

May 4th, 10:00 AM - 11:30 AM

Culturally Specific Bilingual Arts Integration

Danielle L. Malan
Portland State University

Follow this and additional works at: <https://pdxscholar.library.pdx.edu/studentsymposium>



Part of the [Art Education Commons](#), and the [Bilingual, Multilingual, and Multicultural Education Commons](#)

Let us know how access to this document benefits you.

Malan, Danielle L., "Culturally Specific Bilingual Arts Integration" (2016). *Student Research Symposium*. 7.
<https://pdxscholar.library.pdx.edu/studentsymposium/2016/Presentations/7>

This Oral Presentation is brought to you for free and open access. It has been accepted for inclusion in Student Research Symposium by an authorized administrator of PDXScholar. Please contact us if we can make this document more accessible: pdxscholar@pdx.edu.

CULTURALLY SPECIFIC BILINGUAL ARTS INTEGRATION

DANIELLE L. MALAN

Portland State University, Graduate School of Education

TABLE OF CONTENTS

ABSTRACT.....	3
PROBLEM STATEMENT.....	4
LITERATURE REVIEW.....	5
Coalition of Communities of Color Report.....	5
Brieger, Kendall-Dudley and Sarmiento Report.....	5
Project BETA.....	6
The Arts and Emergent Bilingual Youth.....	6
D/M/T TAP.....	7
METHODS.....	8
Strategic Plan.....	8
Table 1 – Research Matrix.....	9
Table 2 - Likert Scale of Parent Surveys.....	10
Table 3 – Blooms Taxonomy Rubric.....	11
Figure 1 – Fry Test Analysis of <i>Sueños de futbol</i> text.....	12
Milagro Residency Curriculum	13
Figure 2 – Evergreen Students Playing Pelota de Fuego.....	14
RESULTS.....	16
Portland Studies.....	17
Spring Milagro Residency at Evergreen.....	19
Figure 3 – Evergreen students Doing Image Theatre	20
East Multnomah County Studies.....	21
Figure 4 – H. B. Lee Students playing Pelota de Fuego.....	22
CONCLUSIONS.....	25
REFERENCES.....	29
APPENDIXES.....	30

Appendix A – Teacher Survey.....	30
Appendix B – Parent Survey.....	31
Appendix C – <i>Sueños de futbol</i> reading sample.....	32
Appendix D – Teacher Artist Evaluation.....	33
Appendix E – Evergreen Student Test Scores.....	34
Appendix F – Arleta & Scott Test Scores.....	35
Appendix G – H.B. Lee & Floyd Light Test Scores.....	36
Appendix H – Reynolds Test Scores.....	37
Appendix I – Test Score Comparisons by Communities & Race.....	38

ABSTRACT

Today's young people are a source of growing social and academic concern. Combined with economic, cultural and linguistic barriers, Latino students are an even greater concern. Studies have demonstrated qualitative improved learning with either arts integration or with bilingual education. After a literature review, there was no conclusive quantitative evidence done prior to this study in 2015, for the benefits of combining the two to use bilingual arts integration as a method for improved learning. Could bilingual arts education improve learning? The purpose of this study was to evaluate the effect of bilingual arts integration on learning, and the positive outcomes for the Latino students it serves. Several data collection methods were used in this study, including surveys, rubrics, videotaped interviews, observations, and evaluations, although pre and post-testing with a timed Curriculum Based Method (CBM) was the primary methodology used at all six schools to determine the percentage of growth. Test scores from the six participating schools seems to indicate that the Latino students gained the most in comprehension, due possibly to their cultural connection. Students of other races followed, which included African American, Asian American/Pacific Islander, Native American, Slavic and Arabic, suggesting than non-Eurocentric curriculum can be engaging for other cultures as well.

Special thanks to Karen Gwaltney, David Larsen and Mickey Caskey for their mentorship.

Problem Statement

Drop-out rates for Latinos are high, particularly when compared to other racial groups. In the 2011 Coalition of Communities of Color Report, Curry-Stevens (2012) noted, "...if you are White, you have only a 6% chance of not having graduated high school, while if you are Latino, you have a 44% chance of not having graduated high school" (p. 40). Oregon's graduation rate for white students, black students, Latino students, low-income students, middle and high-income students, students with disabilities and students who speak English as a second language is one of the worst in the nation, as reported by the U.S. Department of Education (National Center for Education Statistics, 2015).

From my anecdotal observations as a teaching artist, I have worked with students to integrate the problem solving skills of theatre and thinking in two languages into the core subjects of language arts and social sciences. It is my belief that the disparities of our current educational system can be addressed through a multi-faceted educational approach that is kinesthetic, experiential, and community-based.

The bilingual arts integration curriculum that I have designed has been used in social studies, language arts, and science classes. Through anecdotal documentation, I have been able to demonstrate improved Latino student retention based on information gathered from school administrators and educators across the state of Oregon, but statistical data needed to be gathered to cite the specifics of how and why it improved learning.

Literature Review

A literature review was conducted to examine models that could serve as examples for bilingual arts integration at Evergreen Middle School, in Hillsboro, where the study was initiated. This is a school where only 62% of eighth grade students passed state reading tests in 2014, 12% below an already very low state level of 74% (Hammond, 2014). As a baseline for documentation of the problems faced within the Latino community in the state of Oregon, I began my literature review with the Coalition of Communities of Color Report (Curry-Stevens, 2012). I followed with a study on the effect of arts integration with at-risk students (Brieger, Kendall-Dudley & Sarmiento, 1997).

In 2001, the Coalition of Communities of Color was formed to help strengthen the influence of communities of color in Oregon. Partners include the Latino social service agencies of Latino Network, Hacienda CDC and Milagro, a Latino arts and culture organization. The statistics gathered in the report with the help of coalition members, the U.S. Census Bureau, Oregon Department of Corrections, and Oregon Department of Education, highlighted the disparities in education, housing, employment and health, between Caucasians and Latinos. The Coalition recommended formation of a state advocacy group to fight institutional racism and increase funding for Latino education and bilingual teachers.

In their report, Brieger, Kendall-Dudley, and Sarmiento (1997) detailed a program design for improving arts instruction to assist in the appreciation of art, dance, drama, and music. The targeted group included a second and third grade bilingual class and a first through third grade learning disabled class. The problem of insufficient fine arts instruction was a part of the study that revealed a number of contributing factors including socio economic stressors and budgetary restrictions. Solution strategies revealed that the students needed to experience and participate in

more lessons and activities concentrating on the arts, this resulted in the creation of an experiential fine arts program. Based on the evaluation methods developed by the researchers, student self-assessments, and teacher observations, Brieger et al. concluded that the participating students increased their levels of appropriate behaviors when engaged in fine arts activities. Additionally, cooperative learning skills were practiced, and student self-confidence and esteem levels rose.

Having noted the case-studies on arts integration, I then examined culturally specific arts models. New York and California were exceptional stand-outs in the development of successful bilingual arts models, perhaps due in part to having a larger Spanish speaking population.

In 1991, the Office of Research and Assessment for the New York City Board of Education conducted an evaluation of Project BETA (Bilingual Education through the Arts), implemented in area elementary schools of New York, which are located in impoverished neighborhoods of predominantly Spanish speaking people. In grades K – 6, participating schools used the *Learning through the Arts* curriculum, and students also received weekly field trips to museum and Latino cultural events. Based on his study, Tobias (1991) concluded that students increased their enthusiasm for learning, and that the program also improved curricular development for teachers and parental involvement.

In *The Arts and Emergent Bilingual Youth: Building Culturally Responsive, Critical and Creative Education in School and Community Contexts*, Chappell and Faltis (2013) offered vignettes of bilingual arts programming in both public school and community based settings with models of best practices. The individual vignettes presented in the book highlight the relevant theory and practice in the arts and language learning, and explores the complexities of culturally responsive teaching. While this book aims to show the benefit of bilingual art integration as a

tool for educational development of the youth it serves, it unfortunately does not cite any specific quantitative outcomes.

While many of the studies were filled with qualitative anecdotal information, finding specific examples of measureable data was difficult, and primarily only available at the elementary school level. Most of the studies demonstrated, in some fashion, that the arts can improve learning, and that culturally specific or bilingual art had an even greater impact. In particular, Oreck, Owen, and Baum (2003) conducted a two-year study in elementary schools in New York and Ohio that examined the development of the “Talent Assessment Process in Dance, Music, and Theater (D/M/T TAP).” The D/M/T TAP, which was designed to identify potential performing arts talent in diverse populations, including bilingual and special education students, was conducted for thirteen years prior to the two-year review. Oreck et al.’s study shared the process developed to collect valid qualitative and quantitative data that could demonstrate creative and artistic potential.

Despite an extensive search for literature, and online sources, there seemed to be no studies of the assessment of bilingual arts integration at the middle school level, which was the focus of this study. From the review of available literature, I was confident that the bilingual arts-integration program I planned was among the first study of its kind in the country. As such, this research project may be the first to document successful student outcomes and serve as a possible model for future secondary bilingual arts integration programs.

Methods

In the 2014-15 school year, I launched a year-long site based study with the eighth grade classes of Evergreen Middle School in Hillsboro, Oregon to create a bilingual experiential arts integrated approach for improving learning and teaching. Evergreen is 37% Latino, which is 16% higher than the state average, with 43% of the total student body on free and reduced-price lunch (hsd.k12.or.us, 2016). The Evergreen staff was very invested and helpful throughout the year-long study. The overall rating of the school by second party researchers is high (greatschools.com, 2015).

Strategic Plan

The year started with a videotaped interview with Kristi Larson, social studies teacher and Haley Mecheski, world language teacher, who also completed pre-residency surveys (see Appendix A). A schedule was made for teacher inservice professional development sessions and assemblies of bilingual theatre performances. Selected core classes were then chosen to receive bilingual arts instruction in the fall and spring semesters.

To validate what seemed to be an important study, I determined that an Institutional Review Board (IRB) would be necessary for possible model sharing, as recommended by the educational advisors of the Portland State School of Education in Portland, Oregon. Invested stake-holders and community partners were invited to participate, which included; Olga Acuña, Director of Federal Programs, Hillsboro School District; Rian Petrick, Principal of Evergreen Middle School; Karen Shea, Assistant Principal, Glencoe High School, David Larsen: Educational Consultant and retired educational administrator, Alice Larsen and Susan Kays: retired ESL Instructors, Karen Gwaltney, Drama Teacher, Scott School, Victoria Martinez: educator, writer and artist and Joaquin Lopez, independent arts producer. Throughout the

process, these individuals invested countless hours of advice, model sharing, testing review, and strategic planning.

In this case study, I used several data collection methods, including surveys, rubrics, videotaped interviews, observations, and evaluations. This triangulation of data sources helped to establish outcome validity. The IRB process required me to identify potential sources of personal bias and ensured the confidentiality of participant data. With a solid data collection methodology the study was documented with dependability, making it a reliable source of archival credibility documenting the positive effect of bilingual arts integration. Table 1 shows the research matrix used for triangulation of data sources.

Table 1

Research Matrix

Participants	Methods	Data inputs	Measurements	Desired Outcomes
Teachers	Surveys Likert scales Interviews observation	Peer reflection Use of arts in classroom Use of language	Teachers use gained knowledge in classroom	Teachers seek additional opportunities for cultural integration
Students	Journals observations rubrics	Test scores Comfort with two languages Previous arts experiences	Students demonstrate improved knowledge of culture and art	Students demonstrate ability to create/perform & respond to global connections
Parents	Surveys Likert scales Interviews	Community voice Cultural input	Parents exhibit renewed interest in student learning	Parents support cultural investment activities.

The study began with interviews of key staff in Hillsboro School District, who then also agreed to be members of the IRB. This was followed by the surveys and interviews with key Evergreen teaching staff. Questions asked during the interviews included: "Do you use the arts in your classroom? If so, to what extent? Have you ever used a bilingual lesson plan in your classroom? If so, how was it used?"

Evergreen teachers were also consulted on the design of a survey sent to the parents of incoming eighth grade students. The surveys served as a means of gathering baseline data for the beginning of the study. Of the surveys returned for the students in the two focus groups, it appeared that when "True" and "Sometimes True" were averaged and combined, 78% of the students engaged in some kind of after-school arts activities, such as music and dance lessons, concerts, and family craft activities to some level. Although, at the end of the residency, when the students were asked if they were interested in trying theatre classes in high school, only 63% responded positively. Although, it was noted that the highest scoring student in the study participated in after-school dance classes (see Appendix B).

Table 2

Likert Scale of Parent Surveys

	True	Sometimes True	Not True
Does your family attend arts events?	32%	36%	36%
Does your family engage in art projects at home?	41%	55%	9%
Does your child participate in arts activities outside of school or home?	36%	36%	32%
Averages	36%	42%	26%

After the initial data collection, a residency was planned for the fall quarter in eighth grade classes of Exploring World Languages and Spanish. A spring residency was planned with all three eighth grade social studies teachers.

On September 9, 2014, a meeting was held with the language arts teachers and IRB member David Larsen. It was decided and recommended by the group that a CBM would be the most efficient way to pre and post-test the students for measurable outcomes of improved learning. I prepared a one-minute reading test that I vetted through a Fry Test, which I administered to all of the test students for consistency. Immediately following the reading fluency test, the students were instructed to write for one minute what they recalled from the text. The language and benchmarks from the OAKS reading test assessment was adapted to create the Blooms Taxonomy Rubric illustrated for measuring grade appropriate levels of comprehension gained.

Table 3

Blooms Taxonomy Rubric

Score	Description
6	Exceeds - inference and conclusions, drawing references to unstated ideas
5	Advanced - detailed understanding, drawing references to other elements of residency
4	Meets – gives examples from text and infers some connections to other elements
3	Nearly Meets – presents a basic understanding with little detail
2	Beginning – simple sentences with little interpretation
1	Does not meet – limited or incorrect understanding

On October 22, 2014 I conducted a pre-test for reading fluency with 26 students from the school. Half of the students comprised the control group, chosen for the baseline because they were from English only homes and the other 13 comprised the growth group, chosen for their bilingual language skills. The control group students were chosen from Haley Mecheski's Exploring World Languages class and the growth group students were chosen from Sarah Liddell's Spanish class.

The text for the first fluency and comprehension test was a selection from Milagro's *Sueños de Fútbol* Study Guide, and the second, just for the spring residency at Evergreen Middle School, was a selection from Milagro's *El Niño Diego* Study Guide. Both texts were analyzed for grade appropriateness through a Fry's graph. The *Sueños de Fútbol* Study Guide, used in all of the schools tested, scored at a high eighth grade reading level (see Appendix C).

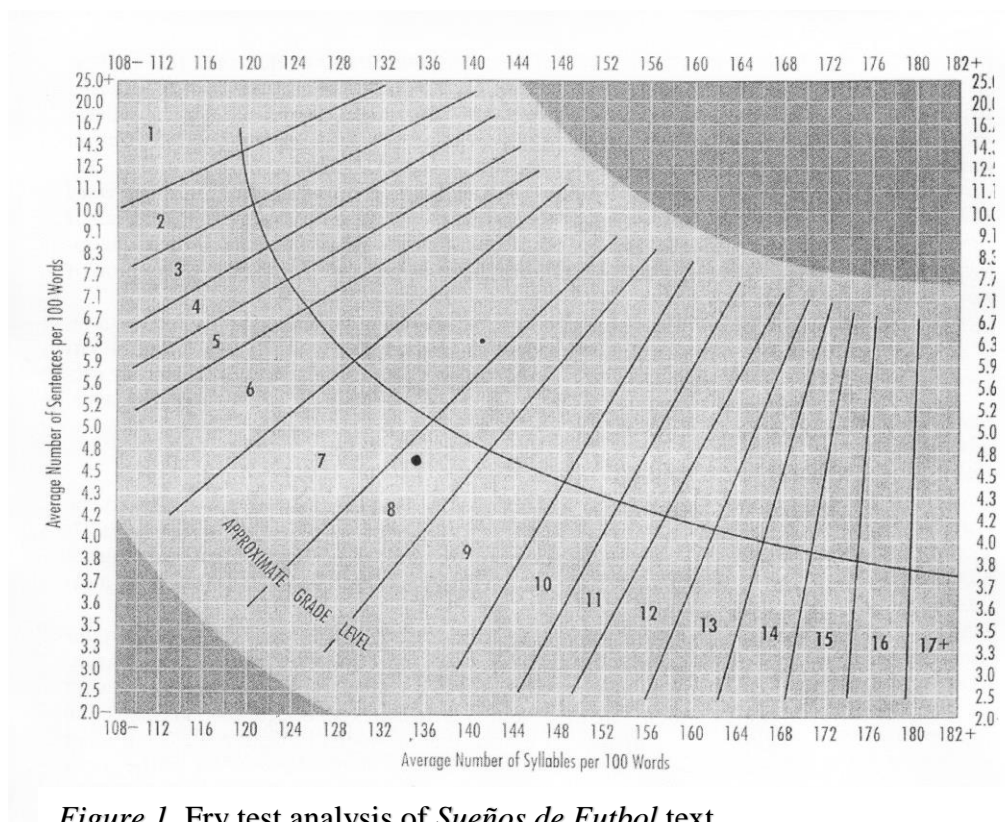


Figure 1. Fry test analysis of *Sueños de Fútbol* text

Students were given one minute to read the text and the number of words read was marked on their test pages, missed words were deducted from the total. It was noted that the Mayan words could be challenging for the English only speakers, but this proved to not be a disadvantage.

The Milagro Residency Curriculum

Milagro's bilingual arts residencies use experiential learning to improve student retention and encourage Latino participation in the arts. This study was a great opportunity to create a program that has rigor and intended outcomes for measuring student success. Studies have shown that by raising the bar for subjects in the arts, the rest of the core content will benefit (Chappell & Faltis, 2013).

To create this experiential learning environment, I developed "Reality Theatre" for the Milagro Theatre using a combination of theatre of the oppressed, commedia and improvisation techniques to engage students in an exploration of self-expression and community building to address socio-political issues, such as gender, cultural proficiency, tolerance and acceptance of otherness. This methodology is the basis for all Milagro bilingual arts residencies. Students learn the process of creating stage images around community issues with silent tableau images. As the complexity of the scenarios grow, students advance from pantomime movement to adding dialog, which then evolves into fully realized scenes that can be presented in a peer sharing exchange. Sessions are concluded with a group discussion and reflection time.

Milagro's 2015 touring productions included *Sueños de Futbol*, created to encourage students to engage in active sports and accompanied by "Adventures in Pok-A-Tok" activities infused with soccer games. The other, *El Niño Diego*, shared the story of a young Diego Rivera in art school. This play was accompanied by the "Living Mural" project, which used images of

Rivera's murals to open dialog around art for social change.

On October 22, 2014, the two student groups were pre-tested using the CBM reading and writing samples. The average score of the control group for fluency was 157 and 151 for the growth group. The average score for comprehension was a 2.5 for the control group and a 2 for the growth group, based on the Blooms Taxonomy rubric, reviewed by members of the IRB.

October 28 was the first day of the three-day "Adventures in Pok-A-Tok" fall residency, led by Milagro teaching artists Ajai Terrazas Tripathi and Vicente Guzman Orozco. Terrazas Tripathi worked with Mecheski's Exploring Foreign Languages students, teaching in English, while Guzman worked with Liddell's Spanish language students, teaching bilingually.

On the first day of the residency, the students created Mayan myths using a story spine methodology with the passing of a soccer ball as a prompt to respond. At the end of each period, students had broken into groups and crafted myths for the "Pelota de Fuego" competition day.



Figure 2 – Evergreen students playing Pelota de Fuego

October 29th was Mayan mythology soccer playoff day. Each class had five to six teams with Mayan myths, as Liddell's students were paired to play against Mecheski's students.

Liddell's students had myths written in Spanish and Mecheski's in English. The

object of the game was for each team to finish their story and make a goal at the end of the field as they finished their story. Each team could only tell their story when their team had the ball. A large area in the school hallway was used for the playoffs as teams such as the Tiger Stripes competed against the Tortugas.

At the end of each class period, students returned to their rooms to reflect on the experience. One student stated that she learned how important it was to be able to multi-task, while many commented on the importance of teamwork in order to win. Artist evaluator Joaquin Lopez observed the games. Overall he felt that it was a completely unique experience. Principal Rian Petrick also came and observed. Two students are quoted as saying, “This is the best day ever.”

October 30th was “Story into Skits Day.” In both classes students worked with their original groups to create short scenes to present in the same class period, with Liddell’s class in Spanish and Mecheski’s in English. In her post residency evaluation form, Liddell wrote that the residency was a great combination of cultural pride and language and that it was great to have a heritage speaker in the room. She also suggested that “bilingual, bicultural education can create buy in for the heritage speakers because of its connections to the world they inhabit outside of school. In contrast school and education can seem to be a white construct and not a natural/organic experience without bicultural/bilingual education.” Mecheski noted on her evaluation form that “the activities helped the students to feel more comfortable in their own bodies and bonded with their classmates.”

October 31, Halloween, was the day of the culminating residency performance of *Sueños de Futbol*. The students really enjoyed the play, especially the elements of the soccer game and the Mayan deity puppets. Finally, they were able to understand the strange question we asked them on the first day, “Can you make theatre with soccer?” To which they all responded “Si!”

Results

On November 3, the control group and growth groups were both given the fluency and comprehension post-tests to measure the percentage of improved learning. Both groups received the same instructions, and all were given exactly one minute to read the same text they were presented in the pre-test and one minute to write as much as they remembered about the text or any details that referenced the residency and performance.

The average post-test fluency score in the control group was 180 and their average comprehension score was 3.45, this was a 15% improvement in fluency from their original averaged score of 157 and a 40% improvement in comprehension from their initial average score of 2.55. The average post-test fluency score in the growth group was 167 and their average comprehension score was 3, this was a 10% improvement in fluency from the initial average score of 157 and a 97% improvement in comprehension from their pre-test average scores (see Appendix E).

These were off the chart results, made doubly exciting by the fact that the incoming OAKS scores of the growth group, composed of mostly exited ESL students, and was significantly lower than the control group. Only four of the growth group students “Met” the benchmarks of the OAKS test, while four students in the control group “Exceeded” their OAKS test scores. Their larger comprehensive growth was due in part to their observed cultural and language connection to the presented material. These initial test scores for this case study seemed to demonstrate that bilingual, bicultural education can improve learning, at least for the targeted sample in this school with a significant Latino population.

Portland Studies

Based on the data and success of the project, I responded to an opportunity that arose for funding from the Multnomah County Promise Neighborhoods initiative through the Coalition of Communities of Color, to do additional studies with middle school programs in Portland. The two schools chosen, Arleta and Scott, are located in low-income communities of color. In 2015 Arleta, while more Anglo than Scott at 56%, was equally diverse, with the balance of the population 16% Latino, 13% Asian/Pacific Islander, 8% multiple races, 4% African American and 2% Native American (<http://www.pps.k12.or.us/schools-c/profiles/enrollment>, 2015). Scott was 45% Latino, 23% Anglo, 13% African American, 17% Asian/Pacific Islander and 2% Native American (<http://www.pps.k12.or.us/schools/scott>, 2015). This was a great opportunity to compare the culturally specific comprehension improvement with students of color from other cultures. In 2015, over a two month period Milagro teaching artists worked with about 120 students at Arleta and another 170 students at Scott.

From informal interviews with teachers and family members at these schools, it was noted that Arleta and Scott students were coming from a much lower economic base with less community and family involvement in the school compared to Evergreen, in Hillsboro. Sixty-seven percent of the students at Arleta are on free and reduced-price lunch and 88% at Scott (pps.net, 2016). Consequently, it was not surprising that the students had significantly lower pre-test scores than the Evergreen students, knowing that there was a documented history of little parent involvement with homework help. The average pre-test fluency score of the 16 students tested at Arleta was 146 and of the 11 students at Scott, just 123. For the comprehension test Arleta and Scott students were given two minutes to write, instead of the one minute that Evergreen students were given. Even with the doubling of time, Arleta students averaged 2.38 of

their comprehension score and Scott students just 1.73, slightly less than the Hillsboro students, and with twice as much time to do it.

Many barriers exist for a positive learning environment for students of color in Portland schools, so it was really exciting to see how enthusiastically the students responded to the “Adventures in Pok-A-Tok” curriculum and the Pelota de Fuego game. At Arleta, the game was vetted and improved by the teaching artists and a videotape and charts and directions of how to play the game correctly was made for future teacher inservice professional development sessions. At Scott, the drama teacher participated in the residency and a videotape was made of the drama students and their work during the residency. The video was posted on the internet to share with invested stakeholders, which demonstrates the positive outcomes of engaging students in theatre.

In February post-testing was conducted at Arleta, and at Scott. At Arleta the students averaged 158 on the fluency test and 3.08 on their comprehension post-tests, this was an 8% increase in fluency and a 61% increase in comprehension, which brought their scores up to the pre-test levels of the Evergreen growth group. At Scott, the results were much more dramatic, the average fluency score was 140, a 17% increase and 2.55 for comprehension, which represented a 67% increase, which was a demonstration of how kinesthetic bilingual engagement can improve learning, even with low level learners (see Appendix F). Often these types of students are given little encouragement by the teachers, thus perpetuating a system of failure for our youths.

Spring Milagro Residency at Evergreen

On March 3rd, 2015, I returned to Evergreen to meet with the social studies teachers to plan the final residency of the year-long study. This last residency involved all of the eighth graders in every period of social studies over a three-day period. The original two groups were reduced to 11 students in each group, due to some students moving and/or dropping out of school. The test students were pulled from their classes throughout the day on March 5, 2015. It was exciting to see how students has grown since the fall. In both the control group and growth group, the student's pre-test scores were very similar to their post-test reading scores from the fall, 181 for the control group and 176 for the growth group.

In the following week, the same teaching artists, Terrazas-Tripathi, Guzman and myself, shared the "Living Mural" curriculum related to Diego Rivera in six periods of social studies classes for three consecutive days. On the first day, students learned a short history of Diego Rivera's life, examined pictures of his murals, and then participated in a discussion of their meaning using image theatre exercises. Students made a human machine to resemble Diego's Man and the Machine mural and then posed like characters in Diego's Sunday at Alameda Park mural. Social Studies teacher, Jason Stinger, found the engagement so exciting, he made plans to teach his gold rush unit using murals of cowboy art that he would have students act out in the following weeks.

On day 2, the Diego Rivera study guide was reviewed and students were asked if Diego was alive today what sorts of issues he would paint murals about. Responses ranged from ISIS to bullying and many "ism's" were discussed, including racism, sexism, classism and even

cubism. Students then broke into groups and began writing theatre skits and presented still images of their ideas for peer feedback at the end of class.

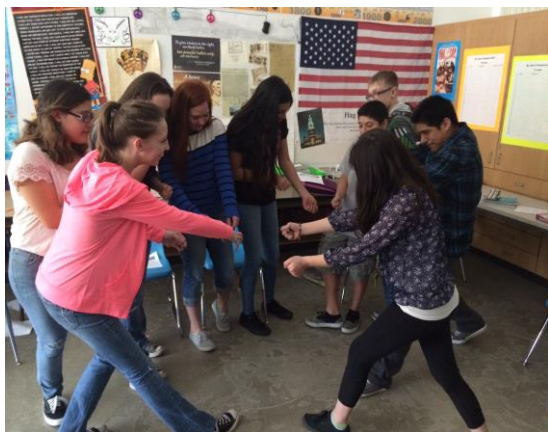


Figure 2 – Evergreen students doing Image theatre

Day 3, the students finished their scripts and spilled out into the hallways to practice their scenes, which they then presented in class for peer review and reflection. Bullying and racism were popular topics, in one group students constructed a reverse racism scene in which Latinos were excluded from eating tacos. Students were assessed

for knowledge acquisition, writing skills and performance ability based on a new rubric that I developed based on Oregon Department of Education Common Core Curricular Standards (see Appendix D). From our trained observations, the students “Met” or “Nearly Exceeded” in most categories.

On March 13, 2015, the troupe returned with all of the actors for two performances of a play I wrote, entitled, *El Niño Diego*. A little less than 500 students attended and were very enthusiastic about the performances. Some students asked to see the play twice, while others stood and cheered at the end of the show.

The following week on March 17, 2015, I returned to Evergreen for my final interaction with the students for the post-test. The control group scored an average 205 words per minute on their fluency and 3.09 on their comprehension tests. This was a 13% increase in fluency and a 47% increase in comprehension. The growth group scored an average 181 on their fluency and a 3 on their comprehension. This was a 6% increase in fluency and a 45% increase in comprehension. These were noticeable lower scores than in the fall, which led me to two

deductions. The first being that the soccer activity was more engaging than the visual arts activity. The second deduction, promoted by the Evergreen teaching staff, was that the student's ability to comprehend had improved overall throughout the year, and so their starting scores were much higher. The students starting scores could also have been higher because the text about Diego Rivera was not as challenging as the previous text about Mayan mythology, which scored a low eighth grade reading level in the Fry test. When these scores were averaged with their fall scores, the overall growth of both groups throughout the year was an 11% increase in fluency and a 57% increase in comprehension, very good considering that their peers in Portland were given twice as much time to complete the writing sample (see Appendices E & F).

East Multnomah County Study

By summer of 2015, the study had been fairly well concluded and reviewed by the IRB members. The results were shared with Multnomah County, and due to the success of the program, funding was renewed to continue the Portland school residencies. This was a great opportunity to validate the study further by having three distinctly different communities participate. In fall of 2015, three middle schools in outer east were chosen that represented the growing diverse population of Portland. Many families of color have moved to the outer east due to gentrification in their neighborhoods and as a result the community between Portland and Gresham has become an eclectic mix of some 40 nationalities, with schools having to provide translation services for students from all over the world.

The first school, in December, was H. B. Lee, 39% Latino, 27% Anglo, 13% Asian/Pacific Islander, 14% African American, 6% multi-racial, and 1% Native American, with 83% of the students on free & reduced-price lunch, (<http://www.reynolds.k12.or.us>, 2015). The students chosen for the pre and post testing were a combination of second and third year English language learners (ELL) who were all Latinos in the seventh grade. For testing consistency it was decided to use the same high eighth grade text used in the other schools, and to maintain the



Figure 3 – H. B. Lee students playing Pelota de Fuego

one minute testing time, which could be challenging for seventh grade, limited English proficient students.

In this three day residency, students spent the first day creating Mayan myths and playing Pok-A-Tok with team

names such as Team Tamale, Rainbow and Monkey. In the school gym over 30 teams from four different classes competed against each other. On the second day, the students created skits out of their stories that they performed for their peers. The teaching artists also continued this season of residencies with the Oregon Department of Education rubric to assess create and perform standards. H. B. Lee students averaged 2.3 or “meets” on the ODE scale of benchmarks.

On the third day, all of the participating students saw the play *Sueños de Futbol*. The students found the play relatable, and contributed thoughtfully to the post-play discussion. “The purpose of the play is to give life lessons,” one student commented.

The following week, on December 14, 2015, I returned to H. B. Lee to administer the post-test. The group scored an average 138 words per minute on their fluency and 2.92 on their

comprehension tests. This was an 11% increase in fluency and a 74% increase in comprehension, an amazing result given that these were ELL seventh graders, being compared against eighth grade students, demonstrating the power of the cultural connection to the material with an all Latino student group (see Appendix G). “I was excited to see how engaged all the students were, they gained a greater understanding of teamwork and collaboration,” (Jordan Forestall, ELD Teacher, H. B. Lee).

The second school, in January of 2016, was Floyd Light Middle School, 39% Anglo, 31% Latino, 12% Asian/Pacific Islander, 11% African American, 7% multi-racial, and 1% Native American, with 79% of the students on free & reduced-price lunch (<http://www.ddouglas.k12.or.us>, 2015). In this school, 140 seventh grade students participated in the three day residency which also included a performance of the play *Sueños de Futbol*. The test group chosen from this school was 70% Latino and 30% mix of Slavic and Anglo students. These students had some additional help from the teachers with videos on Mayan mythology and the ball game Pok-A-Tok. Their theatre scenes were consequently a little more reflective of what they had learned about mythology, in comparison to the previous middle school residency. “I would love for the kids to have more opportunities to use theatre and movement when learning, they really seemed to enjoy that,” (Toni Maxwell, seventh grade Social Studies, Floyd Light).

The arts educators working in these classrooms also did their own assessment. In the classroom facilitator evaluations, the students averaged a 2.5, or “meets” on their ODE benchmarks, slightly higher than the students from H. B. Lee, showing that teacher involvement in the arts learning beyond the days with Milagro can also improve outcomes. On January 27, I administered the post-test and the average fluency score was 138, a 15% increase in the average

pre-test score of 131. The comprehension average was 3.27, a 62% increase in comprehension from the averaged pre-test scores (see Appendix G). Again, these were great results for seventh graders being tested with eighth grade reading material, suggesting that culturally specific arts integration can help students reach new challenges.

The third and final school of the two year study was Reynolds Middle School, the farthest school in Fairview, Oregon, just on the edge of outer southeast Portland. This school had one of the highest Latino populations at 52%, with 25% Anglo, 8% African American, 6% Asian/Pacific Islander, 5% multi-racial and 2% Native American, and 79% of the students on free & reduced lunch (<http://www.reynolds.k12.or.us>, 2015). While the students at this school come from one of the poorest neighborhoods, the school has a strong support system for school retention and engagement. The day begins at 7:15 with the principal making morning announcements with rock music blaring in the background, followed by all staff and students doing the pledge of allegiance.

In this third and final residency, more time and attention was given to the playing of the game. Theatre scenes at this school were more reflective of the creation myth theme, with some very clever stories, such as how the Burrito God came into being, or how people used to talk with their hands, until they learned how to talk with their mouths.

The test group was fairly reflective of the ethnic make-up of the school, hand-chosen by the principal, 30% Latino, 30% Anglo/Slavic mix and 30% other races, which included Native American, African American, Asian/Pacific Islander and Arabic. I returned on February 17, 2016 to administer the post-test. The average fluency score on the post-test was 174, a 29% increase in the average pre-test score of 134, this was nearly double any of the other participating schools (see Appendix H). The comprehension average was 3.10, a 54% increase in

comprehension from their averaged pre-test scores. Was it the culturally specific lesson plans or could it be that this school also put a much higher value on engagement than many of the other Portland schools?

When the three schools scores were averaged, the fluency gain was 18% and the comprehension gain was 52%. The fluency gain was comparable to the inner Portland eighth graders, suggesting that giving students more challenging reading material can engage them more academically. This goes against what most teachers told us, that the reading material would be too difficult for the students. When averaged with all of the participating schools, the fluency average was 15% and the comprehension 62%, suggesting that these outer east Portland schools really maximize on the potential power of kinesthetic engagement for their seventh grade students (see Appendices G & H).

Conclusions

Studies have demonstrated qualitative improved learning with either arts integration or with bilingual education. After a literature review, there was no conclusive quantitative evidence done prior to this study in 2015, for the benefits of combining the two to use bilingual arts integration as a method for improved learning. Could bilingual arts education improve learning? The purpose of this study was to evaluate the effect of bilingual arts integration on learning, and the positive outcomes for the Latino students it serves.

By enhancing existing classroom curriculum with culturally appropriate bilingual arts integrated activities, teachers can engage their students while maintaining the academic work needed to meet state benchmarks. Unfortunately though, it often takes a great deal of coaxing to engage teachers in activities that may require rearranging desks or having students on their feet, talking and moving around. A teacher in one of the schools said aloud to her students, “I know

this makes you uncomfortable, because it makes me uncomfortable,” projecting negative outcomes on her students. I have observed many teachers during this study who are very uncomfortable when their students are not sitting quietly in neat little rows doing desk work.

At the conclusion of all of the testing, I met with and or emailed members of the IRB to evaluate the findings and confirm the results. Test score reviewers included Olga Acuña, Karen Shea, Rian Petrick from Hillsboro, Karen Gwaltney from Scott School and retired educators David Larsen, Alice Larson and Susan Kays. Additionally some IRB members wrote assessments of the program, which included Petrick, Acuña, Larsen and Kays:

We had the pleasure of having the Milagro Theatre work with our students twice during the 2014-15 school year. Our students found the Milagro Performers to be highly engaging and entertaining both in the classroom and on the stage and the Milagro performers also helped students with reading fluency and comprehension. There was an average of 11% increase in reading fluency and a 79% growth in comprehension among students from pre-test to post-test. This data was impressive given that the targeted growth group students were students who historically were Does Not Meet or Nearly Meets students on OAKS Reading Tests. (Rian Petrick, Principal, Evergreen Middle School, Hillsboro, Oregon)

Through a partnership with Teatro Milagro, one of our schools was able to offer culturally specific bilingual workshops and performances to students during the 2014-2015 academic year. Teachers at this school reported that the exposure to bilingual theater instruction has not only promoted inclusivity and increased student engagement to the school culture, but it has helped raise student academic achievement, particularly in the area of reading. I believe that the student growth can be attributed to the mentorship

and guidance they received throughout the year from the Milagro staff who promoted the students' own culture, giving them a sense of value and belonging. (Olga L. Acuña, Director of Federal Programs, Hillsboro School District, Oregon)

Teaching with Danielle was an enjoyable experience. I think we were able to stay on task in a natural way that helped to keep the students relaxed as she progressed through the introduction of the lesson. I could see how the students caught her positive approach, began to engage their teams and start the task in a positive way. (Susan Kays, First Lady of Echo, Oregon)

There is a crisis in public education that stands out most clearly in urban school districts with very diverse low income student populations speaking multiple first languages. How do you engage students in their own learning and give the heritage culture value that translates to pride and fosters learning standards? Danielle Malan's, *Culturally Specific Bilingual Arts Integration Project* is an important experimental tool that a caring and supportive educational community could add to a repertoire of successful strategies.

Because her approach uses movement and the physical involvement of theater in a sometimes nontraditional manner, there is a high degree of student engagement which results in learning. The ability to think on a higher plane is a key to true learning and this project demonstrates that the use of the tools in this project can achieve that goal. (David Larsen, Retired Principal, CCSD59, Illinois)

While it seems that I was successful in quantitatively documenting that bilingual arts integration can improve learning, the information will only be helpful if teachers are able to integrate bilingual arts activities into their classrooms and existing curricular plans. Hillsboro

has a vested cultural infrastructure for their students of color and STEAM (Science, Technology, Engineering, Arts and Math) Advisors work with teaching staff throughout the district. I feel this is reflective in the Hillsboro Latino students having the highest comprehension gains of all the schools tested. Although, in East Portland, where the schools do not have as many resources, seventh grade ESL students made significant gains with this curriculum, suggesting that just a little effort towards cultural, kinesthetic adjustments to existing curriculum can make a huge improvement for students of color. Imagine if the same three days of teaching style were integrated throughout the entire school year.

In the final comparison of all the test scores, schools were compared by neighborhoods (Hillsboro, Portland and East Multnomah County) and by Race and ethnicity (see Appendix H). Test scores from these six schools seems to indicate that the Latino students gained the most in comprehension, due possibly to their cultural connection. Students of other races followed, with included African American, Asian American/Pacific Islander, Native American, Slavic and Arabic, suggesting than non-Eurocentric curriculum can be engaging for other cultures as well. Anglo students had the least improvement, suggestive of a less connected relationship, but a more significant gain in fluency, still strong results with the arts integrated kinesthetic approach.

Next steps in the process for success would be mentoring teachers to help implement the precepts of how to integrate bilingual/bicultural arts into any classroom to help improve learning, with emphasis in language arts and social studies. Without easy to implement curriculum outlines, the concept of bilingual arts integration would be daunting for any school to tackle, although hopefully the demonstrated results would appear to be worth the effort.

References

- Brieger, C., Kendall-Dudley, L., & Sarmiento, P. (1997). *Integrating fine arts instruction with at risk students*. Chicago, IL: St. Xavier University.
- Chappell, S., & Faltis, C., (2013). *The arts and emergent bilingual youth: Building culturally responsive, critical and creative education in school and community contexts* New York, NY: Routledge.
- Curry-Stevens, A., Cross-Hemmer, A., & Coalition of Communities of Color (2012) *Coalition of Communities of Color Latino Report*. Portland, OR: Portland State University.
- Hammond, B. (2014, September 10.) Oregon 2014 test scores: Stagnant, with more than one-third of students failing math. Retrieved from *Oregonlive.com* website at:
<http://schools.oregonlive.com/>
- National Center for Education Statistics. (2015). *High school graduation facts: Ending the dropout crisis*. Retrieved from http://nces.ed.gov/ccd/tables/ACGR_2010-11_to_2012-13.asp
- Oreck, B., Owen, S., & Baum, S., (2003) *Validity, reliability, and equity issues in an observational talent assessment process in the performing arts*. *Journal for the Education of the Gifted*, 27(1), 62-94.
- Tobias, R. (1991) *Bilingual education through the Arts*. Brooklyn NY, Office of Research and Assessment, NYC Board of Education.

Appendix A

Name: Hayley Mecheski

Date: 6/6/14

Classes you will be teaching 2014 – 2015 school year at Evergreen Middle School:

Exploring Foreign Languages

Do you use the arts in your classroom? Y N

If so, to what extent (what, when & how often)? *Yes, we do skits, singing, and book projects. We also use a lot of drama as get-to-know each other activities in the beginning of each semester.*

Have you ever used a bilingual lesson plan in your classroom? Y N

If so, how was it used?

I used to teach Spanish lit., and I am comfortable teaching in Spanish or English.

On a scale of 1 to 5, with 1 being inconsequential and 5 being significant, rate the following:

Bilingual arts integration will have a positive impact on learning for my students:

1 2 3 4 5

Bilingual arts integration will inspire my students to seek out more arts activities:

1 2 3 4 5

What is an identifiable weakness that you hope this study can help improve in your classroom?

I have noticed that Latino students aren't as involved in extracurricular activities as their non-Latino peers. They are underrepresented in school-wide activities, but not noticeably in my class specifically.

Appendix B

What language(s) does your family speak at home? / ¿Cuál(es) idioma(s) habla su familia en casa?

English / Spanish

Do you and your family attend arts events? / ¿Asiste Ud. o su familia a eventos artísticos?

Yes/Sí

o

No

Sometimes/A veces

Please circle the types of arts you and your family enjoy/ Circule los tipos de arte que su familia disfruta:

Dance/Danza

Theatre/Teatro

Music/Música

Visual Art/Artes plásticas

Do you and your family participate in arts activities at home?

¿Participa Ud. o su familia en actividades artísticas en casa?

Yes/Sí

o

No

Sometimes/A veces

Circle all of the activities you enjoy at home/ Circule los tipos de actividades artísticas que su familia disfruta en casa:

Easter eggs/ Huevos de Pascua

sugar skulls/ Calaveras de azúcar

carving pumpkins/decorar calabazas

scrapbooking/recortes

sewing/costura

woodwork/carpintería

etc.

Other arts activities you do at home/ Otras actividades artísticas que su familia disfruta:

Dancing/Singing

Does your child, or your children, participate in arts activities outside of school and home?

¿Participa Ud. o uno de sus hijos en actividades artísticas fuera de casa?

Yes/Sí

o

No

Sometimes/A veces

Please circle all of the outside arts activities you and/or your children participate in:

Circule las actividades artísticas en las cuales participa(n) fuera de casa:

dance lessons/clases de baile

music lessons/clases de música

visual arts classes/clases de arte

theatre classes/clases de teatro

other activities/ otras actividades

Please describe any arts activities you would like to see included at school or in your community?

Describe las actividades que le gustaría ver incluidas en su escuela o comunidad:

More classes for art, sketching

Appendix C

Sueños de fútbol Reading Assessment

Class: _____ Student: _____ Grade: _____ Date: _____
 Words Read: _____ - # of errors: _____ = Total words in one minute: _____

According to the Popol Vuh, man is made from white and yellow maize. Maize is the vital	20
force of life, and the staple crop of the Mayan people. The Popol Vuh, or ‘The Book of the	40
People’ is the sacred book of the Maya and is a collection of Mesoamerican mythologies that	57
begins with the creation of humankind. According to stories from the Classical Mayan	75
period, a stalk of corn grew on a ball game court and became the God of Maize, or the ‘first	94
father,’ who is the most widely evoked deity. The Mayans believed that ritual dances in	113
honor of the corn god helped with the growing of maize, and a new harvest of crops	123
symbolized the beginning of new life.	141
The second part of the Popol Vuh tells the myth involving the hero twins, and their	162
epic game of Pok-A-Tok with the Lords of Xibalba. Xibalba was known as a place of fear	177
and was the home of the Lords of Death. Hun Hunahpu and Vukub Hunahpu, were Ah-	194
Pitzlaw (great ball players) who were sacrificed to the Lords of Xibalba. Their sons,	212
Xbalanque and Hunaphu met the same fate, but they returned as catfish, then later as men.	224
They were able to outsmart the Lords of Xibalba before they were turned into constellations,	241
and later became the sun and the moon.	261
Pok-A-Tok is a Mayan ball game that was invented over 4000 years ago. The object	279
for the teams, of one or two players, was to get a ball made from the rubber of cau-ucha trees,	298
through a narrow stone hoop placed on the wall of the court, about twenty feet from the	318
ground. The largest ball court was in the city of Chichén Itzá, located in the Yucatán	335
Peninsula.	336

Appendix D

CLASS 1 Tawed

Milagro Assessment Rubric for 8th Grade CCSS Benchmarks of Writing, Create & Perform and Social Science AnalysisActivity Name/Location: Living Mural / EvergreenDate(s) of Activity: 3/10 → 3/12 2015Facilitator(s): AjaiDuration (hours or minutes): 60 x 3Total # of youth: 29 Total # of adults: 1 Total # of contacts: _____

13 Female

Race/Ethnicity: C: 17 L: 10 AA: 2 NA: _____ PI/A: _____ Other: _____Outcomes

Ask the question of the day at the beginning and end of the workshop to calculate percentages:

Today's Question: Can you create change with art? Can you create theatre with soccer? Count raised hands, then calculate percentage.Assessment: 10 → 25 + 180%

Count with hashmarks your assessment observations of desired outcomes during sharing out:

Example: Students will create myths and then skits with their myths, demonstrating knowledge of Mayan mythology.

Standards	0 – Does Not Meet	1 – Nearly Meets	2 – Meets	3 – Nearly Exceeds	4 - Exceeds	TOTAL AVERAGE
Performance Skills AR.08.CP.01 Select and combine essential elements to achieve a desired effect when creating and performing.	Even with help, students could not perform. Hashmarks x 0 =	Students completed assignment with help. Hashmarks x 1 =	Students completed assignment with little or no help. Hashmarks x 2 = # 16	Students presented an acceptable piece. Hashmarks x 3 = # # 39	Students engaged audience with a well-crafted piece. Hashmarks x 4 = # 32	3
Reasoning & Writing 8.W.3 Write narratives to develop real or imagined experiences using effective technique, relevant descriptive details, and well-structured event sequences.	Even with help, students did not write. Hashmarks x 0 =	Students completed assignment with help. Hashmarks x 1 = # 7	Students completed assignment with little or no help. Hashmarks x 2 = # 14	Students used creative dialogue and developed characters to create an acceptable piece. Hashmarks x 3 = # 21	Students wrote a well-crafted piece that demonstrated a point of view and a sequence that was logical. Hashmarks x 4 = # 32	2.5
Knowledge Acquisition 8.24. Compare fictional portrayals of a time, place, or character to historical or other non-fictional sources relating to the same period.	Students did not participate in discussion. Hashmarks x 0 = 0	Students participated in discussion with some inferences. Hashmarks x 1 = 4	Student shared basic knowledge of subject with specific inferences. Hashmarks x 2 = # 18	Student shared in-depth knowledge and made historical comparisons. Hashmarks x 3 = # # 30	Students shared in-depth knowledge and made conclusions and comparisons. Hashmarks x 4 = 12	2.2
TOTAL AVERAGE						2.5

Notes/Final Thoughts & Anecdotal Comments from Teachers and Students (continue on back)

Appendix E

Evergreen Middle School Growth Group

Fluency						
	10/22/14 Pre-test	11/3/14 Post-test	% Change	3/4/15 Pre-test	3/16/15 Post-test	% Change
N	235	252	7%	238	266	12%
O	186	192	3%	193	221	15%
P	141	165	17%	171	190	11%
Q	120	134	12%	118	161	36%
S	129	133	3%	139	156	12%
U	128	155	21%	165	173	5%
V	96	112	17%	110	99	-10%
W	164	173	5%	188	212	13%
X	182	183	1%	226	205	-9%
V	96	112	17%	110	99	-10%
Z	185	221	19%	214	205	-4%
AVG	151	167	10%	170	181	6%

Comprehension					
10/27/14 Pre-test	11/3/14 Post-test	% Change	3/1/15 Pre-test	3/16/15 Post-test	% Change
2	4	200%	5	4	-100%
4	6	200%	4	4	0%
3	3	0%	3	3	0%
1	3	200%	1	2	100%
3	2	-100%	2	3	100%
3	3	0%	3	3	0%
1	3	200%	2	2	0%
1	3	200%	4	5	100%
1	2	100%	2	2	0%
1	3	200%	2	2	0%
2	3	100%	1	4	300%
2	3	97%	3	4	41%

Control Group

Fluency						
	10/22/14 Pre-test	11/3/14 Post-test	% Change	3/4/15 Pre-test	3/16/15 Post-test	% Change
B	147	165	12%	166	201	21%
C	175	201	15%	197	204	4%
D	173	184	6%	221	240	28%
E	128	170	33%	148	190	28%
G	143	158	10%	148	162	9%
H	182	212	16%	238	261	10%
I	148	178	20%	177	181	2%
J	171	163	-5%	178	207	16%
K	148	177	20%	180	205	14%
L	189	214	13%	209	248	19%
M	120	161	34%	131	154	18%
AVG	157	180	15%	181	205	13%

Comprehension					
10/27/14 Pre-test	11/3/14 Post-test	% Change	3/1/15 Pre-test	3/16/15 Post-test	% Change
3	4	33%	4	4	0%
2	3	50%	1	2	100%
2	3	50%	3	5	67%
3	3	0%	3	4	33%
4	5	25%	1	1	0%
2	4	100%	5	4	-20%
2	2	0%	1	1	0%
2	4	100%	3	3	0%
2	3	50%	2	2	0%
3	4	33%	3	4	0%
3	3	0%	1	4	300%
2.55	3.45	40%	2.45	3.09	47%

Appendix F

Arleta School eighth graders

	Fluency			Comprehension		
	1/21/15 Pre-test	2/23/15 Post-test	% Change	1/21/15 Pre-test	2/23/15 Post-test	% Change
AA	108	120	11%	4	2	-50%
C	150	167	11%	1	2	100%
DA	88	118	34%	2	3	50%
EA	123	129	5%	4	3	-25%
FA	169	171	1%	4	4	0%
GA	165	164	-1%	3	3	0%
HA	148	170	15%	1	2	100%
JA	153	178	16%	4	4	0%
KA	165	196	19%	4	5	25%
LA	122	140	15%	1	2	100%
MA	153	148	-3%	1	3	200%
NA	158	133	-16%	1	2	100%
PA	164	176	7%	1	4	300%
QA	145	166	14%	2	3	50%
RA	156	161	3%	2	2	0%
TA	165	166	1%	3	4	33%
AVG	146	158	8%	2.38	3.08	61%

Scott School eighth graders

	Fluency			Comprehension		
	1/21/15 Pre-test	2/23/15 Post-test	% Change	1/21/15 Pre-test	2/23/15 Post-test	% Change
AB	108	122	13%	1	3	200%
BB	167	186	11%	1	2	100%
CB	128	145	13%	2	3	50%
EB	154	167	8%	1	2	100%
FB	146	148	1%	3	3	0%
GB	148	178	20%	2	3	50%
IB	88	110	25%	1	2	100%
JB	43	64	49%	1	2	100%
LB	121	123	2%	1	1	0%
NB	98	125	28%	3	4	33%
OB	148	171	16%	3	3	0%
AVG	123	140	17%	1.73	2.55	67%

Appendix G

HB Lee		Fluency			Comprehension		
	12/4/15 Pre-test	12/14/15 Post-test	% Change	12/4/15 Pre-test	12/14/15 Post-test	% Change	
AD	175	192	10%	3	3	0%	
BD	116	132	14%	2	3	50%	
CD	93	108	16%	1	1	0%	
DD	97	110	13%	2	3	50%	
ED	98	95	-3%	2	3	50%	
FD	147	150	2%	3	4	33%	
GD	138	144	4%	1	2	100%	
HD	117	146	25%	1	3	200%	
ID	111	129	16%	2	3	50%	
JD	170	175	3%	1	3	200%	
KD	127	123	-3%	3	4	33%	
LD	90	116	29%	1	3	200%	
MD	148	177	20%	3	3	0%	
AVG	125	138	11%	1.92	2.92	74%	
Floyd Light		Fluency			Comprehension		
	1/14/16 Pre-test	1/27/16 Post-test	% Change	1/14/16 Pre-test	1/27/16 Post-test	% Change	
AE	172	187	9%	3	4	33%	
BE	115	139	21%	2	3	50%	
DE	107	122	14%	3	4	33%	
EE	115	132	15%	3	4	33%	
FE	93	110	18%	2	2	0%	
GE	136	149	10%	1	2	100%	
HE	155	172	11%	2	4	100%	
IE	127	149	17%	1	3	200%	
JE	104	135	30%	3	4	33%	
KE	172	179	4%	2	3	50%	
LE	148	169	14%	2	3	50%	
AVG	131	138	15%	2.18	3.27	62%	

Appendix H

Reynolds seventh Graders

	Fluency			Comprehension		
	2/3/16 Pre-test	2/17/16 Post-test	% Change	2/3/16 Pre-test	2/17/16 Post-test	% Change
AF	120	150	25%	2	1	-50%
CF	144	174	21%	2	4	100%
DF	150	180	20%	3	4	33%
EF	95	103	8%	2	4	100%
FF	99	149	51%	2	2	0%
GF	178	250	40%	3	4	33%
IF	166	255	54%	4	5	25%
JF	129	165	28%	1	2	100%
LF	147	167	14%	1	3	200%
NF	111	148	33%	2	2	0%
AVG	134	174	29%	2.20	3.10	54%

Appendix I

