with challenging behavior, including those with EBD, the arts provide a myriad of opportunities and mediums that both accentuate their strengths and allow them to channel their needs in useful and productive ways. Additionally, incorporating a PBL instructional framework provides an element of structure and helps develop positive relationships that students with challenging behaviors need (Taylor, 2016). By aligning the arts with PBL for art utilization, there are tremendous opportunities for these students with EBD and general challenging behavior to thrive and grow in and out of educational settings.

The Arts, Project-Based Learning, and Students with Challenging Behaviors: The Alignment of Standards with Student Characteristics

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About the Authors

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Alida Anderson, Ph.D., is Associate Professor in the School of Education at American University, Washington, DC, with research and practice interests in inclusive and integrated arts approaches to language and literacy learning. Anderson's background includes experience as a visual artist and teacher-therapist to students with exceptionalities, working for over two decades in preschool and school age settings using creative arts approaches with children and families. She has presented on a variety of language- and literacy-related, and arts integration topics to the Society for the Scientific Study of Reading, Institute for Educational Diplomacy, Association for Childhood Education International, Council for Exceptional Children, American Educational Research Association, British Dyslexia Association, VSA International/Kennedy Center, and the National Council for Teachers of Mathematics. She holds a B.A. in Art/Art History from Colgate University, M.A. in Communication Sciences/Disorders from Northwestern University, and Ph.D. in Special Education from University of Maryland, College Park.

Aileen Barry is the Senior Director of Education & Outreach for National Dance Institute and has worked as an administrator for the organization since 2000. In her current role, Aileen oversees the administration of NDI programs serving 6,500 children in NYC public schools, NDI Teaching Artist Training initiatives, and the NDI DREAM Project. Outside of NDI, Aileen produces and performs in theatre in the NYC area.

Katherine A. Berry, Ed.D., works as a Project Manager in the Department of Special Education at the University of Texas at Austin. She manages an Institute for Education Sciences efficacy grant related to word problems and equation solving for third-grade students with mathematics difficulties. Berry completed her doctoral degree in the Department of Special Education and Disability Studies at The George Washington University. Berry's dissertation research investigated the influence of a dramatic arts strategy on the on-task behavior of students with language-based learning disabilities in inclusive elementary classroom settings. Her expertise is in the following areas: students with specific learning disabilities, mathematics word-problem solving, language acquisition, curriculum development, teacher training, and arts integrated instruction. Berry has recently presented at the following national conferences: American Educational Research Association, Council for Exceptional Children Convention and Expo, the National Arts Education Association, and the Pacific Coast Research Conference.

Jean B. Crockett, Ph.D., is Professor and former Director of the School of Special Education, School Psychology, and Early Childhood Studies at the University of Florida. She earned her doctorate in Special Education from the University of Virginia, and holds additional graduate degrees in music education, and educational leadership. She was previously a music educator, classroom teacher, building principal, and special education administrator. Dr. Crockett's research addresses the nexus of policy initiatives, leadership development, and the education of exceptional learners. Her publications address special education leadership and policy, and the education of students with disabilities in and through the arts. She is a past-president of the *Division for Research* of the Council for Exceptional Children, and serves

on seven editorial boards for peer reviewed journals. She is associate editor for the *Journal of Special Education Leadership*, and the special education editor for the *Journal of Law and Education*.

Kay Gayner-Wood is the Associate Artistic Director of NDI and currently serves as Artistic Director for the NDI/China Project in Shanghai and the NDI/Lebanon Project in Beirut, training teachers in the NDI pedagogy and overseeing the development of NDI's partner programs in both countries. Kay is an NDI Master Teaching Artist and was named the 2009 Teacher of the Year. With Agnes McConlogue Ferro, Kay serves as co-creator and co-director of the NDI DREAM Project (Dancers Realize Excellence through Arts and Movement): an inclusion-based dance program that focuses on augmenting movement potential through partnerships, collaboration and choreography. She served as Artistic Director for North Carolina Arts in Action, an NDI associate program located in Chapel Hill and currently NDI's programs in NYC partner schools, including PS 199, a public school that serves a diverse population of children with disabilities.

Agnes McConlogue Ferro, P.T., D.P.T., P.C.S. is a Board Certified specialist in Pediatric Physical Therapy. Agnes is a Clinical Assistant Professor in Stony Brook University's Physical Therapy program and a practicing clinician. Agnes completed a Leadership and Education for Neurodevelopmental Disabilities (LEND) Fellowship and earned a Pediatric Certification in Neurodevelopmental Treatment. Her affiliation with National Dance Institute began in 1998 and continues as the co-creator/director of the Dancers Realize Excellence through Arts and Movement (DREAM) Project, an inclusive-based dance program highlighting abilities, partnerships and performance. Agnes was honored to receive NDI's Teacher of the Year award and Stony Brook's Faculty Honor Award. She has completed research on the impact of DREAM for all participants and presented preliminary findings during the prestigious IV STEP conference. She is a firm believer in the power of the Arts and the power of a child's capacity to accept... and to excel.

Andrew Markelz, M.Ed. is an Assistant Professor in the Department of Special Education at Ball State University. His research interests include expediting the novice to expert teaching curve with technology in teacher education, behavioral fluency, and programming for generalization.

Lisa Pierce-Goldstein, M.M., M.S., CCC-SLP is a speech language pathologist and classically trained singer with degrees from Oberlin College and Conservatory, Yale School of Music and Teachers College Columbia University. She is currently a speech language pathologist for the Boston Public Schools and previously for New York City Department of Education's District 75. She has presented at several conferences including VSA Intersections, Massachusetts Music Educators Association, the Boston Conservatory Conference for Teaching Music to Students on the Autism Spectrum, ASHA and NYSSLHA on the topics of voice disorders, autism, augmentative and alternative communication, and music education and special needs. She serves on the board of advisors for the Berklee Institute for Arts Education and Special Needs. She has performed as a soloist in opera, oratorio and new music

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with several regional opera companies, orchestras and ensembles, including the Sarasota Opera, where she was awarded the Richard F. Gold Career Grant.

Lori Quinn, Ed.D, PT is an Associate Professor in the Department of Biobehavioral Sciences at Teachers College, Columbia University, and holds joint appointments as Lecturer in Rehabilitation and Regenerative Medicine (Physical Therapy) at Columbia University Medical Center, as well as Senior Research Fellow at the Centre for Trials Research, Cardiff University, Cardiff, UK. Dr. Quinn is a physical therapist, and is the director of the Neurorehabilitation Research Lab at Teachers College. Ongoing studies in the lab are focused on the development of effective interventions to improve functional abilities and quality of life for people with motor control impairments through physical therapy and exercise-based interventions. Dr. Quinn is an investigator on the Dancers Realize Excellence through Arts and Movement (DREAM) Project, an inclusive based dance program, researching the child/parent perceptions regarding participation in programming such as DREAM.

Benjamin S. Riden, M.Ed. is an Assistant Professor at the University of Minnesota Duluth. His research interests are classroom and behavior management, teacher preparation, and STEM education for student with disabilities.

Jonte C. Taylor (JT), Ph.D. is a professor in special education at Pennsylvania State University. His research focuses on STEAM education for students with disabilities, classroom and behavior management, school and classroom climates.

About the Kennedy Center Office of VSA and Accessibility

Serving the international disability and arts community, the John F. Kennedy Center for the Performing Arts Office of VSA and Accessibility provides opportunities for people with disabilities, of all ages, across the globe to learn through, participate in, and enjoy the arts. A Jean Kennedy Smith Arts and Disability program, the VSA and LEAD international networks support and offer a wide array of programs in cultural access, as well as the art and arts education programs and experiences for individuals with disabilities. Please visit us on the web at <http://education.kennedy-center.org/education/#Access>. Please like us on Facebook at <https://www.facebook.com/VSAInternational/>. Follow us on Instagram @vsainternational and on Twitter @vsaintl.

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