Research Directions

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When Achievement Data Meet Drama and Arts Integration

Over the past decade, the United States Department of Education, through the Arts Education Model Development and Dissemination (AEMDD) program, has “supported the enhancement, expansion, documentation, evaluation, and dissemination of innovative, cohesive models that demonstrate effectiveness in 1) integrating and strengthening the arts in the core elementary and middle school curricula; 2) strengthening arts instruction in those grades; and 3) improving students’ academic performance, including their skills in creating, performing, and responding to the arts” (United States Department of Education AEMDD Program Goals). The Education Arts Team (hereafter, EAT), a not for profit performing arts organization located in New Jersey, has been the recipient of two of these grants. Results on standardized achievement tests from the first grant, which integrated drama into the teaching of social studies and language arts in grades 4 and 5, indicated that the integration of the arts into these subject areas contributed significantly to students’ achievement in language arts (Walker, Finkelstein, & Bosworth, 2010). In 2008, the organization received its second grant from the Department of Education to infuse theater into the language arts curriculum in grades 6 and 7.

In relation with the policies of the AEMDD, we were interested in understanding the extent to which theater arts integration methods improve low-income middle school students’ academic performance in the core curricular areas of language arts and mathematics. It should be noted parenthetically that although the focus of the theater strategies project is to support the development of middle school students’ language arts skills, New Jersey state assessments of mathematics place significant importance on a student’s ability to provide a written explanation of how he or she arrives at a solution to a math problem. These written answers are heavily weighted in determining a student’s proficiency in mathematics. Moreover, the federal reporting guidelines require researchers to provide results not only on the subject area in which the integration occurs, but in other core subject areas as well. Thus, we examine the effects of a theater strategies project on both language arts and mathematics performance. Two questions guided this study:

1. To what extent are students’ language arts and mathematics performance, as well as their engagement with school, positively impacted by being in a classroom setting in which theater strategies are integrated into their language arts instruction?

2. To what extent are students able to sustain their learning gains in language arts performance from a theater-integrated curriculum once they return to traditional language arts instruction?

Theoretical Perspective

EAT has adopted an approach to language arts that seeks to make the school curriculum accessible through multimodal drama-based strategies. As Morrell explains, “Often, the failure of urban students to develop ‘academic’ literacy skills stems not from a lack of intelligence but from the inaccessibility of the school curriculum to students who are not in the ‘dominant’ or ‘mainstream’ culture” (2002, p. 72). The strategies we have developed and introduced through inservice workshops and in-class demonstrations provide teachers and teaching artists with the means to assist students in the exploration of their personal literacy practices and make connections with in-school literacy learning. Literacy practices, according to Barton and Hamilton (2000), “are general cultural ways of using language which people draw upon in their lives. In the simplest sense, literacy practices are what people do with literacy” (p. 7). Literacy is understood, then, as a social event negotiated among participants. The use of theater arts within language arts instruction creates a space for interactive social
interpretations and thus provides a high level of opportunity for new forms of individual and group literacy practices that center on publicly expressed ideas, questions, and representations of meaning.

EAT’s yearlong integration project was planned to show students and teachers how to move among the use of voice, body, and visual representations to interpret stories. To that end, EAT developed a series of lesson plans infusing selected theater-based strategies that 1) align with state standards for reading and literary interpretation, 2) build upon students’ personal knowledge and scaffold public meaning making into deeper understanding of a piece of literature, and 3) support students in confidently and clearly expressing ideas through writing.

METHODS

The study design for the project involved two levels of randomization—school and classroom. Four schools were randomly assigned for inclusion in the integrated arts project, and four schools served as controls or comparison schools. In the control schools, students read the same literary texts without the infused theater arts techniques. These teachers received normal professional development support through the district. Within each of the eight schools, teachers were randomly selected and assigned to the control or group, with 28 teachers selected overall (14 in the arts integration project and 14 in the control schools). The final randomization involved the selection of classrooms. Since teachers in middle schools usually have multiple classes of instruction, and the grant proposal called for studying 28 classrooms, only one class per teacher was randomly selected for intervention and study. Thus, the study sample consisted of: 14 teachers, 14 classrooms, and 540 students in the treatment condition; 14 teachers, 14 classrooms, and 480 students in the control group.

The student population of the school district in which the study was conducted is multiracial and multiethnic. Thirty-nine percent of the students are Latino, 36% of African descent, 14% Asian American, 10% Caucasian, and 1% Native American. The free and reduced lunch rates for American. The free and reduced lunch rates for the student population in participating schools ranged from 77% to 88%. These rates indicate that almost 8 out of every 10 students came from an impoverished background. With respect to academic performance in language arts, the selected schools had the lowest percentage of students who were deemed to be proficient on the state’s language arts assessments.

The integrated strategies project involved artists and teachers collaborating on the instruction of 40 drama-based lesson plans that were linked to the district mandated literary texts for the sixth and seventh grades and taught over the course of the academic year. Beginning in October, all teachers in the treatment group were given training on drama and related arts techniques and were provided an opportunity to practice these with students and receive constructive feedback on the lesson implementation. Once the study began in the classrooms, teachers and teaching artists implemented the lesson and then debriefed with one another about what they observed that went well, how students responded, and what pedagogical changes needed to be made for the next lesson. The lesson plans outlined for the study and the sequence of implementation, observation, and assessment were closely followed by all teacher and teaching artists throughout the study.

OVERVIEW OF INTEGRATED THEATER ARTS LESSONS FOR SIXTH AND SEVENTH GRADES

Forty arts-integrated lessons were designed to create spaces for students to explore the core novels used in the district’s sixth- and seventh-grade curricula. The novels used in the sixth-grade classrooms were *A Single Shard* (Park, 2001), *The Midwife’s Apprentice* (Cushman, 1995), *The View from Saturday* (Konigsburg, 1998), and *Tuck Everlasting* (Babbit, 1975); the seventh-grade novels were *Maniac Magee* (Spinelli, 1990), *The Cay* (Taylor, 1969), *Johnny Tremain* (Forbes, 1943), and *Animal Farm* (Orwell, 1946). Each integrated language arts lesson explored a section of text taken from one of the novels through the use of theater games, scenery design activities, process drama, improvisation, script writing, and enactment. However, the lesson plans were designed so that teachers could use the theater strategies to explore other works of literature. Along with language arts standards, the artists and teachers worked toward integration of the national theater arts standards and found natural points of intersection between both literary and dramatic arts disciplines. Four points of intersection were identified by EAT project leaders: scenery design
Using the classification box, students write simple paragraphs about the object they observed. After their work with the concrete and familiar object description, the class moves into the imagined, literary world by exploring what an object from a piece of literature might look like. For example, using one of the core novels, the teacher reads a section of text highlighting a key object in the novel—e.g., the pottery in *A Single Shard* or the bridge in *Maniac Magee*. The students try to imagine what the objects written about in the story could possibly look like; then they describe what they have “seen” to a partner and write about how they envision those objects and what significance they might have in the novel.

**Example 2: Exploring Themes in a Novel**

In order to explore a novel’s possible themes, the teacher first asks students to personally respond to a statement that captures the dilemma presented by a theme, such as “Everyone should always follow the rules.” This happens in two phases. First, the teacher uses the activity “Vote from Your Seat,” a strategy we developed (for a USDOE grant) in which students express their personal opinions by responding to a series of statements through body language: they can remain in their seats (disagree); sit with their hands raised (not sure); stand up (agree); or stand up with their hands in the air (strongly agree). For instance, the teacher might use one of the following statements: Students should be allowed to have gum in the classroom; Students should be allowed to wear hats in school; Students should go to school year-round with a two-week summer vacation; School should be optional; It’s important to go along with the crowd. As the students take their positions, the teacher asks a sampling of students why they agree, disagree, or are unsure about the statement.

Next, a theme from the novel is introduced with a statement, such as the following related to *The Midwife’s Apprentice*: You should be kind to people even when they are mean to you. After locating and exploring the reasons for students’ opinions, the teacher reads a section of text related to the theme. The paragraphs below illustrate how classroom teachers in the project might use drama to help students understand a theme in the novel and then how they might move the students from dramatizing to writing to staged reading.
The following passage from *The Midwife’s Apprentice* illustrates a moment of choice that the heroine Alyce must make at a crucial point in the story. In this passage, Alyce considers saving Will from drowning. He is one of a gang of young boys who have been incessantly bullying her.

*A sudden breeze rustled the leaves of a willow, as if it were calling to Beetle. Up she climbed into the branches, treed like a fox, waiting for what would happen next. Pushing and shoving each other, the boys encircled the tree. “Dung beetle, dung beetle, you must be afearèd, so far from your dung,” they chanted. “Come down and we will take you home and lay you softly into the dung heap, deep, deep, deep into the dung heap.”

More ale swigging and chanting and pushing and shoving. Suddenly the boy with red hair lost his footing on the slippery bank and tumbled into the churning river.

“Gorm, Will, get out of there,” said snaggletoothed Jack.

“Can’t,” said Will, spitting water and floundering. “Throw me somethin’ to grab.”

But the water pulled Will under for a moment and the boys, grown sober and scared, knocked one another aside in their attempts to get out of there to a place they could claim they had never left when poor Will’s drowned body was found. So that, when Will surfaced again, still spitting and floundering, no one was there but Beetle in the tree, looking down at him with her eyes great in her white face.

“Beetle, help me. Throw me somethin’.”

Beetle shook her head. “I be too scared.”

In order to familiarize the class with the large task of dramatizing a scene, a teacher may work with them in a theater space in front of the class to create a tableau or living sculpture based upon this reading. For example, using their bodies as the “clay” of a sculpture, the students might represent the moment at which Alyce struggles with her decision. The teacher begins by asking the class to first stage Alyce. Alyce is up in the tree and usually placed center stage, standing on top of a chair. The teacher makes clear that without Alyce’s help, young Will is going to drown. Asking who believes Will should be saved and who might do that, the teacher solicits suggestions that might include: Will’s friends who ran away, Will himself, Will’s mother, or Alyce’s conscience, etc. These are then staged and added to the growing tableau. In order to add modalities and move the students closer to dramatizing the moment, lines are both improvised and selected from the text to accompany the tableau, with volunteers playing each part. The same is done with those who would encourage her not to save the boy; reasons offered usually focus on her “memory” of what’s happened, her need for revenge, the Midwife, etc. When all of the characters have lines to deliver, the class decides upon the order of the lines, and the student volunteers perform the scene.

After experiencing this scene as a participant in Alyce’s world, the students write a persuasive letter to her presenting their arguments to either save or not save Will, depending on their specific role. After editing and small-group sharing, the letters are used for a staged reading that returns to the dramatization created earlier and continues through the moment of decision. Once again, the drama and arts program moves the students through a very definite sequence of oral interpretation, embodied meaning making, performance, and then traditional writing. The move back to the embodied performance after the writing event offers the students another opportunity to interpret the text and examine their shared meanings.

**MEASURES**

In this section, we describe the measures and approach to data analysis we used to interpret students’ achievement in language arts and mathematics, the extent to which they were more engaged in schooling, and the likelihood of students’ sustained achievement in language arts and mathematics. Our measures are not necessarily familiar to the Language Arts readership, but they are the kinds of binaries often used to explain the benefits of a pedagogy or to justify the pursuit of further funding for educational change with federal agencies. In our case, the measures were standardized data available through the school districts and school data offices. Of course, these are broad measures, not the kinds of “up-close” descriptions that we know are also valuable for understanding learning. For the sake of being true to our research design and in order to highlight the usefulness of sheer accounting of test results when a pedagogy significantly improves learning, we describe our measurements and analyses below.
Primary Outcome: Academic Performance. Academic performance in the traditional curricular areas of language arts and mathematics was measured by the 2009 and 2010 achievement data provided by the New Jersey State Department of Education in the form of scale scores and performance bands. Performance bands reflect three levels of mastery: partially proficient, proficient, and advanced proficient. These proficiency bands are equated with the scale score a student receives. Scale scores from 100–199 represent partial proficiency, 200–249 represent proficiency, and 250–300 represent advanced proficiency.

Secondary Outcome: School Engagement. School engagement was measured by the number of days a student was absent. These data were obtained from the district’s student information database.

Independent Variable. The main independent variable was the language arts setting; i.e., whether the teachers were part of the integrated arts approach or traditional classrooms.

Control Variables. Our control variables were at the individual level and included the demographic variables of gender and socioeconomic status. Socioeconomic status was dichotomized in terms of whether or not the student received free or reduced lunch from either the state or federal government.

Data Analysis
In answering the first research question related to student achievement, random effects logistic regression was used in which the covariates were type of language arts setting, gender, and socioeconomic status; proficiency in language arts and mathematics were treated as the outcomes. We used a Univariate Analysis of Variance (a statistical test) to determine whether or not absence (as a proxy of engagement) was related to type of setting or gender and socioeconomic status. Chi Square analysis was used to examine the sustaining effects of the project for students who were seventh graders in 2009 and eighth graders in 2010. This analysis was based on student performance data on the New Jersey Grade Eight Proficiency Assessment, the state’s middle school examination that is used to predict both high school readiness and the probability that a student will meet the academic requirements for high school graduation.

Results
Tables 1 and 2 present achievement based on whether students were in the theater-integrated language arts classrooms or in traditional classrooms. Table 1 displays the percentage of students passing both language arts and mathematics on the state assessments for students in the theater strategies program and those in the control classrooms for the year 2009. Approximately 56% of students in the theater strategies classrooms passed the state assessment in language arts, compared to 43% of students in the control classrooms. With respect to mathematics, 47% in the integrated classrooms were successful on the state assessments, compared to 39% of students in the control classrooms.

To test whether success on the state assessment could be predicted by whether or not a student was in an integrated classroom, we controlled for students’ gender and socioeconomic status, and...
conducted logistic regression analyses in which passing the state assessments in language arts and mathematics were the dependent variables. The results from these analyses are depicted in Table 2. The only factor that was found to be significant in predicting whether a student would be successful on the state assessment was whether or not that student received his or her language arts instruction in a classroom in which drama is used to support language arts skill development (Wald, 13.553, df 1, p<.000). This finding indicates that students in an arts-integrated classroom are more likely than students in a traditional classroom setting to pass the state assessment in language arts. In fact, being in an arts-integrated classroom increased the odds of students passing the state assessment by 77 percent. The significant results for mathematics were similar in their implications, with classroom setting predicting performance (Wald, 4.970, df 1, p<.026). The odds of passing the state assessment in mathematics was increased by 42% for students in the drama-integrated language arts classrooms. These findings suggest that the contribution of the arts to student learning has an impact that is greater than the student’s gender or socioeconomic background.

With respect to the number of days absent from school, although the differences in absenteeism are not statistically significant, the findings indicate that students in language arts classroom settings in which drama is integrated were less likely to be absent from school than students in traditional settings. The average number of reported days absent by students in the theater-arts-integrated classrooms was 5.51 compared to 6.30 for students in the traditional settings.

### Sustaining Impact of Theater Arts on Students’ Language Arts and Mathematics Achievement

The second focus of our research was to determine the extent to which students sustained their learning gains once they were no longer in classroom settings in which drama functioned as a pedagogical support for language arts instruction. We followed 338 seventh graders into the eighth grade. Of 338 students, 215 had received their seventh-grade language arts instruction in a theater- and arts-integrated setting; 123 learned language arts in a traditional setting. Table 3 presents findings on how well these students performed in 2010 as eighth graders on the state assessments.

Seventy-eight percent of eighth graders whose language arts instruction as seventh graders included the use of theater strategies were proficient in language arts on the eighth-grade assessment, compared to 69% of students who were instructed using traditional pedagogy. This difference in proficiency or passing rate was found to be statistically significant (Chi Square = 7.164, df 2, p<.028). In the content area of mathematics, 49% of students who were part of the arts-integration project as seventh graders passed the state assessment, while the percentage of students who were not in the project who passed the math assessment was only 35%. Although not statistically significant, the 14% difference in passing rate was substantial.

The 2010 state results also afforded us an opportunity to analyze in which language arts skill area the theater arts strategies project made a difference. With respect to the number of days absent from school, although the differences in absenteeism are not statistically significant, the findings indicate that students in language arts classroom settings in which drama is integrated were less likely to be absent from school than students in traditional settings. The average number of reported days absent by students in the theater-arts-integrated classrooms was 5.51 compared to 6.30 for students in the traditional settings.

#### Table 2. Logistic regression results for proficiency in language arts and mathematics (grades 6 and 7 combined)

<table>
<thead>
<tr>
<th>Predictors</th>
<th>EXP(B)</th>
<th>Wald</th>
<th>Upper C.I.</th>
<th>Lower C.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proficiency in Language Arts—Outcome Variable</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom Setting</td>
<td>1.771**</td>
<td>13.553</td>
<td>1.306</td>
<td>2.401</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>.983</td>
<td>.159</td>
<td>.680</td>
<td>1.291</td>
</tr>
<tr>
<td>Gender</td>
<td>1.042</td>
<td>.071</td>
<td>.770</td>
<td>1.410</td>
</tr>
<tr>
<td><strong>Proficiency in Mathematics—Outcome Variable</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom Setting</td>
<td>1.416*</td>
<td>4.970</td>
<td>1.043</td>
<td>1.923</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>.947</td>
<td>.112</td>
<td>.687</td>
<td>1.305</td>
</tr>
<tr>
<td>Gender</td>
<td>.749</td>
<td>3.490</td>
<td>.749</td>
<td>.553</td>
</tr>
</tbody>
</table>

Note: Number of students in Language Arts analysis, 687; mathematics analysis 690.

*Statistically significant, p<.000; **p<.026
studies are doable in the arts and do produce powerful data that answer the question, Do the arts strengthen academic outcomes? Building the evidence base on how the arts contribute to student learning is of paramount urgency, given the tendency for schools to reflexively cut arts education when confronted with a budget crisis.

Our research findings confirm the results from recent research showing a strong association between arts-in-education practices and improved academic success, especially for students from low-income families. For example, Stevenson and Deasy (2005) studied 10 schools where students from economically disadvantaged backgrounds were succeeding. These 10 schools identified the arts as a key reason for that success. Moreover, teachers in the case study schools said they derived professional renewal and satisfaction from incorporating arts into their teaching. Similarly, in the Chicago Arts Partnerships in Education (CAPE) program that partnered artists and art agencies with teachers at all grade levels in low socioeconomic urban public schools, CAPE schools clearly outperformed the control schools in a wide variety of outcomes, such as positive changes in school climate and improved reading and math scores (Catterall and Waldorf, 1999). Furthermore, Catterall’s (2002) meta analysis revealed consistent findings in the literature pointing to positive associations between dramatic enactment and reading comprehension, oral story understanding, and written story understanding.

These findings, as well as those presented in this article, underscore the importance of integrating the arts—particularly drama and theater strategies—into students’ learning processes. Our results also reinforce the point made by other authors, such as Grumet (2004), who writes,

### Table 3. Sustaining effects of arts integration in grade 8 (2010)

<table>
<thead>
<tr>
<th>Classroom Setting in 2009</th>
<th>Percentage of Former Seventh-Grade Students Passing the State’s Language Arts Assessment in Grade 8* (2010)</th>
<th>Percentage of Former Seventh-Grade Students Passing the State’s Mathematics Assessments in Grade 8 (2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percentage</td>
<td>Number of Students in Analysis</td>
</tr>
<tr>
<td>Theater-Arts Integrated</td>
<td>78%</td>
<td>215</td>
</tr>
<tr>
<td>Traditional</td>
<td>69%</td>
<td>123</td>
</tr>
</tbody>
</table>

Note: *Difference in passing rate is statistically significant: Chi Square =7.164, df,2, p<.028
“When children understand literature as something meaningful and complex, they sense its capacity to inform their lives. This is the kind of literacy that influences reading scores in middle school and high school, when we often see the gains of intensive reading instruction diminish in national assessments” (p. 67). The theater and arts strategies used in the EAT project demonstrate tremendous potential for improving middle school students’ language arts skills by empowering students to question, think, reflect, and problem solve as they work within and outside of the imagined worlds that carry a story’s issues, themes, and characters (Beach, Campano, Edmiston, & Borgman, 2010; Heathcote & Bolton, 1995; O’Neill, 1992; Wilhelm & Edmiston, 1998).

An infused theater arts approach takes seriously the need to “construct a unique blend of elements suited to specific student needs” (Graham & Perin, p. 11). The systematic infusion of drama strategies enables students to orally, physically, and visually generate ideas for writing; develop the voice of a particular piece; clarify the intended audience; and create a “rehearsal” for the intended genre of writing. Students in a role have a clearer picture of identity or voice as a writer, as well as a sense of audience, making it easier to write. In a time when the United States is facing such drastic and harsh realities relating to the intellectual prowess of its young citizenry, it becomes imperative that investments be made in full, complete, and rigorous investigations into and support for those approaches to literacy learning that show statistical and scientifically based promise. An infused theater arts curriculum is such an approach.

References


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