

# **Neighborhood Bridges Program Evaluation Report VIII**

March 4, 2009

Submitted to

The Children's Theatre Company

By

Debra Ingram



## Report Highlights

The report is the last in a series of eight reports from a three-year evaluation study of the Neighborhood Bridges (Bridges) program of the Children's Theatre Company (CTC). Each year of the study included an examination of how participation in Bridges was related to classroom teachers' instructional strategies and student achievement in reading. The last two years of the study also included data on student learning in theatre and writing.

### Instructional Strategies

Data from an annual survey of Bridges classroom teachers indicated that the teachers used some of the Bridges instructional strategies outside the Bridges sessions in their classrooms. Some of the strategies teachers mentioned most often were telling a story to their students from memory, improvising a story as they tell it to their students, and leading their students in one or more theatre games. In the second year of the study, researchers conducted individual interviews with classroom teachers to collect additional data on how their involvement in Bridges might influence their general instructional practice. The teachers readily offered examples of how they connected students' experiences in Bridges with teaching and learning in other parts of the curriculum. In sum, the data indicate that Bridges offers classroom teachers an opportunity to learn instructional strategies that are useful beyond the Bridges sessions themselves.

### Reading Achievement

In each year of the study, researchers examined the relationship between students' participation in Bridges and their scores on the Minnesota Comprehensive Assessment reading test (MCA-II). In the first year, there were no statistically significant differences between the scores of Bridges students and the scores of students in the matched comparison group. In years two and three, Bridges students in grade four had significantly higher scores than their peers in the matched comparison group. When the analysis was confined to students who were English-language learners, Bridges students in grade four again outperformed their peers in the matched comparison group.

The results were notably different for students in grade six, however. In years two and three of the study, Bridges students had scores on the MCA-II reading test that were significantly lower than students in the matched comparison group. In year three, the average score for Bridges students in grade six who were English-language learners was nearly equal to that of the matched comparison students who were also English-language learners.

Overall, data from the three-year study suggest that Bridges might be more effective for improving the reading skills of students in grade four than students in grade six. The data also indicate that Bridges might be especially helpful for developing the reading skills of students who are English-language learners in grade four.

## **Assessment of Theatre Skills**

During the first year of the study, program staff, classroom teachers, and teaching artists worked with the researchers to develop and pilot test three tools to measure student learning in areas of the theatre standards that are addressed in Bridges. The tools assessed students' knowledge and skills in theatre vocabulary, acting, and responding to a play. The tools were used to measure student learning across the Bridges classrooms in the last two years of the study. Researchers and staff modified the assessment tools for acting and responding to a play between the second and third years of the study. The modifications were based on experience using the tools and, through that experience, identifying adjustments or additions that could strengthen the tools. For example, a dimension for creativity was added to the acting tools and the number of questions on the responding to a play tool was reduced.

In both years two and three of the study the students showed statistically significant gains in their knowledge of the 20 theatre vocabulary terms. When trained observers visited Bridges sessions and rated the acting skills of Bridges students in year three, the mean overall score was 15.8 points out of a possible 28 points. In order to achieve the theatre arts standards, a student needed an overall score of 14 or higher; 71% of the students in year three met the standards. Students demonstrated their ability to use theatre arts concepts and vocabulary to respond to a professional theatre performance by completing a set of open-ended questions on the responding to a play tool. The mean overall score was 18.3 points out of a possible 40 points. In order to achieve the theatre arts standards, a student needed to have an overall score of 16 or higher. Seventy-five percent of the students met the standards in year three.

## **Assessment of Writing Skills**

For the third year of the study, researchers and program staff developed a writing assessment centered on the writing students generate as part of the Bridges classroom sessions. They also added two dimensions to the scoring rubric: creativity and word count. In the fall and again in the spring, a team of trained reviewers assessed student writing drawn from a sample of students in each classroom. From fall to spring there were statistically significant improvements in students' writing on the dimensions of organization, style, and creativity. In addition, there was a statistically significant increase from fall to spring in the average number of words contained in the students' written stories. Program staff, classroom teachers, and teaching artists found the assessment results useful because the results substantiated some of the changes they had observed in their students' work, such as an increase in the number of words written and an increase in the creativity level of the students' stories.

# Table of Contents

Description of Neighborhood Bridges ..... 1

Design and Methods..... 2

Findings: Achievement Levels on the MCA-II Reading Test ..... 5

Findings: Scale Scores on the MCA-II Reading Test ..... 7

Summary and Discussion of the Three-Year Evaluation..... 11

## List of Tables

Table 1: Student Characteristics.....4

Table 2: Achievement Levels on the MCA-II Reading Test .....5

Table 3: Achievement Levels on the MCA-II Reading Test : Grade 3.....6

Table 4: Achievement Levels on the MCA-II Reading Test : Grade 4.....6

Table 5: Achievement Levels on the MCA-II Reading Test : Grade 5.....6

Table 6: Achievement Levels on the MCA-II Reading Test : Grade 6.....7

Table 7: Achievement Levels on the MCA-II Reading Test : Grade 8.....7

Table 8: Scale Scores on the MCA-II Reading Test .....8

Table 9: Scale Scores on the MCA-II Reading Test for Students who are English-  
Language Learners .....9

Table 10: Scale Scores on the MCA-II Reading Test for Students who are Eligible for  
the Free- and Reduced-Price Lunch Program .....10

This report examines the relationship between student participation in Neighborhood Bridges and their reading achievement as measured by the Minnesota Comprehensive Assessment (MCA-II) in reading. It is the last in a series of eight reports from a three-year evaluation of the Neighborhood Bridges (Bridges) program of the Children's Theatre Company (CTC). CTC contracted with the University of Minnesota's Center for Applied Research and Educational Improvement to evaluate Bridges as part of a grant CTC received from the Arts in Education Model Development and Dissemination Program of the U.S. Department of Education.

## Description of Neighborhood Bridges

Bridges is a 31-week program of storytelling and creative drama for elementary and middle school students intended to help them:

- develop their abilities to write, speak, and think clearly;
- recognize their capacity to become storytellers of their own lives;
- achieve state and national standards for theatre; and
- improve their achievement in reading and writing.

Bridges was founded in 1997 by Peter Brosius, Artistic Director of CTC, and Jack Zipes, Professor of German and Comparative Literature at the University of Minnesota. Each week, Bridges brings a teaching artist into participating classrooms to work collaboratively with the classroom teacher. A typical two-hour Bridges session is composed of four parts:

The Fantastic Binominal: The teaching artist and students spontaneously create a story through free association based on two arbitrarily chosen nouns and a preposition. Then students create their own stories and write them in their Bridges notebook. Each week 2-3 students are asked to present their stories to their peers. The teaching artist and classroom teacher coach the students in using gestures and voice to dramatize their story.

Storytelling: The teaching artist and classroom teacher each tell a tale, often two different versions of the same tale, or tales related to each other. The tales are drawn from an anthology provided with the Bridges curriculum. Over the course of the year, tales are presented from several genres, including fairy tales, pourquoi tales, and myths. The stories are followed by discussion designed to help students think critically about the content of the tales and the implications for their lives.

Skits and Theatre Games: Students work in small groups to create and perform brief skits based on the stories they have just heard. The teaching artist leads students in games designed to develop their skills in areas such as focus, diction, gestures, and collaboration.

Writing Games: Students participate in a reflective writing exercise to solidify the day's learning and incorporate the creative energy of their skits into their own stories.

In addition to the weekly Bridges components students also do the following over the course of the program: create and perform one play at their school and a second play on-stage at CTC; write letters to and receive letters from a pen pal at another Bridges school; and attend a professional production at CTC and meet their pen pal.

Although students do some writing as part of their weekly Bridges' sessions, it is hoped that teachers incorporate some of students' Bridges writing into their regular writing instruction so that students have an opportunity to further develop their stories and their writing skills.

Each week, the teaching artists and classroom teachers at each school meet for one hour to develop the lesson plans for upcoming sessions.

In 2006-2007, 18 classroom teachers from nine schools in Minneapolis and Saint Paul participated in the program. Across the 18 participating classrooms there were a total of 509 students involved in the program. Twelve teaching artists participated in the program, including the director of Bridges and CTC's Assistant Director of Education-Community Engagement.

## **Design and Methods**

The evaluation is designed to 1) measure the extent to which Bridges accomplishes the outcomes specified in the grant proposal, and 2) provide information that CTC and Bridges staff can use to strengthen the program. The intended program outcomes are as follows:

- Increase student achievement in reading.
- Increase student achievement in writing.
- Increase student achievement in theatre.
- Broaden classroom teachers' instructional strategies to include elements of storytelling and theatre as arts and as a support to learning in other core content areas.

The data included in this report focus on student achievement in reading.

The relationship between students' reading achievement and their participation in Bridges is examined by comparing results on the MCA-II in reading between students in Bridges and students in a matched comparison group. If participation in Bridges is related to reading achievement, then the test scores for the Bridges students should be significantly higher than students in the matched comparison group.

The matched comparison group was created by the testing department in each district according to criteria specified by the evaluator. Students in the comparison group 1) attend a school that is not participating in Bridges, and 2) closely resemble Bridges students on the following characteristics:

- Gender
- Ethnicity
- Eligibility for the Free- and Reduced-Price Lunch Program
- Limited English Proficiency Status (LEP)
- Special Education Status
- Prior Achievement on Standardized Reading Tests

In addition, the size of the student population and the student mobility rate are similar for schools in each group. Schools attended by students in the comparison group are not involved in a major initiative aimed at improving student achievement in reading or writing, nor in an intensive theatre and storytelling program like Bridges. District staff also attempted to match schools in terms of education philosophy and structure, such as an open school philosophy or mixed grade classrooms.

### **Student Characteristics in the Bridges Group and the Comparison Group**

During the 2007-2008 school year, 509 students participated in Bridges through one of nine schools in either Minneapolis or Saint Paul. The analyses in this report are based on data from 84% (427) of these students.

Students were excluded from the analyses if they 1) were not continuously enrolled in school or 2) did not take the MCA-II in reading test in 2008. Students who attended a Bridges school for only part of the year were also excluded in order to focus the study on students who participated in the full Bridges program. The definition of continuously enrolled was drawn from the state accountability system guidelines: A student was continuously enrolled if she was enrolled at a school in October 2007 and was still enrolled at that school in April 2008. The April cut off was used because the MCA-II was administered in April. To make the Bridges group and the Comparison group as similar as possible, the Comparison group also includes only students who were continuously enrolled.

As shown in Table 1, the demographic characteristics of Bridges students are very similar to the characteristics of Comparison group students. The largest differences are in the proportion of Asian students and the proportion of students eligible for the free- and reduced-price lunch program. For each of these variables, the proportion is 6% higher for the group of Bridges students than for the group of comparison students.

**Table 1**  
**Student Characteristics**

Student Characteristic	Bridges (N=427)	Comparison (N=435)
	%	%
% Female	52%	49%
% Limited English Proficiency	30%	28%
% Free- and Reduced-Price Lunch	71%	65%
Ethnicity		
Native American	5%	2%
Asian	22%	16%
Hispanic	11%	16%
African American	38%	37%
Caucasian	25%	29%

**Measures**

In this study reading achievement is measured by the Minnesota Comprehensive Assessment (MCA-II) in reading. The MCA-II is a standardized, criterion-referenced test developed by the Minnesota Department of Education (MDE) to measure student proficiency on the Minnesota Academic Standards. The test is administered annually in April to students in grades 3-8 and 10. The test is also used to determine whether a school has made adequate yearly progress as defined by the No Child Left Behind accountability system.

Two forms of data from the MCA-II are used in this study:

Achievement Levels. Students are assigned an achievement level based on their scale score. The Minnesota Commissioner of Education determines the cut score for each achievement level. The four levels are as follows:

- Does Not Meet the Standards
- Partially Meets the Standards
- Meets the Standards
- Exceeds the Standards

Scale Score. The scale score indicates how well a student did on the test. The scale score can range from 1-99; for ease of use, MDE adds a digit to the front of the scale score to indicate a student’s grade level when tested. For example, a score of 455

would indicate a scale score of 55 for a student tested in the fourth grade. The scale score is created by mathematically converting the raw score total on the test to adjust for any differences in test difficulty from year to year.

### Data Analysis

The district testing departments provided the evaluator with data from the MCA-II in reading and student characteristics, such as gender and ethnicity. A Pearson Chi-Square test was used to determine the statistical significance of any observed differences in achievement levels between Bridges students and Comparison students. An independent samples t-test was used to establish the statistical significance of any observed differences in scale scores between Bridges students and Comparison students.

## Findings: Achievement Levels on the MCA-II Reading Test

Table 2 shows the 2007 MCA-II achievement levels for students in each group. The largest difference occurs at the Meets Standards level; 33% of the Bridges students reached this level in contrast to 21% of the Comparison students. At the Exceeds Standards level, the relationship is reversed; 19% of the Bridges students reached this level in contrast to 26% of the Comparison students. A Pearson Chi-Square test indicated the differences were statistically significant ( $p < .001$ ).

**Table 2**  
**Achievement Levels on the MCA-II Reading Test**

Achievement Level***	Bridges (N=427)  %	Comparison (N=435)  %
Exceeds Standards	19%	26%
Meets Standards	33%	21%
Partially Meets Standards	21%	21%
Does Not Meet Standards	27%	31%

\*\*\* $p < .001$  on a Pearson Chi-Square test

Tables 3- 7 show the 2007 MCA-II achievement levels by grade level. The difference between Bridges students and Comparison students was statistically significant for grade 4 and grade 6. In grade 4 (Table 4), 31% of the Bridges students reached the Meets Standards level in contrast to 19% of the Comparison students. Only 23% of the Bridges students were at the Does Not Meet Standards level versus 39% of the Comparison students. In grade 6 (Table 6), the relationship between achievement level and participation in Bridges was reversed. Fifty-one percent of the Comparison students were at the Exceeds Standards level whereas the rate for Bridges students was 23%. No statistical tests were run for the grade 8 results due to the small number of students in this grade level group.

**Table 3**  
**Achievement Levels on the MCA-II Reading Test: Grade 3**

Achievement Level	Bridges (N=56)	Comparison (N=56)
	%	%
Exceeds Standards	20%	29%
Meets Standards	32%	25%
Partially Meets Standards	9%	23%
Does Not Meet Standards	39%	23%

**Table 4**  
**Achievement Levels on the MCA-II Reading Test: Grade 4**

Achievement Level *	Bridges (N=153)	Comparison (N=153)
	%	%
Exceeds Standards	22%	19%
Meets Standards	31%	19%
Partially Meets Standards	25%	23%
Does Not Meet Standards	23%	39%

\*p<.05 on a Pearson Chi-Square test

**Table 5**  
**Achievement Levels on the MCA-II Reading Test: Grade 5**

Achievement Level	Bridges (N=128)	Comparison (N=126)
	%	%
Exceeds Standards	13%	23%
Meets Standards	35%	23%
Partially Meets Standards	24%	22%
Does Not Meet Standards	27%	32%

**Table 6**  
**Achievement Levels on the MCA-II Reading Test: Grade 6**

Achievement Level**	Bridges (N=84)	Comparison (N=79)
	%	%
Exceeds Standards	23%	51%
Meets Standards	35%	20%
Partially Meets Standards	17%	13%
Does Not Meet Standards	26%	17%

\*\* p<.01 on a Pearson Chi-Square test

**Table 7**  
**Achievement Levels on the MCA-II Reading Test: Grade 8**

Achievement Level	Bridges (N=6)	Comparison (N=19)
	%	%
Exceeds Standards	0%	5%
Meets Standards	0%	16%
Partially Meets Standards	50%	32%
Does Not Meet Standards	50%	47%

## Findings: Scale Scores on the MCA-II Reading Test

Table 8 contains information on the MCA-II scale scores for Bridges students and Comparison students. The results are presented by grade level only because scale scores, unlike achievement levels, are unique to each grade. The mean is the average score for each group; the median is the score that is at the midpoint of the distribution of scores (from smallest to largest) for that group. In some situations, the median is a better summary statistic than the mean because the mean can be affected by extreme high or low scores. The standard deviation indicates how widely dispersed the data are around the mean; the smaller the standard deviation, the more clustered the data are around the mean.

As shown in Table 8, the scores are similar for Bridges students and Comparison students in grades 3 and 5. The mean score for Bridges students in grade 3 was 345.3 in comparison to the mean of 352.1 for Comparison students. In grade 5, the mean for Bridges students was 546.8 and for Comparison students the mean was 548.2. The differences in the scores for Bridges students and Comparison students in grades 4 and 6 were notably larger. An independent samples t-test was performed for each grade level to determine if the differences were statistically significant. In grade 4 the mean score for Bridges students (450.7) was significantly higher than the mean score for Comparison students (445.0). The

differences in grade 6 were also statistically significant, but the relationship between achievement and participation in Bridges was in the opposite direction of the relationship in grade 4. In grade 6, the mean score for Bridges students was 648.9, in contrast to the mean score of 657.0 for Comparison students.

**Table 8**  
**Scale Scores on the MCA-II Reading Test**

Grade 3	Bridges (N=56)	Comparison (N=56)
Mean	345.3	352.1
Median	350.0	352.0
Standard Deviation	21.37	20.86
Grade 4**	Bridges (N=153)	Comparison (N=152)
Mean	450.7	445.0
Median	450.0	445.0
Standard Deviation	15.35	16.97
Grade 5	Bridges (N=128)	Comparison (N=126)
Mean	546.8	548.2
Median	548.0	548.0
Standard Deviation	16.10	18.31
Grade 6**	Bridges (N=84)	Comparison (N=79)
Mean	648.9	657.0
Median	651.0	661.0
Standard Deviation	17.04	17.77

\*\*  $p < .01$  on an independent samples t-test

Data from interviews with classroom teachers and teaching artists has indicated that Bridges may be especially effective for students who are English-language learners or students who are eligible for the free- and reduced-price lunch program. To explore these possibilities, separate analyses were conducted to examine differences in MCA-II reading test scale scores between 1) Bridges students and Comparison students who were English-language learners, and 2) Bridges students and Comparison students who were eligible for the free- and reduced-price lunch program.

Table 9 shows the results for students who are English-language learners. In grade 4, the mean score on the MCA-II reading test for Bridges students who are English-language learners (449.1) was higher than the mean score for Comparison students who are English-language learners (440.2). A statistical test, an independent samples t-test, indicated that this difference was statistically significant ( $p < .0001$ ). The observed differences in the mean score on the reading test between the Bridges students who are English-language learners and

Comparison students who are English-language learners were not statistically significant for any other grade level (Grade 8 does not appear in the table because there were no Bridges students in grade 8 who were English-language learners.)

It is notable that the mean scores on the MCA-II reading test were almost equal for grade 6 Bridges students who are English-language learners and grade 6 Comparison students who were English-language learners (638.2 and 638.1, respectively). This contrasts with the results for all grade 6 students where the mean score for Comparison students was significantly higher than the mean score for Bridges students.

**Table 9**  
**Scale Scores on the MCA-II Reading Test for**  
**Students who are English-Language Learners**

Grade 3	Bridges (N=32)	Comparison (N=29)
Mean	343.6	343.5
Median	346.5	343.0
Standard Deviation	19.21	15.82
Grade 4****	Bridges (N=60)	Comparison (N=59)
Mean	449.1	440.2
Median	449.5	444.0
Standard Deviation	13.97	12.17
Grade 5	Bridges (N=25)	Comparison (N=21)
Mean	539.6	541.6
Median	542.0	543.0
Standard Deviation	12.84	11.18
Grade 6	Bridges (N=13)	Comparison (N=7)
Mean	638.2	638.1
Median	642.0	644.0
Standard Deviation	11.17	10.02

\*\*\*  $p < .0001$  on an independent samples t-test

Table 10 shows the results of the analyses for students who were eligible for the free- and reduced-price lunch program. In grade 4, the mean score for Bridges students (447.1) was higher than the mean score for Comparison students (440.5). A statistical test, an independent samples t-test, indicated that this difference was statistically significant ( $p < .001$ ). Once again, is notable that in grade 6 there was not a statistically significant

difference in the mean score between Bridges students who were eligible for the free- and reduced-price lunch program and Comparison students who were eligible for the free- and reduced-price lunch program. This contrasts with the results for grade 6 students as a whole. In that analysis, the mean score on the MCA-II reading test was significantly lower for Bridges students than Comparison students.

**Table 10**  
**Scale Scores on the MCA-II Reading Test for**  
**Students who are Eligible for the Free- and Reduced-Price Lunch Program**

Grade 3	Bridges (N=51)	Comparison (N=42)
Mean	343.7	348.1
Median	350.0	347.0
Standard Deviation	21.37	19.81
Grade 4***	Bridges (N=116)	Comparison (N=113)
Mean	447.1	440.5
Median	448.0	441.0
Standard Deviation	13.31	15.01
Grade 5	Bridges (N=84)	Comparison (N=80)
Mean	542.2	541.8
Median	545.0	542.5
Standard Deviation	14.08	15.90
Grade 6	Bridges (N=46)	Comparison (N=26)
Mean	640.4	640.5
Median	643.5	644.5
Standard Deviation	15.48	14.46
Grade 8	Bridges (N=6)	Comparison (N=19)
Mean	836.7	840.2
Median	840.0	840.0
Standard Deviation	12.83	11.02

\*\*\*p<.001 on an independent samples t-test

## Summary and Discussion

This report is the last in a series of eight reports from a three-year evaluation of Bridges. Each year of the study included an examination of how participation in Bridges was related to classroom teachers' instructional strategies and student achievement in reading. The last two years of the study also included data on student learning in theatre and writing. This section of the report contains a brief summary of the data in each area, the process of developing assessment tools to measure students' writing and theatre skills, and some potential implications for future programming and research.

### Instructional Strategies

Data from an annual survey of Bridges classroom teachers indicated that the teachers used some of the Bridges instructional strategies outside the Bridges sessions in their classrooms. Some of the strategies teachers mentioned most often were telling a story to their students from memory, improvising a story as they tell it to their students, and leading their students in one or more theatre games. In the second year of the study, researchers conducted individual interviews with classroom teachers to collect additional data on how their involvement in Bridges might influence their general instructional practice. The teachers readily offered examples of how they connected students' experiences in Bridges with teaching and learning in other parts of the curriculum. Many teachers mentioned how students' familiarity with the actor's toolkit was useful when students did presentations and public speaking. Some teachers described similarities between the strategies students need for comprehending written text and the strategies they learn in Bridges for comprehending the oral stories. In sum, the data indicate that Bridges offers classroom teachers an opportunity to learn instructional strategies that are useful beyond the Bridges sessions themselves.

### Reading Achievement

In each year of the study, researchers examined the relationship between students' participation in Bridges and their scores on the MCA-II reading test. In the first year, there were no statistically significant differences between the scores of Bridges students and the scores of students in the matched comparison group. In years two and three, Bridges students in grade four had significantly higher scores than their peers in the matched comparison group. When the analysis was confined to students who were English-language learners, Bridges students in grade four again outperformed their peers in the matched comparison group.

The results were notably different for students in grade six, however. In years two and three of the study, Bridges students had scores on the MCA-II reading test that were significantly lower than students in the matched comparison group. In year three, the average score for Bridges students in grade six who were English-language learners was nearly equal to that of the matched comparison students who were also English-language learners.

Overall, data from the three-year study suggest that Bridges might be more effective for improving the reading skills of students in grade four than students in grade six. The data also indicate that Bridges might be especially helpful for developing the reading skills of students who are English-language learners in grade four. One possible explanation for the inconsistent results across the grade levels of students involved in Bridges, which typically ranges from grade three to grade six, may be differences in the type of reading skills emphasized in the reading curriculum and standardized tests at each grade level. The emphasis in Bridges on stories and narrative writing may be more closely aligned with the reading skills students are expected to develop in grade four than the reading skills they are asked to demonstrate in grade six. The general lack of statistically significant findings in grades three and five also suggests a need for further research on how students' participation in Bridges may be related to their skills in reading as measured by the MCA-II reading test.

### **Assessment of Theatre Skills**

During the first year of the study, program staff, classroom teachers, and teaching artists worked with the researchers to develop and pilot test three tools to measure student learning in areas of the theatre standards that are addressed in Bridges. The tools assessed students' knowledge and skills in theatre vocabulary, acting, and responding to a play. A key step in developing the tools was to identify areas of the theatre standards that were already embedded in the Bridges program and then focus the assessment tools on those standards. This process was used to address staff concerns that the content of Bridges should guide the assessments, rather than allowing standards and assessments to drive Bridges.

The theatre assessment tools were used to measure student learning across the Bridges classrooms in the last two years of the study. In both years the students showed statistically significant gains in their knowledge of 20 theatre vocabulary terms. Researchers and staff modified the assessment tools for acting and responding to a play between the second and third years of the study. The modifications were based on experience using the tools and, through that experience, identifying adjustments or additions that could strengthen the tools. For example, a dimension for creativity was added to the acting tool and the number of questions on the responding to a play tool was reduced.

The tools and corresponding scoring rubrics were distributed to classroom teachers and teaching artists at the start of each school year and they were encouraged to use them with students as part of instruction in Bridges. For example, students might use parts of the acting assessment scoring rubric to critique their peer's skits in their weekly Bridges sessions, or use components of the responding to a play tool to write or discuss their response to the Peace Play created by each class midway through the program.

### **Assessment of Writing Skills**

In the second year of the study, researchers and program staff developed and pilot tested a process for assessing students' writing skills. The pilot assessment compared student writing samples from January with student writing samples from June. On average, students' total scores on the writing test dropped slightly from January to June. Researchers and program staff also discovered that the assessment process would be too complex to use with all the Bridges classrooms because it required classroom teachers to provide time outside of

Bridges for students to edit and revise a story they had started writing during a Bridges session. Although most of the teachers found value for students in refining their stories, they also noted the challenge of making time for the writing assessment due to the amount of time required during the school day for instruction in reading and mathematics.

For the third year of the study, researchers and program staff developed a writing assessment centered on the writing students generate as part of the Bridges classroom sessions. They also added two dimensions to the scoring rubric: creativity and word count. In the fall and again in the spring, a team of trained reviewers assessed student writing drawn from a sample of students in each classroom. From fall to spring there were statistically significant improvements in students' writing on the dimensions of organization, style, and creativity. In addition, there was a statistically significant increase from fall to spring in the average number of words contained in the students' written stories. Program staff, classroom teachers, and teaching artists found the assessment results useful because the results substantiated some of the changes they had observed in their students' work, such as an increase in the number of words written and an increase in the creativity level of the students' stories.