Using Drama-Based Interventions to Improve Educational Outcomes in Students with Special Needs

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Preparing students with disabilities for successful adult outcomes is one of the ultimate goals in special education. Success as an adult with a disability often hinges on the individual’s ability to successfully communicate, collaborate with service providers and advocate for oneself. What schools need are strategies that teach these skills. Collaboration, communication and confidence are also the skills necessary to perform in the theatre (Regan, 2010). There are an increasing number of organizations teaching theatre skills to youth with disabilities from Cindy Schneider’s Acting Antics’ workshops in Pennsylvania; Minneapolis Upstream Arts to the Los Angeles based Miracle Project as well as a rising number of special education schools whose staff include drama instructors. Valerie Paradiz, a well-known advocate in the autism community who herself has Aspergers, has compared the work done during theatre based workshops to social skills training, speech therapy and physical therapy wrapped into one. (Ferrante & Paradiz, 2009).

The purpose of this paper is to review the literature on the effects of drama-based intervention for youth with disabilities. The paper reviews the history and context of theatre arts as a teaching strategy in schools. Furthermore the review focuses on social, communication and transfer skills in special education. Given that disability is a broad field and increased demand for inclusion calls for teaching strategies that are universal, this paper reviews research whose participants have a wide variety of primary diagnoses as well research into the general school population.
Historic Context of Art and Theatre in Educating Students with Disabilities

Gilman (1996) links the use of art for people with disabilities to the 19th century utilization of art as a diagnostic tool to determine psychopathology. During the 19th century art education for students with disabilities was seen as a remedial effort suitable for building self-esteem and for rehabilitation. Dorothy Heathcote famously brought the theatre into school as a teaching tool. The drama teacher and academic believed that theatre arts helped students not only process issues, but that it was also the best way to communicate understanding of the issues (Heathcote, 1984). In working with students with physical or cognitive disabilities Heathcote came to believe in drama as a tool to improve speech, communication and self-esteem. The Disabilities Education Improvement Act (IDEA) in 2004 instituted the mainstreaming movement with the mandate of ‘Least Restrictive Environment’ (LRE). Again, art class was the first to welcome students with disabilities into mainstream. Because of the arts long history in special education, disability rights advocate Derby (2011) urges in “Disability Studies and Art Education” (2011) to use art as a tool to promote self-awareness, self-reliance, and self-expression.

National Endowment for the Arts and Project Zero

Much of the research in arts and academics has come out and through a small number of organizations dedicated to the arts. National Endowment for the Arts (NEA), an independent federal agency supporting the arts, and Reviewing Education and the Arts Project (REAP), a part of Project Zero, a research group at the Harvard School of Education, are amongst the organization providing research and support of the arts in education. While the findings of a compendium funded by NEA, a meta-analysis through Project Zero and a NEA longitudinal study date between 1999-2000, they are considered seminal and their findings...
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are frequently referenced. Project Zero members and authors of the NEA compendium exchanged heated criticism of each other’s methods and conclusions. This paper will include a review of these exchanges as they are enlightening on both the standards of research as well as the difficulty of capturing the value of art with scientific methods.

“Critical Links” (Deasy, 2002) is a compendium to identify strong arts research that would make a contribution to the debate on how arts can be used to enable all students to reach high levels of achievement. The compendium included 62 studies and received funding by the NEA and the U.S. Department of Education. Included into the compendium was research that focused on the arts learning experience itself. Research was summarized and concluding essays were written for separate art groupings. Nineteen of the studies focused their attention on drama. James Catterall, Professor Emeritus from the UCLA graduate School of Education, wrote a concluding essay about drama in education. He asserts that drama has been used in education for over 40 years due to a broad understanding that drama can teach (Catterall, 2002). In his key findings Catterall noted that research clustered mainly on elementary level children and that the research itself is often qualitative in nature. However, he asserts that studies demonstrated that drama-based interventions showed evidence of student improvement in the areas of verbal and communication skills, social skills and increased self-esteem. Catterall also found evidence of drama being especially effective in producing knowledge that transferred across setting. Catterall acknowledges that more breath and scientific method is needed to further prove these findings but feels that the research does prove that dramatic activities in the classroom are an important instructional tool to ”prepare students for effective living” (Catterall, 2002, p. 58).

Louis Hetland and Ellen Winner, members of Project Zero, were amongst the contributors of “Critical Links”. However in 2003, Hetland and Winner published their criticism
of “Critical Links” and James Catterall in “Beyond the Evidence given: A Critical Commentary of Critical Links”. The purpose was to encourage readers to go back to the original studies to review the summaries on which “Critical Link’s” claims were based. They feared that a casual reader might conclude that a small dose of art was all that is needed to improve students’ social skills, thinking skills and self-concept and argue that such conclusions had no scientific basis. They also criticized Catterall for claiming a causal relationship where research only established correlational links.

In 2000, Winner and Cooper had published their own meta-analysis “Mute those Claims: No Evidence (Yet) for a Causal Link between Arts Study and Academic Achievement”. The meta-analysis was part of the REAP report through Project Zero. In the executive summary of this report by Hetland and Winner (2001) stated that the main objective of their meta-analysis was to see where the arts could justify their presence in education as a means to improve academic outcomes. Their meta-analysis synthesized 188 research reports investigating the relationship between one or more areas to one or more academic areas. The research was divided up into eight subareas. While no causal links were found in five of the areas, three of the areas showed evidence of “clear causal links” (Hetland & Winner, 2001, p.3): Listening to music and spatial-temporal reasoning; learning to play music and spatial reasoning and classroom drama and verbal skills. A connection between classroom drama and verbal skills was based on 80 research reports and found evidence that drama not only helped children’s verbal skills with respect to the text reenacted but it also helped children’s verbal skills in new text. The meta-analysis concluded that drama helps to build verbal skills and that these skills transfer to new materials. However in the conclusion of their meta-analysis the authors stressed that only experimental design could
establish a causal link and much of the research they came across was not using experimental data.

In “Beyond the Soundbite: Arts Education and Academic Outcomes,” James Catterall responded to “Mute those Claims: No Evidence (yet) for a Causal Link between the Arts and Academic Achievement” by criticizing Winner and Cooper for overemphasizing experimental research and ignoring their own findings that did show causal links in three of eight art and academic areas. He found the title of ‘No Evidence’ too global in its implication and pointed out that it contradicted some of the authors’ own findings (Catterall, 2001). Winner and Hetland (2001) responded to Catterall in the same publication that indeed most research designs did not have data to support anything but a correlational relationship between art and academics and therefore the overall outcome of their meta-analysis, did not support a causal relationship between the arts and academics.

**Outcomes in Art-Rich versus Art-Poor Schools**

The NEA’s “Champions of Change” (Fiske, 1999) was the outcome of the National Longitudinal Survey (NELS), a panel study that followed more than 25,000 students in American secondary schools for 10 years. “Involvement in the Arts” (Catterall et al., 1999) was a contribution to the report that analyzed data from this study focusing on music and drama. Amongst the findings were the assertions that children in art rich schools showed positive academic development throughout and that specifically “engagement in theatre arts correlates with gains in reading proficiency, self-concept, motivation and empathy” (Serig, 2010, p.1130). In 2009 Catterall returned to the NELS study and using follow-up data of 12,000 students now between 20-26 years old analyzed their adult outcomes in “Doing Well and Doing Good by Doing Art” (Catterall, 2009). At this time Catterall’s focus is on a comparison between students
from art-rich versus art-poor schools. The author finds that students attending arts-rich high schools get further in postsecondary education, have better grades and feel more positive about their future educational and employment outcomes. He finds that this holds especially true for students from low socioeconomic backgrounds over their peers in art-poor schools. Dan Serig’s (2010) research review of the follow-up study’s finding, criticizes Catterall’s inclination to claim causality where scientifically only a correlation can be established. However he also points out that while Catterall’s claims of causality might not hold up to scientific research standards, they would be considered valid in social research. Selig concludes that involvement and learning in art rich environments has sufficient, though not necessarily causal, evidence to show improvement in student adult outcomes.

Findings for Students with Disabilities

Verbal and Communication Skills

Podlozny (2001) looked at seven meta-analyses, combining nearly 200 experimental studies that analyzed the relationship between drama instruction and various kinds of academic abilities. Data collected was coded for variables including students with low socio-economic status (SES) or students with learning disabilities. Over 40 % of these studies looked at a relationship between drama and verbal relationships. Podlozny found that five of seven meta-analysis showed that classroom drama was equally effective for average, low SES, and students with learning disabilities. Two meta-analyses showed that verbal skills improved most for students with low SES. These findings mirror Catterall’s (2009) analysis of longitudinal NELS data.

Light and McCarthy (2001) studied the appropriateness of a theatre arts program that integrated students with severe communication disabilities as a medium to teach communication
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skills. The students selected for the study were two elementary students, one with a rare genetic disorder and the other with severe cerebral palsy. Both students used augmentative and alternative communication. Three typical peers of compatible age also participated in the program as controls. The theatre program took place over a ten day period for three hours per day. The program included scripted and unscripted role play as well as additional enrichment activities. Data was collected from repeated viewings of videotapes, with two 10-minute samples being analyzed for each day. Students were measured for time engaged, opportunities for communication, fulfillment of these opportunities, and success in communication. Both sets of students were found to be about 80% successful in their communication and numbers of opportunity for engagement did not show a significant difference between peer groups. The researchers concluded that the theatre arts might be an effective medium for teaching communication skills.

Transfer of Skills

Both “Critical Links” (Deasy, 2000) and “Mute those Claims: No Evidence (yet) for a Causal Link between Arts Study and Academic Achievement” (Winner & Hetland, 2000) established that there is a causal link between theatre arts and the ability to transfer skills into a new environment. Both papers included study subjects with and without disabilities. However generalization of newly learned skills is especially difficult for children with neurologically based disabilities whose learning tends to be very context specific (Keen, 2007). Therefore a question of transfer is weighed even more important for students with special needs.

Eisner (1998), Emeritus Professor from Stanford’s Graduate School of Education, contends in A Response to Catterall that transfer is one of the most vexing topics in education. He points out that in art-rich environments art and academics merge and it becomes impossible to draw clear
conclusions. Eisner is taking the discussion on the nature of transfer further in his “Comments on the Question of Transfer” (Eisner, 2001). The researcher distinguishes between in-domain transfer and out-of-domain transfer, which refer to a skill being transferred within the same academic area or being applied in a different area of study. When looking for a transfer from learning in the arts to an academic area we would look to establish an out-of-domain transfer. Eisner related this skill to biassociation. Biassociation is a term coined by the journalist Arthur Koestler and describes the ability to relate two previously separated independent fields. He regarded biassociation as the cognitive core of creative thinking.

Harland (2000), a British researcher, offered a related perspective on the nature of transfer, something he attributed to a possible cultural difference between England and the United States. In his opinion the “transfer effect” described in Winner and Hetland’s (2000) meta-analysis would be described as “creativity” by most teachers of the art in England. He asserts that creativity within itself should be a legitimate object of teaching. To construct creativity as a transfer effect gives away too much to other areas of the curriculum (Harland, 2000).

Beyond his comments about the creative nature of transfer skills, Harland added a component he felt had been missing in the quantitatively focused meta-analysis by Winner and Hetland (2000): Qualitative testimonies by the study subjects. In What Research in the United Kingdom Shows about Transfer from the Arts (2000) Harland referenced a study he coauthored, Arts Education in Secondary Schools: Effects and Effectiveness (Harland et al., 1994). The study was launched by the Royal Society for the Encouragement of the Arts, Manufactures and Commerce (RSA) and collected data on a total of 27,607 students’ from 152 schools over three years. The study was qualitative in nature and designed to document the range of effects and
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outcomes that can be attributed to school-based arts education. The particular area of increases in verbal skill through the use of drama-based strategies, students volunteered accounts of gains in communication skills, language development and expressive skills.

**Empathy and Theory of Mind**

Another area which has been researched in association with the arts is empathy and theory of mind. Theory of mind is the ability to attribute mental states to others, while empathy is the ability to infer emotional experiences. Whitted (2010) names empathy skills as one of the main socio-emotional skills that are necessary to establish positive relations with peers and adults in the classroom. Failure to develop these skills sets a trajectory of school failure into place. The consequences of behavioral problems stemming from a lack of empathy skills are reflected in the high expulsion rate which in turn correlates to drop-out rates (Whitted, 2011).

Winner and Goldstein in their forthcoming dissertation study into theatre arts used drama-based strategies to improve theory of mind and empathy scores. In two studies the author followed 75 elementary age children and 28 adolescents receiving either one year of acting or other arts training. The authors assessed empathy and theory of mind skills before and after training. Over a ten month period the elementary students received 90 minutes a week of intervention and the adolescents received five to nine hours per week. Participation in programs was randomized. Students received pre and post-tests. In both studies the group receiving acting training, but not the group receiving other arts, showed significant gains in theory of mind and empathy measures. These findings show that specifically theatre-based training shows evidence of increasing the skills crucial for interacting and cooperating and further to do so past the watershed age of three to four years of age.
Supporting the finding that theater training can improve empathy even in older subjects is a study teaching clinical empathy skills to medical students (Dow et al., 2007). Clinical empathy is a doctor’s ability to recognize a patient’s emotional state. Teaching this important communication and social skills has been lacking in medical training curricula. Dow et al. (2007) designed a study to assess whether medicine residents can learn clinical empathy technique from theatre arts training. Twenty internal medicine residents, 14 in the intervention group and six in the control group, had pre- and post-test divided six sub scores designed to measure empathy in real-time patient encounters. The intervention group received six hours of workshop and instruction time with professors of theatre. The outcome of the study demonstrated significant improvement in five out of six subgroups for the intervention group but not the control group.

Impairments in theory of mind and empathy skills are considered hallmarks of disabilities such as autism spectrum disorders. Loyd (2011) designed a study to identify the outcomes for individuals with autism from participation in drama education. The researchers examined perspective taking skills. Perspective taking is the ability to infer what others think and feel. Data was gathered about 10 adolescent students with a diagnosis of autism who attend a school that employs a drama curriculum. The intervention took place over 34 weeks through observations, interviews, and documentation. Findings indicated that in the interactive context of theatre, students with autism are able to show evidence of perspective taking a well as evidence that this skill extended beyond the theatre program. The author concluded that theatre is a strategy that is able to build and nurture perspective taking in individuals with autism. This finding echoes the findings of Dow et al. (2007) and Goldstein and Winner (forthcoming).

Corbett et al. (2010) also supported these findings in their study on theatre as therapy for children. Their pilot investigation evaluated the Social Emotional NeuroScience Endocrinology
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(SENSE) Theatre which is designed to improve social emotional functioning and decrease stress in children with autism. Social emotional functioning refers to the emotional abilities that enable a person to function in a social context. Eight children with autism were paired with typical peers who were acting as models of typical behavior in the production of a musical. Rehearsals lasted 2 hours per session and progressed from 1 time per week to 4 times per week over a three month period. Theatre based intervention imbedded into the full musical production included role-play, video and vivo modeling. Behaviors, as well as neuropsychological and biological measures were assessed in a pretest-posttest design. The participants showed some improvement in theory of mind skills and an increased ability to pick up facial expressions in the post test.

Social Skills

Empathy and theory of mind is closely tied to the more general area of social skills. Social skills are the skills that guide social interactions. For disabilities with deficits in social skills, such as autism spectrum disorders, finding a way to teach social skills is essential. In the past interventions for students with autism have used knowledge based treatments, also known as skills streaming, to teach social skills. These interventions assume that students lack performance skills or do not know how to perform socially and need to memorize rote scripts. Drama–based interventions on the other hand assume that students, especially those on the higher functioning continuum of autism, know how to perform in social situations but lack fluency skills or can’t produce the necessary behavior in a situation (Hartigan, 2012). There have been a number of recent studies that have looked into drama-based interventions specifically to teach students on the higher functioning autism spectrum.

Lerner et al. (2011) hypothesized that Socio-Dramatic Affective-Relational Intervention (SDARI) could improve parent-reported social functioning after a six week intervention.
Seventeen teenagers with a diagnosis of high functioning autism and no co-morbidities were placed into an intervention group. Eight non-participants who matched the inclusion criteria were used as a comparison group. The participants received 145 hours of intervention over 29 sessions. The SDARI curriculum involved drama-based improvisational games developed with the goal of improving specific areas of non-verbal deficits. The outcome of this research showed increased social assertion, increased ability to detect emotion in voices and decreased social problems in the intervention group. These reported gains were still present after a 1 month post-treatment follow-up. Limitations of the study were the small sample size and that participants were non-randomized to participant and comparison group. Epp (2008) echoes these findings in her study of a social skills therapy program for 11-18 year old children with autism. Sixty-six students were followed in a year-long after school program that involved group and art therapy including drama classes. Pre-and post-tests of a social skills rating system were collected from parents and teachers. The researchers concluded that children showed improvement on assertion scores and a decrease in problem behaviors. Limitations of the study were the lack of a control group and no statistical evidence of art therapy, drama groups or even therapy groups having produced the outcome. Glass et al.’s (2000) pilot study on using a drama-based intervention for students with learning disabilities and attention-deficit disorders supported Lerner et al.’s (2011) findings. The Social Competence Intervention program (SCIP) adapted exercises used in creative drama and theatre classes with the goal of remediating interpretive and perceptual deficits and social skills. Five students received interventions once a week for two hours over eight weeks. Anecdotal evidence suggested that students were able to identify emotional expressions, tone of voice and showed increased self-awareness. Limitation of this study is the small sample group and use of anecdotal evidence for data.
Theatre Arts and Education in the Era of Accountability

In the era of accountability the purpose of teaching art has become one of the central questions. Kornhaber and Mishook (2006) reported that the decrease of time and funding spent on arts is disproportionately affecting schools whose students have low socioeconomic status (SES) and minority schools. This is especially concerning after Catterall’s (2009) analysis of data suggested that students with low SES benefit the most from art-rich school environments (Catterall, 2009). Another discussion point to consider is that much of the research around art is not about teaching the arts themselves but a discussion about teaching the arts to enhance learning in non-art disciplines (Hedland & Winner, 2001). In an area with an increased focus on reading, writing, and math, and the research-based interventions that teach them, art for art’s sake is no longer an educational argument. The challenge therefore is for arts educators to show that the social, emotional and academic gains made in programs infused with art cannot be made without. Eisner (2001) points out that a researcher can look at the variables in a study statistically or educationally. He argues that even if an outcome is statistically significant it still might be educationally trivial. The focus on standardized test scores and statistical importance of research trivialize the outcomes that matter. “It is not the greatest of educational victories to enable a student to read who does not choose to do so” (Eisner, 2001, page 43). Eisner’s concern about the current emphasis of accountability is a focus on outcomes that are educationally trivial. Mason et al. (2008) discusses how the arts in education suffer from the challenge of their impact being measurable. Without a measure it is difficult to assert that drama-based intervention itself and not a co-occurring variable, accounts for a difference in learning. In an effort to fill that gap, Mason and Steedly (2006) investigated the use of rubrics as an assessment measure to help determine learning in a qualitative study using a rubric model. Seven teachers were trained on
the use and purpose of the rubric and asked for their experiences using the rubric to evaluate arts integration one year later. All participants reported having found the rubrics beneficial as a format to assess student growth, clarify the purpose of instruction to students and allowing themselves to get a better framework for their lessons.

**Summary**

Tradition has assigned arts a marginal position in the educational world (Eisner, 2009). In an era where academic subjects have to prove their value in education through measurable improvements, art has struggled to prove and define itself. One theme did emerge when analyzing the research and academic disputes: There is little consensus even amongst leading researchers on what constitutes valid research into the theatre arts. However, even using the strict standards established by REAP (Hetland & Winner, 2000), this can be said about theatre-arts in education: There is causal evidence that drama-arts in education increase verbal skills and empathy and theory of mind skills. There is correlational evidence, some across multiple studies and across general and special education settings, that drama-arts increases non-verbal skills (specifically tone of voice and facial expressions), self-concept, self-esteem, self-awareness, motivation, communication skills, pro-social behaviors, social assertiveness, reading proficiency and improved academic and adult outcomes. Last but not least there seems to be evidence that drama arts allows learning to take place in a way that promotes skill transfer across areas.

The answer for the phenomenon of transfer might be in drama’s multi-sensory nature. Multi-sensory strategies are one of the long-established tools for teaching students with special needs. Furthermore drama takes abstract concepts and makes them concrete, another key strategy coming out of special education. Drama-based intervention is a universal strategy that has shown
DOROTHY HEATHCOTE believed that drama, when used thoughtfully and effectively in the classroom, touched on most academic and social agendas of education (Catterall, 2000). While more experimental research might be needed to provide further evidence, I do believe that there is initial causal and correlational evidence for her claims.

**Application**

“The primary aim of schooling is not to do well in school, but to do well in life.” (Eisner, 2001, p. 48). I work as a teacher in a self-contained setting for students with higher-functioning autism and I am the parent of three children, one who has special needs. Adult outcomes for my children as for my students are something that I consider on a daily basis. My students and my son have life-long disabilities. The challenge here is to not only provide them with the skills that every adult needs but also to provide them with the skills they will need to navigate the world as adults with disabilities. Reading, writing, and math are undoubtedly amongst those skills. But the skills that come to other children as part of typical development, need to be taught to children with special needs. My students need to be taught how to improve their verbal communication, how to make an educated guess at what another person is thinking or feeling, how to advocate for their needs appropriately and effectively, and how to gain self-awareness. My students tend to be very literal, concrete, and rigid thinkers and applying a skill they have learned in one area to another area is a challenge they face. The review has shown that theatre arts is a strategy that can teach all of these skills.

Special education as opposed to general education is less about learning content to pass onto your students. Special Education is about teaching and using strategies to teach your
students contents and skills. When I started to look for studies on theatre arts and special education I realized that this is an emerging field. Much of the seminal research looks at students in general education. In some studies the data for special education could be separated, in others it could not. However once I looked at the repeated outcomes in all studies regardless of the student’s typical or special needs I realized that drama arts represents a universal strategy. I also realized that much of the hallmarks of special education strategies – multisensory learning, concrete-to-abstract, peer modeling and practicing skills within a natural context - are already present within the theatre arts.

However, the discussion that struck me the most was the question of transfer, specifically Harland’s contribution of reframing transfer skills as creativity (Harland, 2001). And as Eisner pointed out, the ultimate transfer is for our students to apply what they have learned in school to life. The majority of students with autism lack creative skills. This is not only evident in a lack of play behaviors but also often in their choice of preferring non-fiction, strength in rote learning, and a tendency to cling to known rules. While I often honor my student’s and son’s choice of the concrete over the creative, the discussion made me realize that creativity is not just about making interesting art. It is the skill that is needed to learn and generalize all other social and academic learning. Theatre arts seem uniquely positioned to improve this skill. For all the reasons named above I am looking into ways to incorporate theatre arts into my classroom. Cindy Schneider’s (2007) book, “Acting Antics”, can provide suggestions on exercises to implement. A local resource is Upstream Arts an organization who uses theatre arts and teaching artists to enhance social independence and creative communication for students with special needs. I am confident that with the growing research into theatre arts in special education, more ideas and curricula will become available.
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