Arts Impact Dissemination and Expansion

U.S. Department of Education
Arts Education Model Development and Dissemination grant
2010-2014

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INTRODUCTION

The **Arts Impact Dissemination and Expansion (AIDE)** is a project of Puget Sound Educational Service District's Arts Impact program in partnership with Seattle Public Schools, five Puget Sound regional arts organizations; *Book-It Repertory Theater, Pacific Northwest Ballet, Seattle Art Museum, Seattle Children's Theater, and University of Washington World Series in Dance,* NorthEast Washington ESD 101 (NEWESD), and four Eastern Washington partners *Northwest Museum of Arts and Culture*, *Jundt Museum of Arts, Gonzaga University, and Whitworth University.*

AIDE studied the impact of the arts-infused professional learning program, Arts Impact, on teacher effectiveness and the impact of arts-infused teaching and learning on student achievement of students in urban and rural settings, and students from traditionally under-performing demographic groups. The project also investigated the activities, systems, and conditions necessary to successfully replicate the Arts Impact model with fidelity outside of a major metropolitan region. Products to be developed and disseminated by the grant include a "Readiness to Benefit" tool to identify conditions necessary to implement an evidence-based model; a tool to evaluate implementation progress; video enhanced lesson plans; and a Key Features document identifying the enduring components and successful practices of the Arts Impact model.

AIDE project goals are to:
1) Build capacity and systematically increase and strengthen arts education across Washington State by expanding and replicating the innovative Arts Impact model in other regions of Washington state;
2) Strengthen K-5 standards-based arts education;
3) Improve student academic performance associated with the arts, including the achievement of rural students and those in groups traditionally identified as low performing and;
4) Develop and disseminate grant products and results.

Arts Impact is an innovative arts-infused professional learning model that has been operating in the Puget Sound region of Washington State since 1999. During that time it has had multiple opportunities to study variations on the model thanks to three U.S. Dept. of Education Arts Education Model and Dissemination grants (AEMDD): *Teaching Teachers to Teach the Arts* (2003-2006), *Arts Impact/Arts Leadership* (2006-2010), *Math Artistic Pathways* (2008-2012), and one Professional Development for Arts Educators (PDAE) grant, *Teacher Training: Arts as Literacy*, (2008-2011). Since AIDE was awarded (2010-2014), Arts Impact has received two additional PDAE grants: *Teacher Training: Arts as Literacy Plus,* (2011-2014), and STEM *and Arts Infused Learning* (2014-18). Each of these opportunities has informed the next resulting in program innovations that are applied in the Arts Impact Core professional learning program, which is offered throughout the Puget Sound region of the state, and disseminated widely via the Arts Impact website, published reports, and numerous conference presentations.

PROJECT DESCRIPTION

Schools

AIDE was implemented in three high-poverty, low performing, and highly diverse urban elementary schools in Seattle Public Schools (SPS) and four high-poverty, rural elementary schools in Eastern Washington. Two schools in Eastern Washington are in remote rural areas, and two schools are located in remote towns. Three schools from Seattle and four schools from Eastern Washington with matching student demographics were selected as control sites. The average free and reduced lunch rate for Seattle schools was 70% and 54% for schools in NEWESD region.

Curriculum

Arts Impact staff and Artist Mentors collaborated closely with SPS district curriculum leaders in math to develop the K-5 sequential arts-infused math curriculum in dance and visual art. Thirty-six lessons, three visual art/math and three dance/math lessons per grade level K-5, aligned with Common Core State Standards (CCSS), made up the curriculum. The AIDE arts-infused math curriculum complemented the arts-infused reading curriculum Arts Impact developed two years previously, also in collaboration with SPS. Fifty-four lessons made up the arts-infused reading curriculum—three lessons per grade level K-5 in dance/reading, theater/reading and visual arts/reading. The arts-infused reading curriculum was taught in the first of two years of professional learning for project teachers in AIDE and the arts-infused math curriculum was taught in the second.

Arts Impact adheres to the definition of arts-infused learning as articulated by *Authentic Connections* (2002) published by The Consortium of National Arts Education Associations that states arts-infusion is "authentic connections between two or more disciplines…that transcend individual disciplines." *Authentic Connections* defines arts-infusion as the "most sophisticated" type of arts integration because "Students' learning and outcomes in infused approaches are focused on strong relationships between complementary subjects," providing students with rich transferrable learning experiences.

An example of an Arts Impact infused lesson is the 2nd grade dance/math infused lesson "Triangle, Quadrilateral, Pentagon, and Hexagon Dances," in which students create specific geometric shapes with their bodies and "stretchy-bands." The concept of shape lives in both dance and math. Another example is the 5th grade visual art/math infused lesson "Mobiles: Balancing Equations." Here students focus on numerical equivalency and how it relates to art and the physical world: balance in sculpture and mobiles. In both lessons learning goes beyond defining shape or equivalency to integrating thinking about the concepts and then constructing—with their bodies and their hands—working models of the concepts.

All Arts Impact curricula use a common lesson plan format that includes the following components: The enduring understanding; learning targets and criteria; teaching strategies; vocabulary list; materials and supplies; cultural references; alignment to Washington State arts standards and Common Core State Standards (CCSS); embedded assessment points; criteria checklist, and performance based assessments as appropriate such as peer assessment, written self- or peer-reflection, rubrics, or graphic organizers; and a family letter.

The scope and sequence of both the math and reading curricula are attached in Appendices A and B. The lesson plans are available on the Arts Impact website at www.arts-impact.org.

Professional Development Components

The professional development components for AIDE are based on the Arts Impact Core model and are aligned with Learning Forwards Standards for Professional Learning and University of Washington's 5 Dimensions of Teaching and Learning.™ The following components were offered each year for two years with arts-infused reading the focus of Training Year 1, and arts-infused math in Training Year 2. In the third year, called the Sustaining Year, teachers were asked to independently teach as many lessons as possible from both curricula. Professional learning communities and supplementary workshops continued in the Sustaining Year.

30-hour summer institute

The five-day summer institutes are taught by Arts Impact-trained Artist Mentors and provide teachers experiential learning that builds content knowledge in three art forms (dance, theater, and visual arts), models best teaching practice, and develops personal artistic confidence. The active learning is interspersed with sessions on the model's foundational pedagogy and teaching framework. This more traditional style of learning combined with hands on learning connects pedagogy to practice.

In-school mentorships (11 hours)

Artist Mentors provide one-on-one classroom based coaching and mentoring in planning, teaching and assessing arts infused lessons. The mentorships gradually transfer teaching responsibility from the Artist Mentor to the teacher in the following progression: Artist Mentors model-teach; Artist Mentors and teachers co-teach; collaborative lesson writing; two teacher independent teaches; and co-assessment of student work—visual artwork or videos of performances in dance or theater.

Professional Learning Communities (two, 3-hour PLCs)

AIDE provided professional learning communities for treatment teachers to share learning, problems of practice, challenges, and successes. PLCs develop a community of practitioners who are committed to continuous improvement, collective responsibility, and goal alignment.

Supplementary Workshops

Ten, three-hour supplementary workshops taught by Arts Impact Artist Mentors are offered throughout the year to provide training on additional arts-infused lessons and opportunities to learn new arts skills and connect with colleagues.*[1]

Cultural study trips

Object-based learning capitalizes on the idea that community resources—original works of art, live dance, theater and musical performances—are the highest exemplars of the concepts, skills and processes artists use to communicate. Observing first hand an object under study encourages close observation and inquiry. Educators at partnering community cultural organizations guide learning for students and teachers on museum tours and at dance performances or theater performances to complement their classroom study, a much richer exposure opportunity for students than the normal field trip.

Graduate credit or clock hours

AIDE participants were able to earn four continuing education graduate credits from Seattle Pacific University or Gonzaga University (Eastern Washington participants) or up to 40 clock hours each year, a validation of the academic rigor of the training.

[1] *Arts Impact discontinued offering supplementary workshops in 2013 because of continued decline in enrollment. Arts Impact now offers a two-day Arts Integration Summer Conference offering additional training in arts-infused lessons and refers teachers to partner organizations' teacher workshops. Teachers have overwhelmingly indicated they prefer the Summer Conference to the school year workshops.

Teachers

Eighteen teachers, six each from three elementary schools in Seattle Public schools, and 24 teachers, six each from four elementary schools in the four Eastern Washington rural school districts participated in the project. The self-selected teachers from each treatment school formed teacher leader teams comprised of one teacher at each grade level K-5, following the model developed in the *TTAL* and *TTAL+* PDAE projects. Teachers participated in two years of professional development receiving all the components described above. In Training Year 1 of AIDE, teachers selected two different arts disciplines (dance, theater or visual arts infused with reading) as the focus of their mentorships. In the second year, teachers received a mentorship in the third arts discipline. The intention is that after training is complete teachers will implement both curricula in all three arts forms.

(Note: Teachers in Eastern Washington only received training in the arts-infused reading curriculum while Seattle teachers received both. This variance will be discussed later in the report).

Replication

In order to replicate the Arts Impact professional learning program, AIDE trained seven new Artist Mentors, and two arts administrators—a Program Director, and a Program Coordinator—to implement Arts Impact in Eastern Washington. Arts Impact based this training on replication pilot projects conducted in three other Washington communities outside the Puget Sound region: Bellingham, Yakima, and Wenatchee. Lessons learned from those efforts greatly informed the approach used in AIDE.

The Director of Teaching and Learning for NEWESD was trained as the AIDE Program Director, and the Program Specialist for Teaching and Learning at NEWESD was trained as the AIDE Program Coordinator for the replication site. The goal was that at the end of the project, NEWESD would incorporate the Arts Impact model as part of their Teaching and Learning department and offer the program throughout its region. Seven Artist Mentors—three visual arts, two dance, and two theater—were selected in an interview process from a pool of local teaching artists to teach in the Eastern Washington AIDE project.

During the 2011-12 project year, NEWESD AIDE Program Director, Program Coordinator, and Artist Mentors participated in over 100 hours of training. The training included participation in the full 30-hour AIDE summer institute in August 2011 for Seattle teachers studying alongside veteran Arts Impact Artist Mentors and staff. Between Sept. 2011 and May 2012, NEWESD AIDE staff and Artist Mentors participated in additional training in coaching and mentoring techniques, reading comprehension, arts-infused lesson writing, performance based assessments, and administrative practices and procedures. NEWESD Artist Mentors also did practicums and observed Arts Impact Artist Mentors during live classroom mentoring activities in the Seattle AIDE cohort classrooms. In late spring of 2012 NEWESD AIDE prepared for and then implemented their first Summer Institute (June 25-29, 2012) for 24 teachers in the Eastern Washington cohort. Arts Impact staff provided technical support at the Institute. Eleven-hour mentorships for all 24 teachers were provided during the 2012-13 school year. Project data was gathered for all NEWESD AIDE cohort students and teachers.

Design and Methodology

AIDE developed a quasi-experimental design in which treatment and control schools were randomly selected from a pool of schools "willing to be willing" to serve as either a treatment or control site. Three treatment and three control schools were selected in Seattle. Four treatment and four control

schools were selected in Eastern Washington. Two Eastern Washington treatment and control schools were from "remote rural" school districts and two treatment and control schools were from "remote towns" as defined by the 2006 National Center for Education Statistics (NCES) urban-centric locale categories. Treatment and control schools were matched for similar student demographics.

Teacher Evaluation

Teacher outcomes in arts learning, autonomy to infuse the arts, and overall effectiveness were measured using the tools described below.

Performance Based Assessments (PBAs) Teachers were rated on PBAs embedded in the AIDE arts-infused curriculum taught in the summer institute, the same lessons and PBAs teachers later used in their classrooms. PBAs measure whether or not the learner has met the lesson criteria. Artist Mentors rated every teacher on all lesson criteria and teachers self-rated on selected lessons. These ratings were compared to determine inter-rater reliability and if teachers understood the criteria in the same way as the Artist Mentors, an important outcome if teachers are to successfully teach the lessons in their classrooms.

Autonomy Rubric for Teachers (ART) Artist Mentors rated teachers each year on the ART, an annotated 4-point rubric that measures teacher autonomy to teach in and through the arts. Each of the four levels has detailed descriptions of the attributes for that level, with level four being the highest rating. The ART measured ten strands across three domains—planning, teaching and assessing. Teachers self-rate, using the ART in the second year to reflect on their practice. The Artist Mentors' and Teachers' scores are compared to analyze how well teacher confidence reflects their competence in arts-infused teaching. The tool provides data on the effectiveness of the training to prepare teachers to autonomously infuse the arts as well as serving as a self-reflection tool on arts-infused teaching practice.

STAR Classroom Observation Protocol™ Treatment and control classrooms were rated on the STAR Protocol by outside observers from the BERC Group, the independent evaluator for the project and the developers of the STAR Protocol™. The STAR Protocol is a classroom observation tool that looks for the presence of Powerful Teaching and Learning♥ in five categories: Skills, Knowledge, Thinking, Application, and Relationships. STAR observations were administered at Baseline (Fall 2011), Training Year 1 (Spring 2012), Training Year 2 (Spring 2013) and the Sustaining Year (Spring 2014).

Teacher Focus Groups The BERC Group conducted annual focus group sessions with treatment teachers, Artist Mentors, and project staff to obtain their perspectives on the AIDE project.

Teacher Journals Teachers were asked to complete an electronic teacher journal three times during their mentorship for Training Years 1 and 2 and the Sustaining Year. Journals were collected in December, March, and June of each academic year. The purpose of the journals was to gather data on the frequency and intensity of arts infused instruction; teacher observations of student engagement during arts-infused lessons; how performance based assessment data is used to inform instruction; how teacher leaders are sharing their learning; and how many lessons, in addition to the mentored lessons, were taught. This qualitative data also provided context and insight into conditions that encouraged or discouraged implementation of arts-infused teaching.

Student Evaluation

AIDE sought to measure student achievement on three different levels: State achievement tests of learning across an entire year, curriculum sensitive assessments that measured specific art, math, and reading concepts taught in the AIDE arts-infused curriculum, and classroom based performance assessments. The development of curriculum sensitive assessments to measure math and reading concepts specific to AIDE lessons was fraught with difficulty. However, a district level assessment, Measure of Academic Progress (MAP) administered three times each year in math and reading, was used instead for Seattle students. The districts in the Eastern Washington cadre do not use MAP and there is no common assessment across the four districts other than the Measurement of Student Progress, the state math and reading assessment.

Measurement of Student Progress (MSP) Student data was collected for Treatment and Control group classes at baseline and annually thereafter for the Washington state annual assessment of student achievement—Measurements of Student Progress—in reading and math.

Arts Knowledge Test (AKT) The AKT is a multiple-choice, pre-and post-test that assesses basic knowledge and concepts of dance, theater, and visual arts that are taught in the AIDE curriculum. It was administered to treatment and control students in Fall and Spring of 2011-12 in Seattle, 2012-13 in Seattle and Eastern Washington, and 2013-14 in Seattle. Even though the AKT measured concepts specific to AIDE lessons which were not taught to control classrooms, the comparison is considered valid because in Washington, all students are supposed to receive arts instruction aligned to the Washington State Arts Standards.

Performance Based Assessments (PBAs) PBAs are included with each arts-infused lesson and measure the extent that students meet the specific learning criteria for each lesson. The project lessons use criteria based checklists to produce quantitative data. Students receive a 1 if criterion is met and a 0 if not. Since K-5 students are relative novices to arts infusion, the basis for scoring is either the student demonstrated the criteria or they did not. There is generally not a rubric or qualitative rating applied. The criteria based checklist is supported by other PBAs that include peer assessment, self-assessment, group reflection questions, individual written reflections, and graphic organizers. PBAs are rated separately by the Arts Impact Artist Mentor and the classroom teacher and compared for reliability. Ratings are made by looking at student evidence—the artwork from visual arts lessons, and videotape of classroom performances in dance and theater. PBAs were gathered for all treatment students in Seattle (2011-12, 2012-13, 2013-14) and Eastern Washington (2012-13).

Measure of Academic Progress (MAP) MAP is a district level assessment in math and reading for K-5 students that is administered three times each year in Fall, Winter, and Spring in Seattle. These assessments were administered district wide in SPS in 2011-12 and 2012-13. However, in 2013-14 Seattle Public Schools gave each school control over whether to administer the MAP assessments. AIDE treatment and control schools chose different patterns of administration of the test so it was impossible to compare results for that year.

Program Evaluation

AIDE project implementation fidelity was monitored through careful tracking of teacher participation statistics. Sign-in sheets were collected at each summer institute, supplementary workshop, and professional learning community meetings. Arts Impact staff documented the schedules of classroom mentorships and carefully monitored completion of all mentorship activities. Completed student

assessments, ARTs, and teacher surveys were collected from each teacher and Artist Mentor and logged in upon receipt. All participation statistics and completed activities were tracked in an excel spreadsheet.

Leadership team meetings were held quarterly with SPS Manager of Visual and Performing Arts and Manager of Professional Development, project principals, Arts Impact Artist Mentors and staff, cultural organization partners, and the evaluators. The purpose of these meetings was to communicate progress and receive feedback from all partners concerning which components of the project were working well, where adaptations would improve outcomes, and how the project should move forward once completed. Sign in sheets for each of these meetings were collected. Similar meetings were conducted with the Eastern Washington cohort with some adaptations due to travel hardships for the remote rural sites.

OUTCOMES

Teacher Outcomes

STAR Protocol: Impact on instruction

Researchers from The BERC Group conducted classroom observations using the STAR Protocol that assesses the presence of Powerful Teaching and Learning™ (PTL) at the AIDE treatment and control schools in Seattle and Eastern Washington. Researchers observed one language arts or math lesson in each classroom for approximately 25 to 30 minutes. Researchers did not target Arts Impact lessons, as the project was looking to determine the impact of the Arts Impact model on instruction in general and it provided a more valid comparison to control classrooms. Scores are recorded on the five Essential Components of the STAR Protocol, *Skills, Knowledge, Thinking, Application, and Relationships.* At the end of each observation, researchers also score the lesson on the overall extent to which the elements of PTL were present for an *Overall* score. Seattle classrooms were observed four times: Baseline (Fall 2011), 1st Follow-up (Spring 2012), 2nd Follow-up (Spring 2013), and 3rd Follow-up (Spring 2014). Eastern Washington classrooms were observed two times: Baseline (Fall 2012) and 1st Follow-up (Spring 2013). The Eastern Washington program was discontinued in June of 2013. This is explained in the Replication Outcomes section of this report.

Seattle schools STAR outcomes

Overall, *STAR Protocol* results were in favor of treatment schools indicating that instruction improved across all disciplines over the time of the project. Treatment classrooms showed stronger gains from baseline to the Sustaining Year 3 in three of the five Essential Elements of Powerful Teaching and Learning and in the Overall category. Treatment and control classrooms showed equal gains in one category, and control classrooms outscored treatment classrooms in one category.

It is significant to note that the category **where treatment classrooms showed the most gain from Baseline to Year 3 was in *Application,*** which measures whether students extend their learning into relevant contexts during a lesson. From Baseline to Year 3, treatment classrooms went from 8% to 60% in this category compared to the control group in which 33% scored a 3 or 4 and remained relatively flat across all three years. ***Application* is one of the key intended outcomes of arts-infused teaching.** The other element that treatment classrooms were significantly higher than controls was *Relationships*, which measures whether the interpersonal interactions in the classroom reflect a supportive learning environment. Treatment classrooms improved by 25 percentage points from baseline to Year 3 while the control group showed little change.

It is also important to note that there was a drop in treatment classroom scores during the Sustaining Year in three of the six components, including the overall category. There was a principal change in every school during the Sustaining Year, greatly impacting support for implementation. These outcomes suggest two things: teachers need additional time receiving direct professional learning from Artist Mentors; and, teachers must be supported by building leaders who endorse and encourage arts-infusion as a strategy for increasing student success.

The first Essential Component of the STAR Protocol, *Skills*, measures whether students were actively reading, writing, and/or communicating during a lesson. The second Essential Component, *Knowledge*, measures whether students demonstrate conceptual understanding during a lesson. *Thinking*, The third Essential Component measures whether students demonstrate metacognition and/or reflection during a lesson. The fourth Essential Component *Application*, measures whether students extend their learning into relevant contexts during a lesson. *Relationships* the fifth Essential Component measures whether the interpersonal interactions in the classroom reflect a supportive learning environment. *Overall* measures the overall extent to which the elements of Powerful Teaching and Learning were present in the lesson.

The STAR results for Seattle in all five components and the overall category are presented in Figures 1-6.

Figure 1. **STAR Classroom Observation Results - *Skills* Component: Seattle**
Skills, measures whether students were actively reading, writing, and/or communicating during a lesson

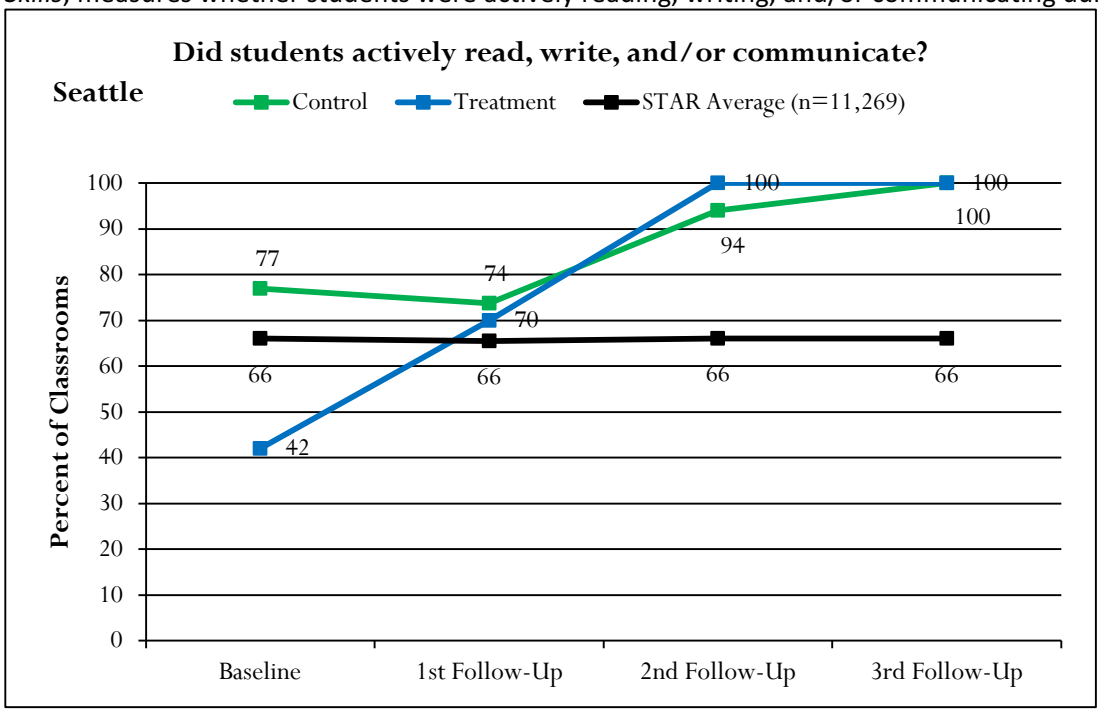


***Figure 2*. STAR Classroom Observation Results – *Knowledge:* Seattle**

Knowledge, measures whether students demonstrate conceptual understanding during a lesson.

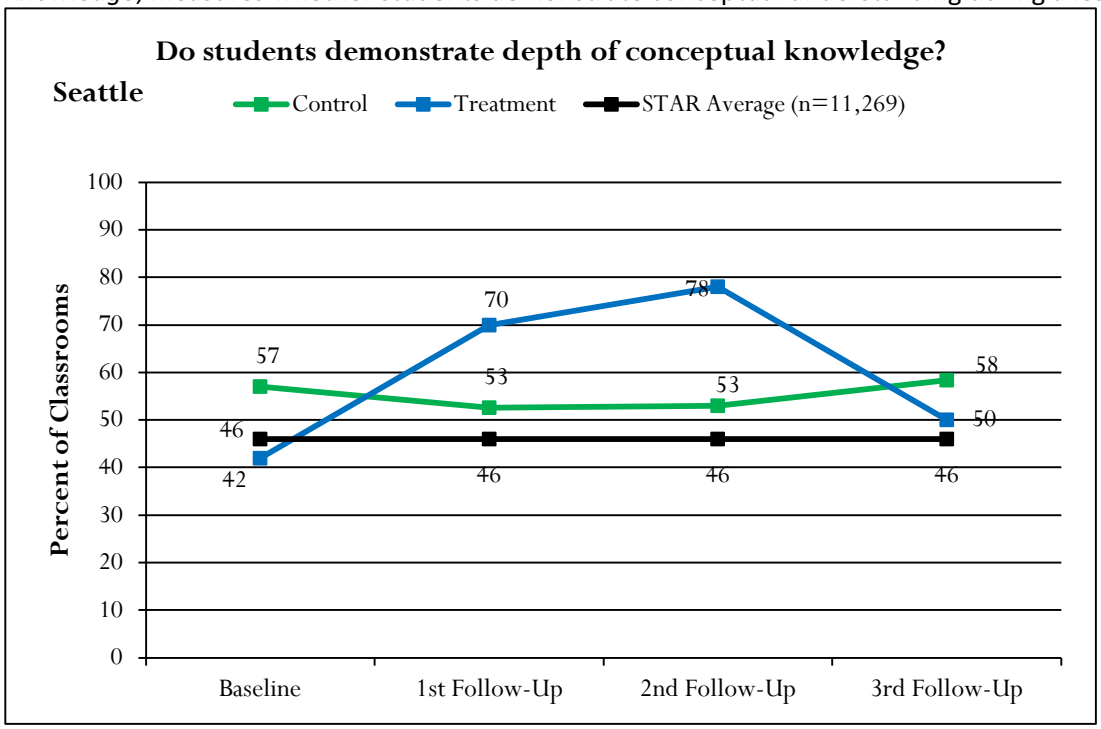


***Figure 3.* STAR Classroom Observation Results – *Thinking*: Seattle**

Thinking, measures whether students demonstrate metacognition and/or reflection during a lesson

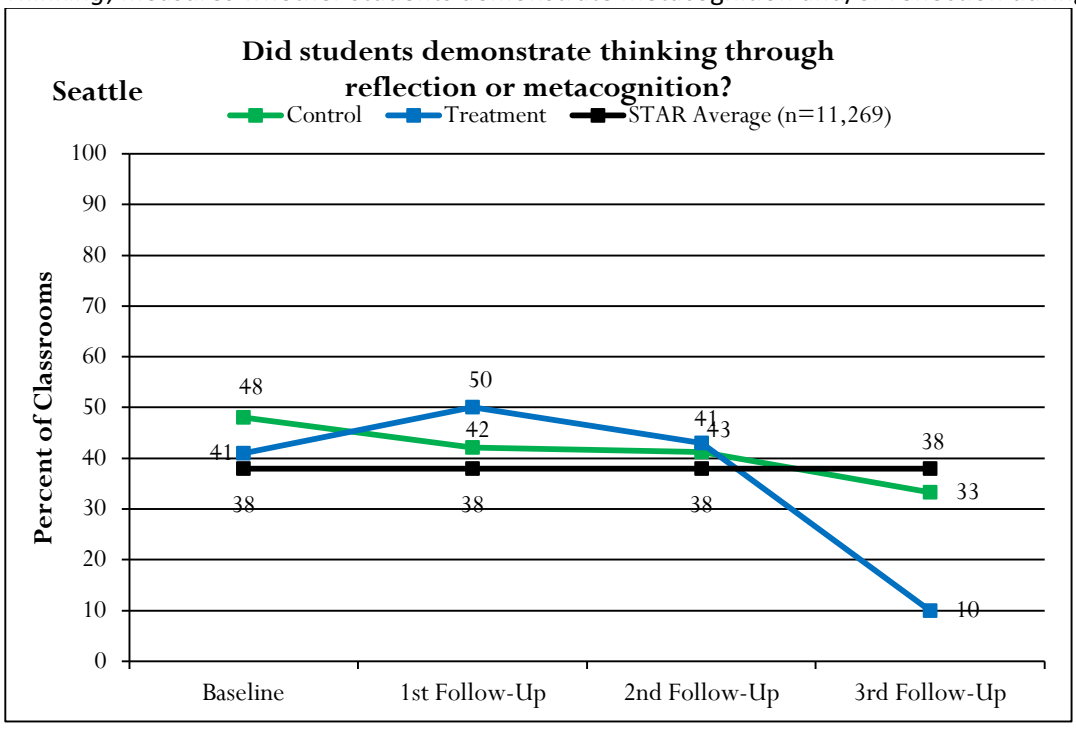


Figure 4. **STAR Classroom Observation Results –** ***Application:*** **Seattle**

Application, measures whether students extend their learning into relevant contexts during a lesson

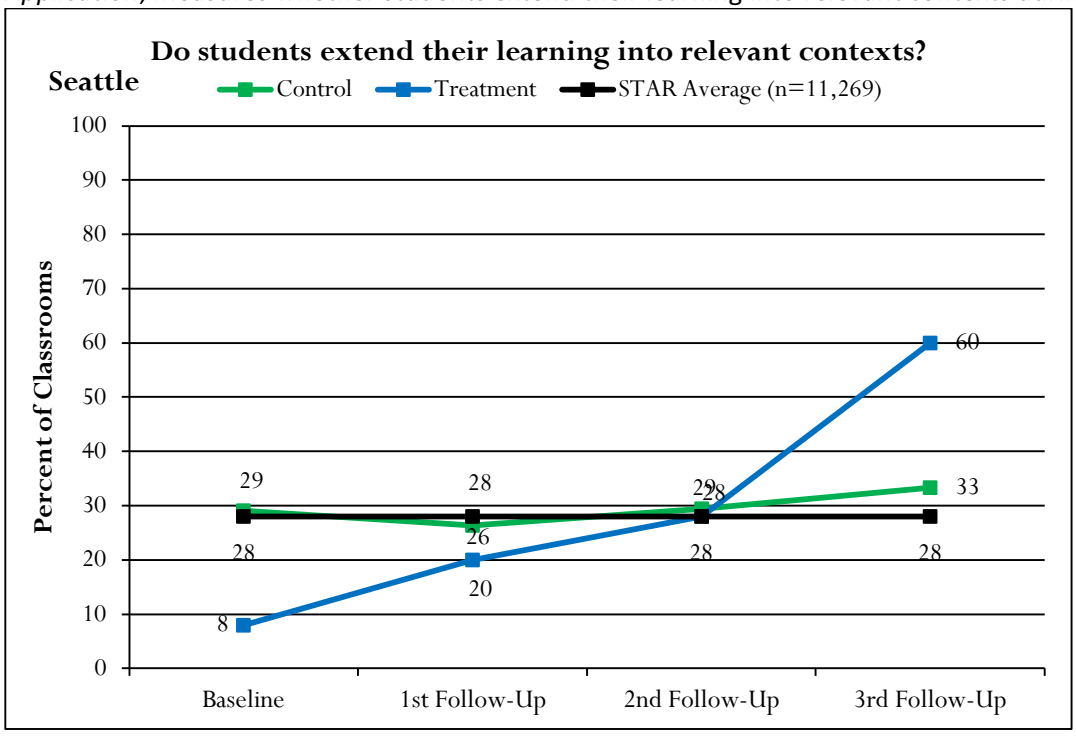


Figure 5. **STAR Classroom Observation Results –** ***Relationships:*** **Seattle**

Relationships measures whether the interpersonal interactions in the classroom reflect a supportive learning environment

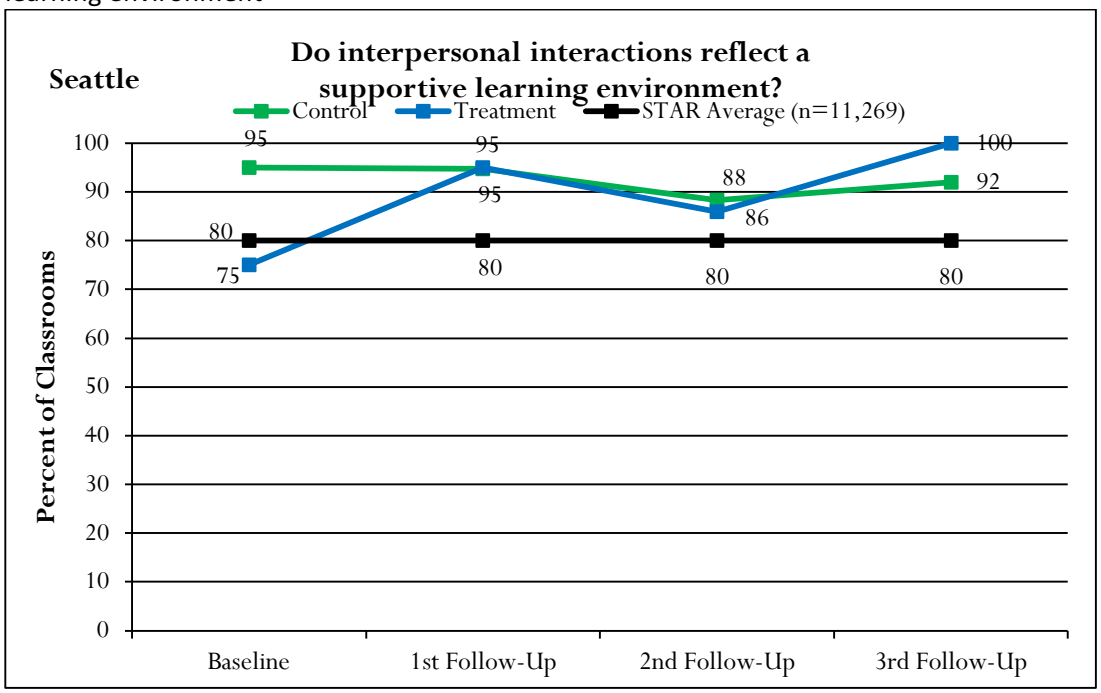
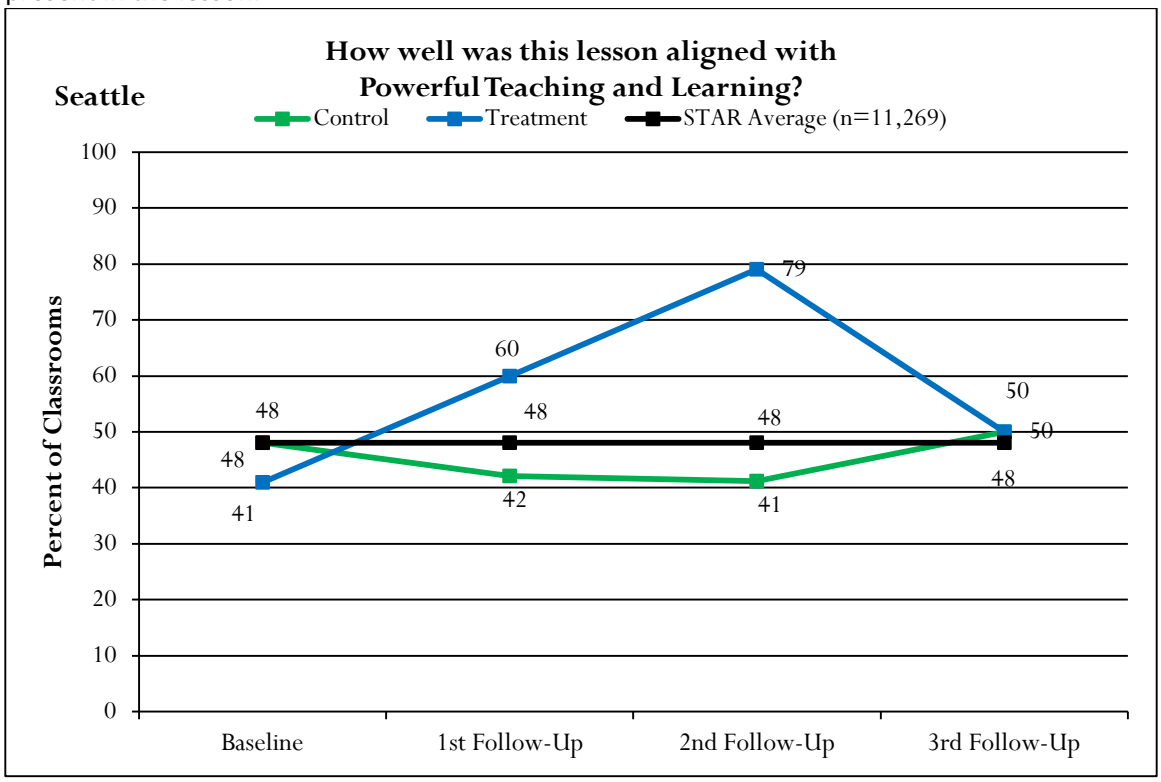


Figure 6. **STAR Classroom Observation Protocol – *Overall:* Seattle**
Overall measures the overall extent to which the elements of Powerful Teaching and Learning were present in the lesson.



Eastern Washington schools STAR outcomes
STAR Protocol Baseline observations were made of treatment and control classrooms in fall of 2012. Follow up observations were made of treatment classrooms only in spring of 2013. Follow up control classrooms were not observed because of difficulty in scheduling the classroom observations so a comparison cannot be made. However, growth in the treatment groups can be reported.

In the area of *Skills,* baseline observations indicate that the treatment schools presented more strongly than the control schools. At first follow-up, the change was negligible for the treatment schools, with 90% of schools scoring a 3 or 4, a two percentage-point drop from baseline. In *Knowledge,* the Eastern Washington group remained the same at 75% rating a 3 (54%) or 4 (21%) at baseline and rating a 3 (35%) or 4 (40%) at follow up showing an increase in 20% for those rating 4. In the *Thinking* component the treatment group started stronger with 79% scoring a 3 or 4 but then dropped to 65% scoring a 3 or 4 at follow up. In *Application,* treatment scores were quite low at 33% scoring a 3 or 4 but increased markedly to follow up to 70% of classrooms showing evidence of *Application.* This outcome aligns with results in the Seattle schools. The *Relationships* component was high at baseline for the treatment group, 87% and increased slightly at follow up to 90%. Finally in the Overall category, the treatment group started high at 79% and increased several more points to 85%.

The STAR results for Eastern Washington in all five components and the overall category are presented in Figures 7-12.

Figure 7. **STAR Classroom Observation Results – *Skills*: Eastern Washington**
Skills, measures whether students were actively reading, writing, and/or communicating during a lesson

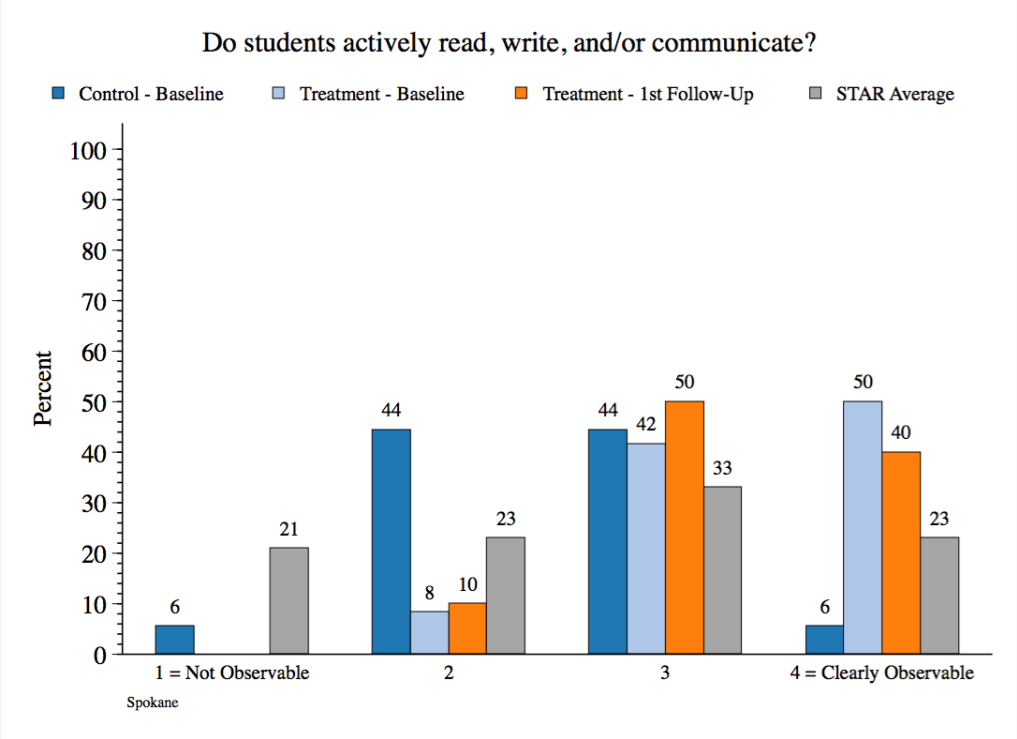


Figure 8. **STAR Classroom Observation Results – *Knowledge:* Eastern Washington**
Knowledge, measures whether students demonstrate conceptual understanding during a lesson.

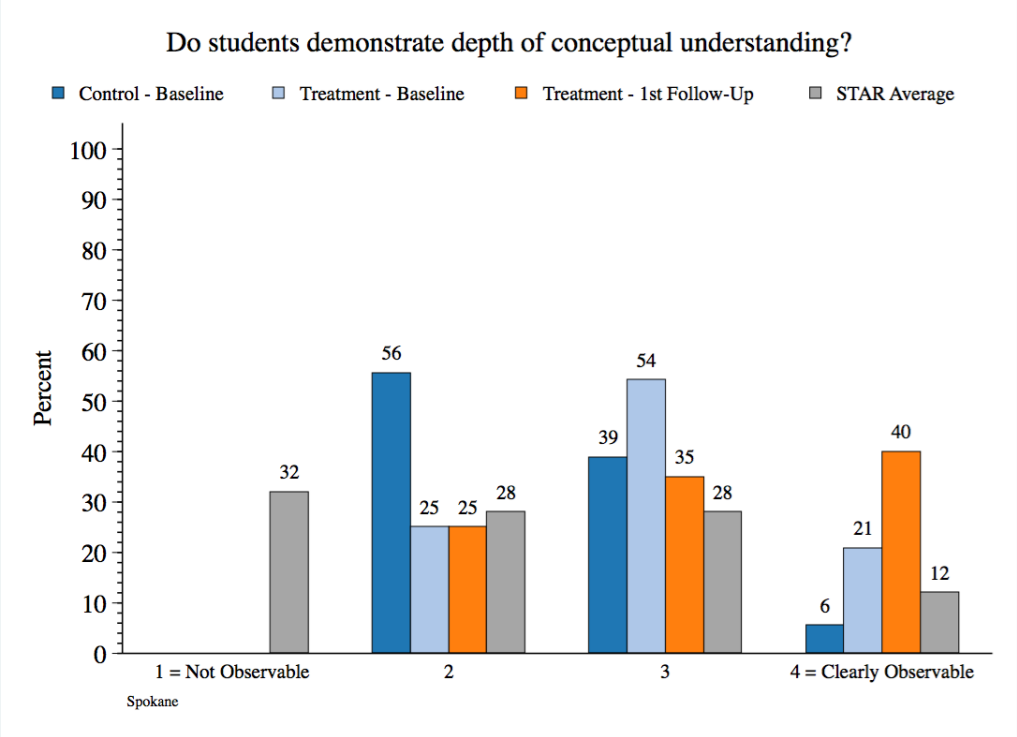


Figure 9. **STAR Classroom Observation Results – *Thinking:* Eastern Washington**
Thinking, measures whether students demonstrate metacognition and/or reflection during a lesson

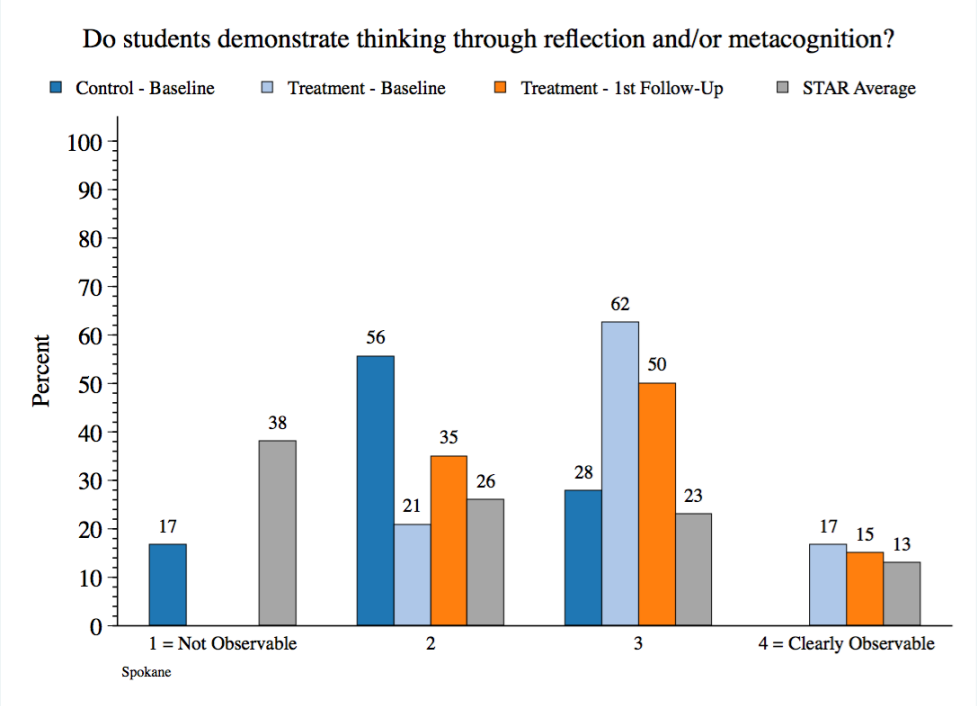


Figure 10. **STAR Classroom Observation Results – *Application:* Eastern Washington**
Application, measures whether students extend their learning into relevant contexts during a lesson

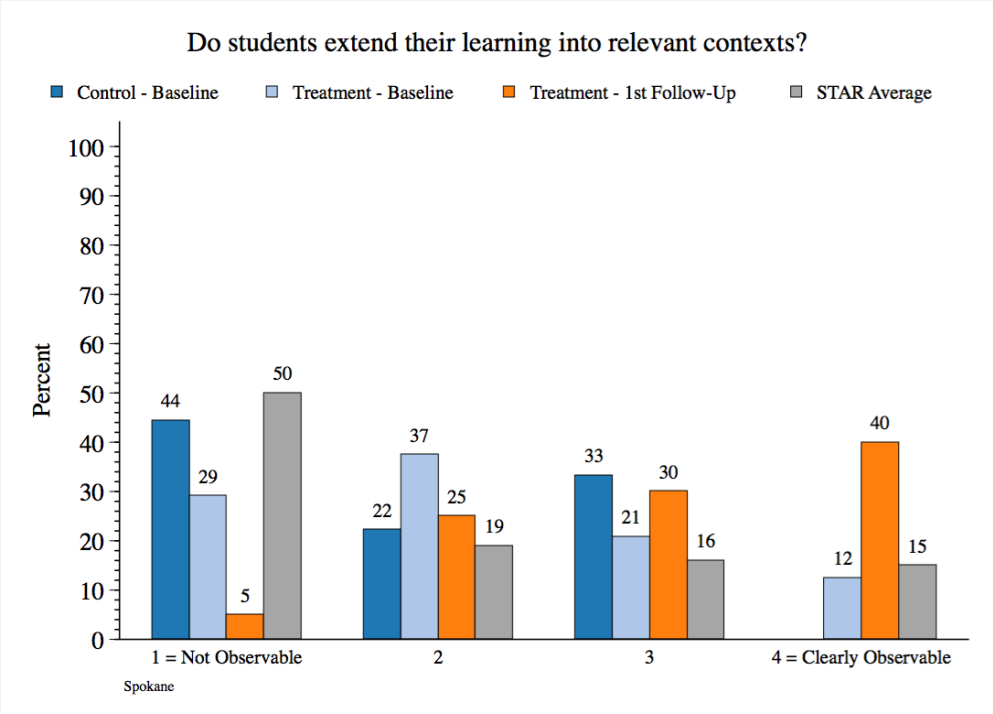


Figure 11. **STAR Classroom Observation Results – *Relationships:* Eastern Washington**
Relationships measures whether the interpersonal interactions in the classroom reflect a supportive learning environment

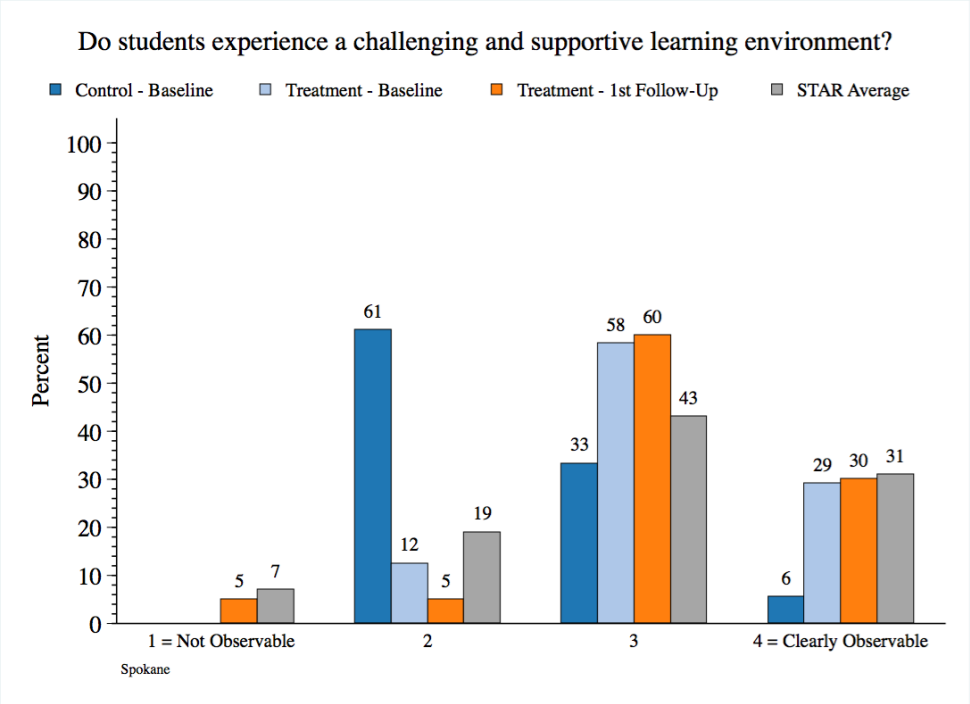
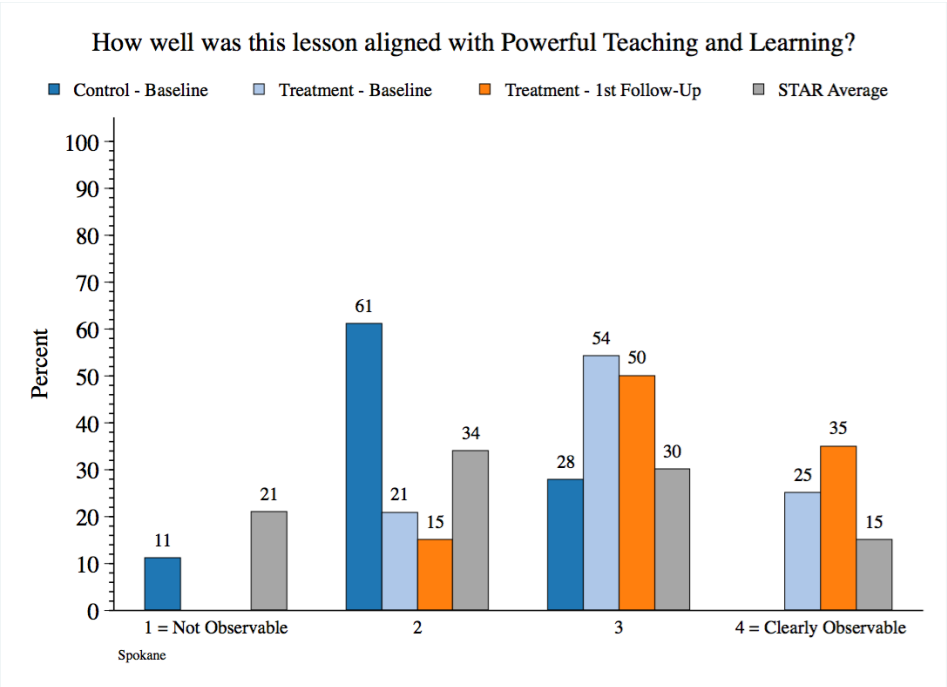


Figure 12. **STAR Classroom Observation Protocol – *Overall:* Eastern Washington**
Overall measures the overall extent to which the elements of PTL were present



Performance Based Assessments

During the Summer Institutes teachers participate in the AIDE curriculum lessons as learners in the very same lessons they take back to their classroom to teach their students. They are taught by veteran Arts Impact Artist Mentors who rate teacher work for every lesson—artwork, dance presentations, theater presentations using the performance based assessments included in each lesson. Results are as follows:

- Seattle 2011 and 2012 Summer Institutes: All teachers met 100% of the performance-based criteria in the lessons in which they participated.
- Eastern Washington 2012 Summer Institute: All teachers met 100% of the performance-based criteria in the lessons in which they participated.

These outcomes are not unexpected since the knowledge, skills, and concepts being taught are for K-5 grade levels. However, the arts do represent new content area for a majority of teachers and many teachers described the process of creating and performing as a transformational experience. It gave teachers empathy for how students feel when learning new and challenging content, and demonstrated that they could indeed create and perform to a level that was self-gratifying.

Autonomy Rubric for Teachers (ART)*[2]

The Autonomy Rubric for Teachers is an analytic rubric that measures levels of teacher performance in planning, teaching, and assessing arts and arts-infused instruction, and is designed as a tool for analyzing program effectiveness and facilitating continuous growth in teacher practice. In Training Year 1, the Artist Mentor uses the tool as a way to track and give objective feedback to classroom teachers about their mentorships. In Training Year 2, both the teacher and their Artist Mentor use the ART independently to reflect on the mentorship. For the purposes of evaluating program effectiveness, the ART is used to indicate to what degree the professional learning program has enabled teachers to achieve autonomy to infuse the arts.

There are seven strands in the Planning section of the ART, six strands in the Teaching section, and three strands in the Assessing section. The Planning section focuses on the ability to write the following lesson plan components: states the big idea or Enduring Understanding; learning targets; learning traits or criteria; lesson step sequences; learning prompts; assessments; arts-infused concepts. The Teaching strand focuses active teaching practices of leading a warm-up; sequencing; pacing; embedding assessments; classroom management; and prompting for original and creative student responses. Assessment practices include: leading reflection; staying criteria focused; and revising the lesson based on student outcomes. Each strand is rated on a scale of 1 -4, with four being the highest. Each rating scale number has a descriptor clearly indicating what the practice looks like for the corresponding rating. The benchmark is for 80% of teachers to perform at a 3 or 4 by the end of the two-year training.

Results on the ART (Fig. 13) indicate that teachers developed autonomy to teach arts-infused lessons. Artist Mentor and Teacher self-ratings for Seattle teachers show that 100% of teachers scored a three or four on all but two strands—writes learning prompts and writes assessments—at the end of Training Year 2 and teachers did meet the benchmark for those two strands. The graph also indicates agreement between the Artist Mentor ratings and the teacher ratings. Figure 14 shows the percentage of Seattle teachers who received a level 4 after the two-year training, indicating a very high level of autonomy for the majority of teachers. Figure 15 shows very high ratings for Eastern Washington teachers after Training Year 1, their only year of training, indicating that the professional learning was effective in

[2] Since implementation of AIDE, the ART has undergone a revision aligning it more closely to the frameworks used by Washington State for teacher evaluation. The new ART is available on request from Arts Impact.

developing teacher autonomy to infuse the arts. Overall information from the ART helps the program now where professional learning needs to focus.

Figure 13. **Artist Mentor and Teacher Ratings of 3 and 4 for Training Year 2**

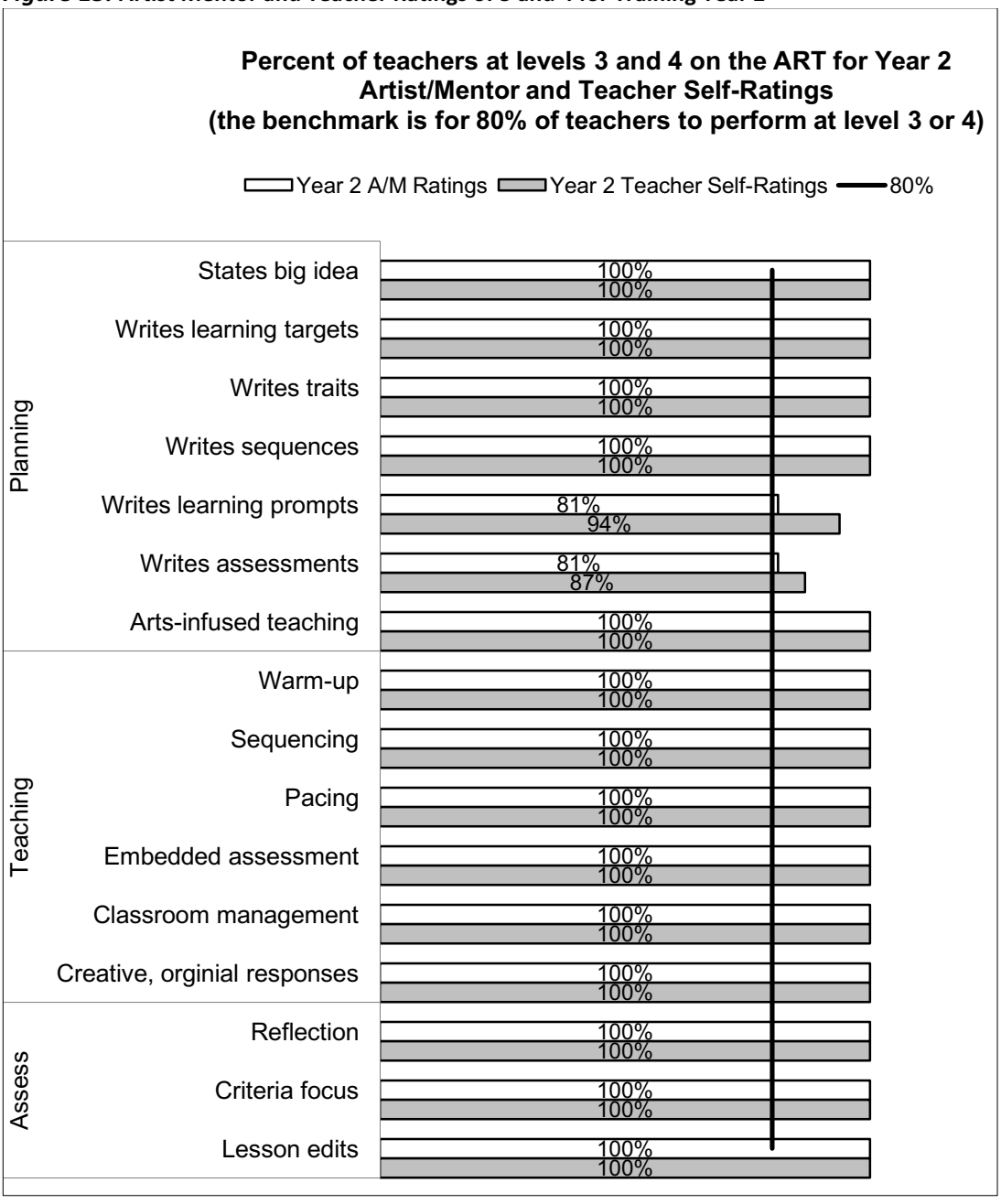


Figure 14: **Artist Mentor Ratings of 4 for Training Year 2**

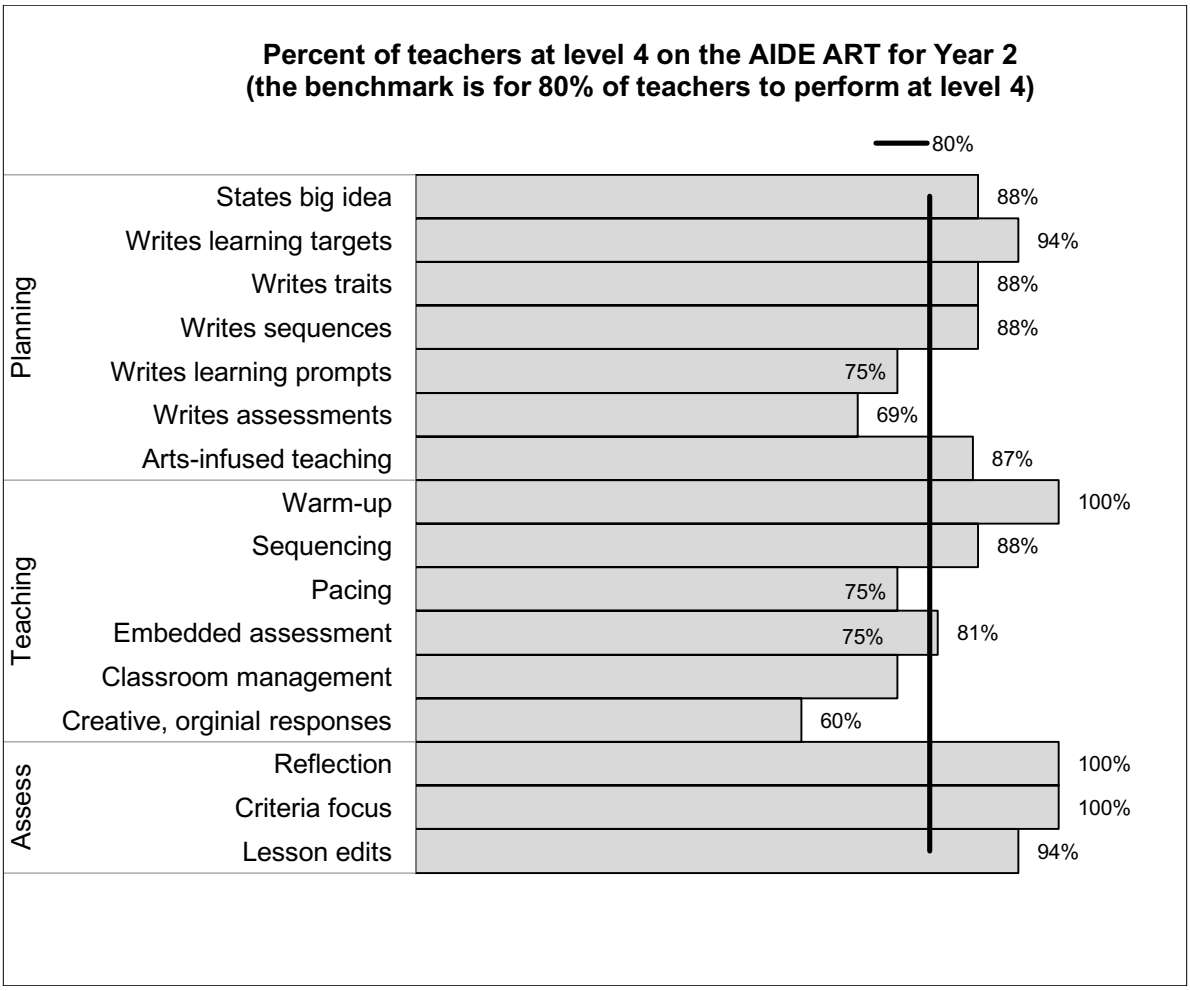
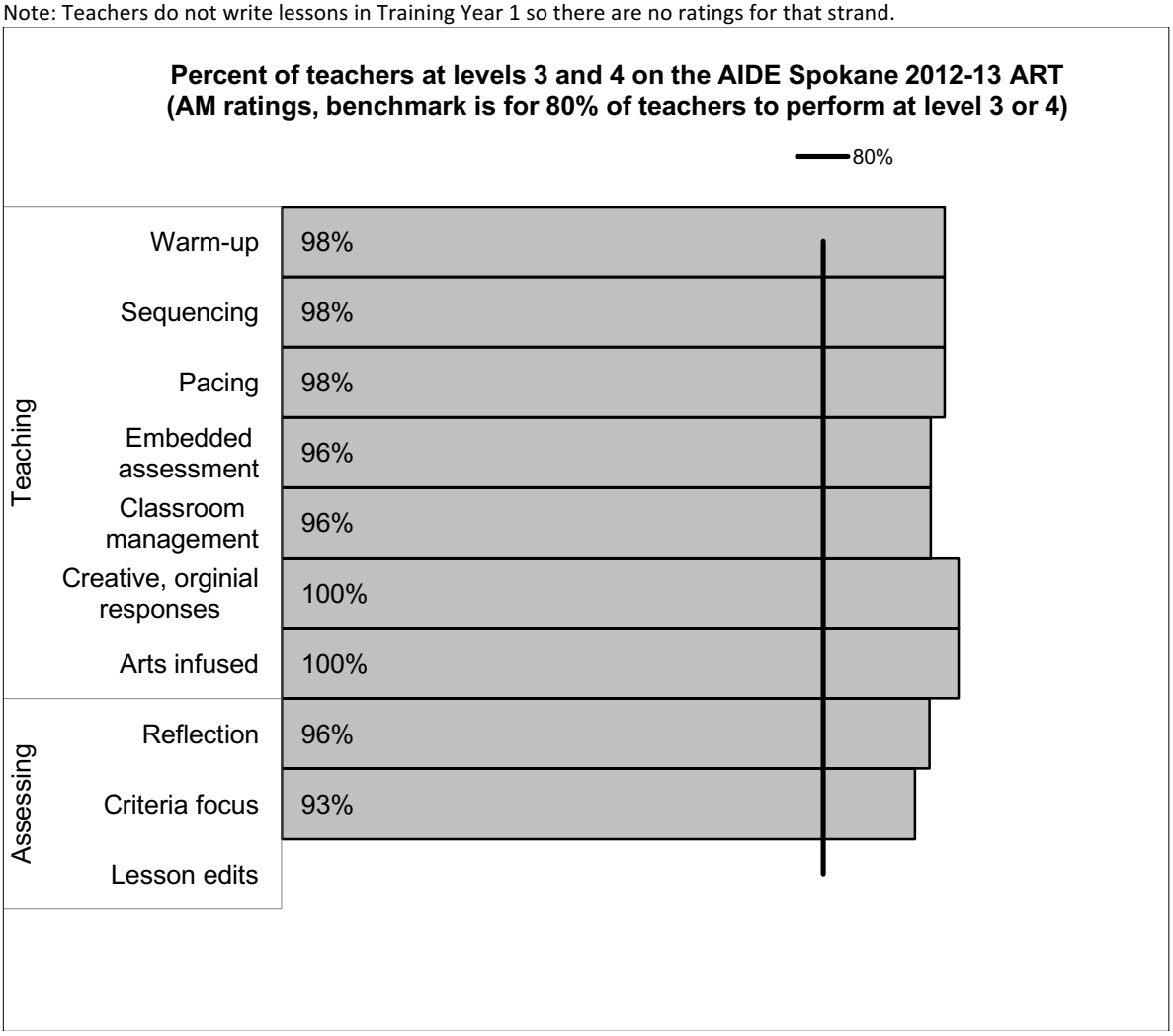


Figure 15: **Artist Mentor Ratings of 3 and 4 on the ART: Eastern Washington**
Note: Teachers do not write lessons in Training Year 1 so there are no ratings for that strand.



Student Outcomes

Performance Based Assessments
Historically, the impact of arts education on student achievement on standardized assessments in reading and math has been difficult to see. In the case of Arts Impact's concept-based approach to arts education, our intervention is deep, but not broad, so it is difficult to predict whether a specific concept taught in an Arts Impact lesson will appear on a standardized test. However, performance-based assessments (PBAs) measure the specific concepts and skills taught in each lesson. PBAs give students an opportunity to demonstrate learning in alternative ways—showing what they know and can do.

Students in treatment classrooms were rated using performance-based assessments. There are several types of PBAs. The project lessons use criteria based checklists to produce quantitative data. Students receive a 1 if criterion is met and a 0 if not. Since K-5 students are relative novices to arts infusion, the basis for scoring is either the student demonstrated the criteria or they did not. There is generally not a rubric or qualitative rating applied. The criteria based checklist is supported by other PBAs that include peer assessment, self-assessment, group reflection questions, individual written reflections, and graphic organizers as well as traditional written and mathematical responses. These PBA's inform both the

teacher and student of the depth of understanding of the criteria. Not all forms of PBAs are used in all lessons but there are multiple forms in every lesson.

Teachers were trained in administering the assessments as part of their professional learning. Teachers and Artist Mentors co-rate all performance-based assessments to insure validity and reliability of the results. AIDE teachers and Artist Mentors achieved 99% inter-rater agreement in their assessments.

In 2011-12, Seattle treatment teachers taught arts-infused reading curriculum in dance, theater, and visual art. In 2012-13 Seattle teachers taught the arts-infused math curriculum in dance and visual art. Eastern Washington teachers taught the arts-infused reading curriculum in dance, theater, and visual art in 2012-13.

The quantitative outcomes for PBA's across all sites are quite high with students meeting criteria between 80% and 100% on most lessons (Figures 15, 16, and 17). A lesson with students meeting less than 80% of criteria is infrequent. This is notable, since many of the treatment students came from disadvantaged backgrounds and were performing below grade level in other assessments. This also tells us that when students are given the opportunity to show their understanding of concepts in and through the arts, more students are successful.

Figure 16. **Seattle 2011-12 Student Performance Based Assessments: Arts-Infused Reading**

Discipline	Overall % of students meeting criteria	Number of lessons	Lessons >=80%	Number of Concepts	Concepts >=80%	% of Concepts >= 80%	Inter-rater Agreement
Dance	91%	6	6	35	29	83%	100%
Theater	93%	17	17	87	75	88%	99%
Visual Arts	92%	12	11	54	45	83%	100%
All	**92%**	**35**	**34**	**176**	**149**	**84%**	**99%**

Figure 17: **Seattle 2012-13 Student Performance-Based Assessments: Arts-Infused Math**

Discipline	Overall % of student meeting criteria	Number of lessons	Lessons >=80%	Number of Concepts	Concepts >=80%	% of Concepts >= 80%	Inter-rater Agreement
Dance	95%	10	10	78	76	97%	99%
Visual Arts	84%	6	3	24	15	63%	98%
All	**90%**	**16**	**13**	**102**	**91**	**89%**	**99%**

Figure 18: **Eastern Washington 2012-13 Student Performance Based Assessments: Arts-Infused Reading**

Discipline	Overall %	Number of lessons	Lessons >=80%	Number of Concepts	Concepts >=80%	% of Concepts >= 80%	Inter-rater Agreement
Dance	91%	12	11	76	65	86%	97%
Theater	95%	25	22	127	117	92%	99%
Visual Arts	98%	13	13	59	58	98%	100%
All	**94%**	**50**	**46**	**262**	**240**	**92%**	**99%**

Figure 19 illustrates the high rate of achievement on PBAs for 2011-12 and 2012-13 in participating Seattle schools. The fact that all students achieved higher than Arts Impact's 80% benchmark for success is especially notable since the CCSS-aligned arts-infused math lessons taught in 2012-13 were piloted in the first year of implementation of CCSS math in Seattle Public Schools.

What is most compelling is that when the data is disaggregated by race/ethnicity (Fig. 19), there is no statistically significant difference between white students and their non-white counterparts, or between any other ethnic groups on PBA outcomes. **In other words, the achievement gap is closed.**

This data corroborates Arts Impact's premise that performance-based measures of student learning reveal that students from all ethnicities achieve at a high rate through arts-infused instruction and when learning is measured using alternatives to paper/pencil recall tests. Teacher feedback consistently shows that when students are able to demonstrate what they know and can do through an artistic expression—an artwork, a piece of choreography, or a dramatic scene—they discover abilities and capabilities in students that traditionally perform poorly, which would not have otherwise been revealed. Success in expressing arts-infused concepts such as a balanced equation, story structure, or congruent shapes through artistic pathways can provide many students the confidence they need to continue to succeed.

Figure 19: Performance-based assessment results in Seattle

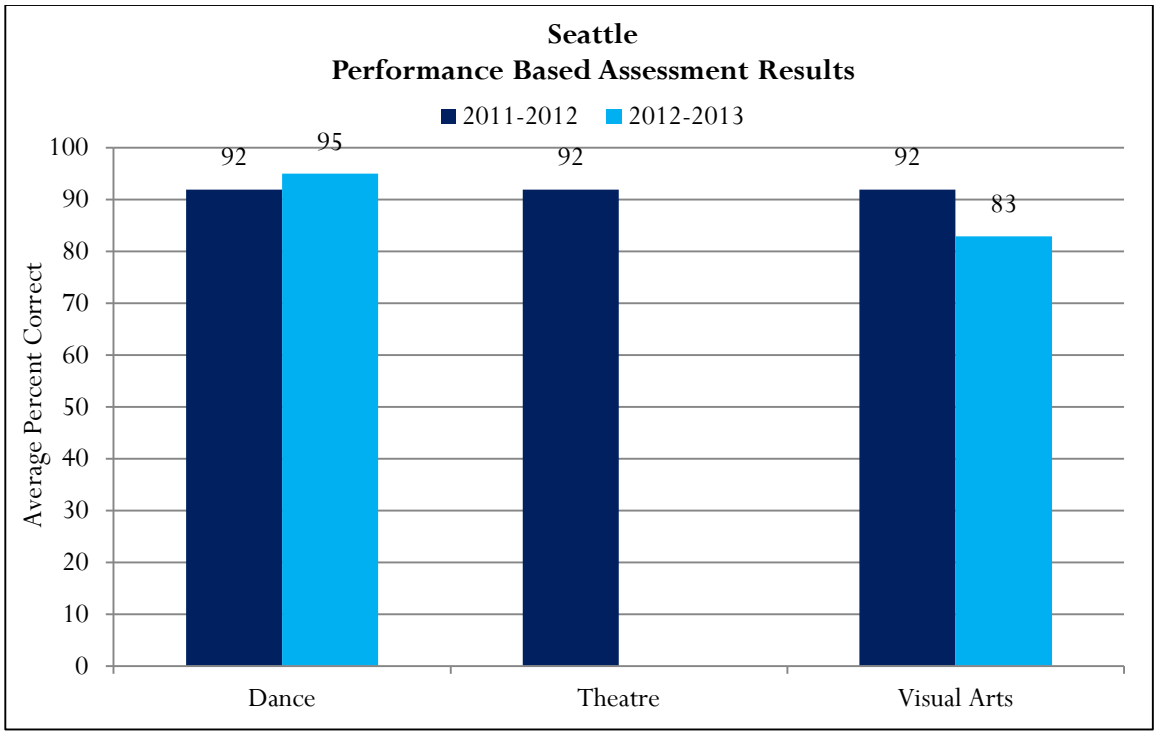
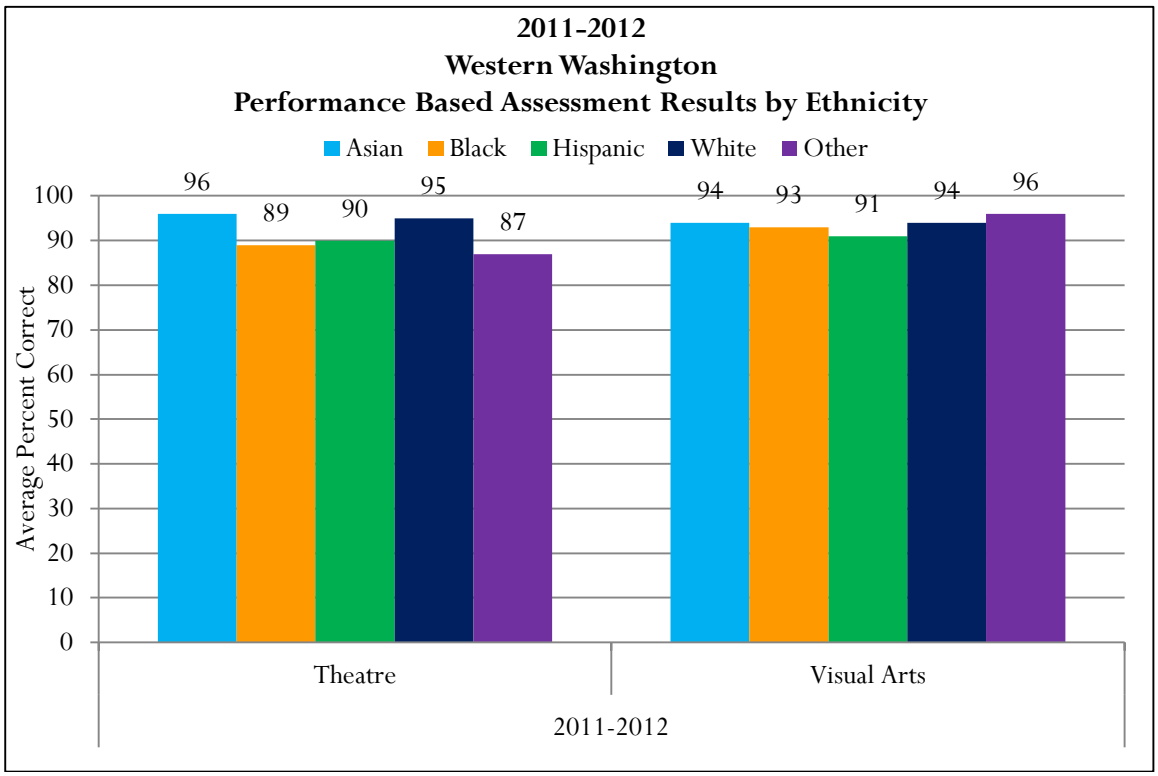


Figure 20: Performance Based Assessment Results by Ethnicity



NOTE: Data are not disaggregated for dance because many records could not be matched.

Arts Knowledge Test

The Arts Knowledge Test (AKT) is a multiple choice test assessing basic knowledge and concepts of dance, theater, and visual arts that are taught in the AIDE curriculum. Students completed the AKT in early fall of each year and then again in the spring. Theater was only tested in Training Year 1 for Seattle, 2011-12 and the Sustaining Year, 2013-2014 due to the curriculum design. Because Theater does not share many concepts with Math it was not included in 2012-13, Training Year 2, which was the arts-infused math curriculum in dance and visual arts. The total score is lower in 2012-2013 because Theater was not included.

Group means by content area for the AIDE treatment and control schools are included in Figures 21 through 28. Overall, the results showed that students in the AIDE treatment schools made more gains across all areas compared to the AIDE control schools. While Seattle control schools showed generally higher results in pre-tests both years in all modalities, by the post-test in the Spring, treatment schools had closed the gap, and surpassed control school scores in all but one modality (Visual Arts). In Eastern Washington, there were similar trends with control schools scoring generally higher in pre-tests, but treatment schools made more gains and scored higher across the modalities in the post-tests. Overall, treatment schools in both locations outgained control schools during the years of direct professional development.

There was a significant degree of attrition between the three assessment points for Seattle schools. Of those students across the entire sample who completed the test in the fall of 2011, 80.5% of treatment students and 88.5% of control students also completed the assessment fall of 2012, respectively. In Training Year 2, retention rates were lower, 70.9% of treatment students completed the assessment in fall and spring, while 73% of control students completed the assessment in fall to spring. Retention rates jumped up slightly for treatment and control schools in the Sustaining Year (77.6% and 86.8%, respectively). However, the number of students taking the assessment in the Sustaining Year for the treatment group declined markedly. In some cases, the assessment was not administered, and in one case the results had to be thrown out because of an unusual response pattern.

Figure 21. **Arts Knowledge Test: Dance - Seattle**

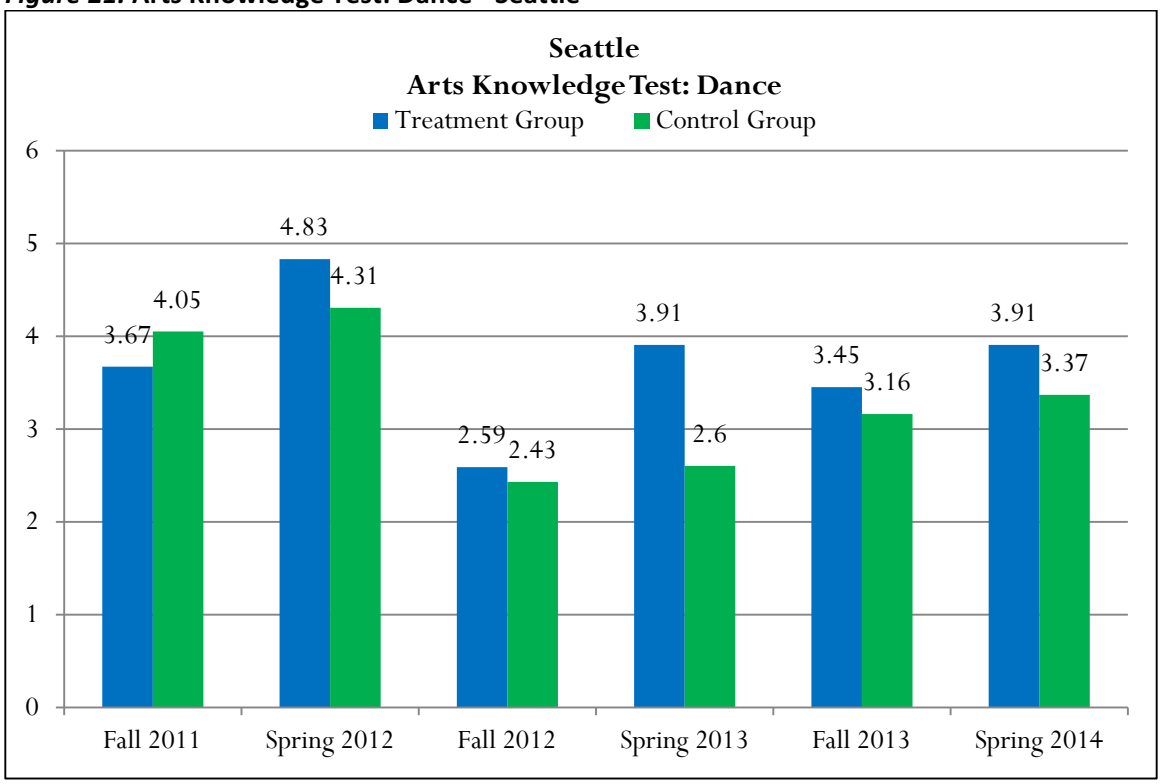


Figure 22. **Arts Knowledge Test: Theater Scores - Seattle**

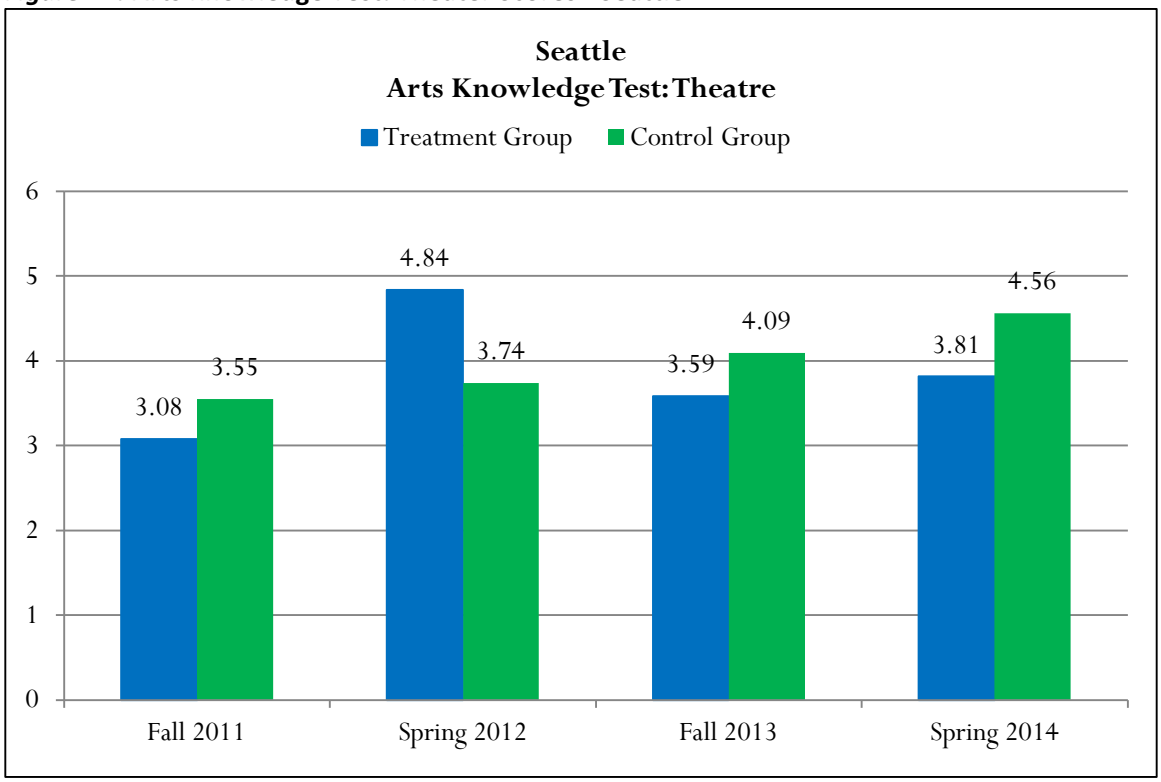


Figure 23. **Arts Knowledge Test: Visual Arts Scores - Seattle**

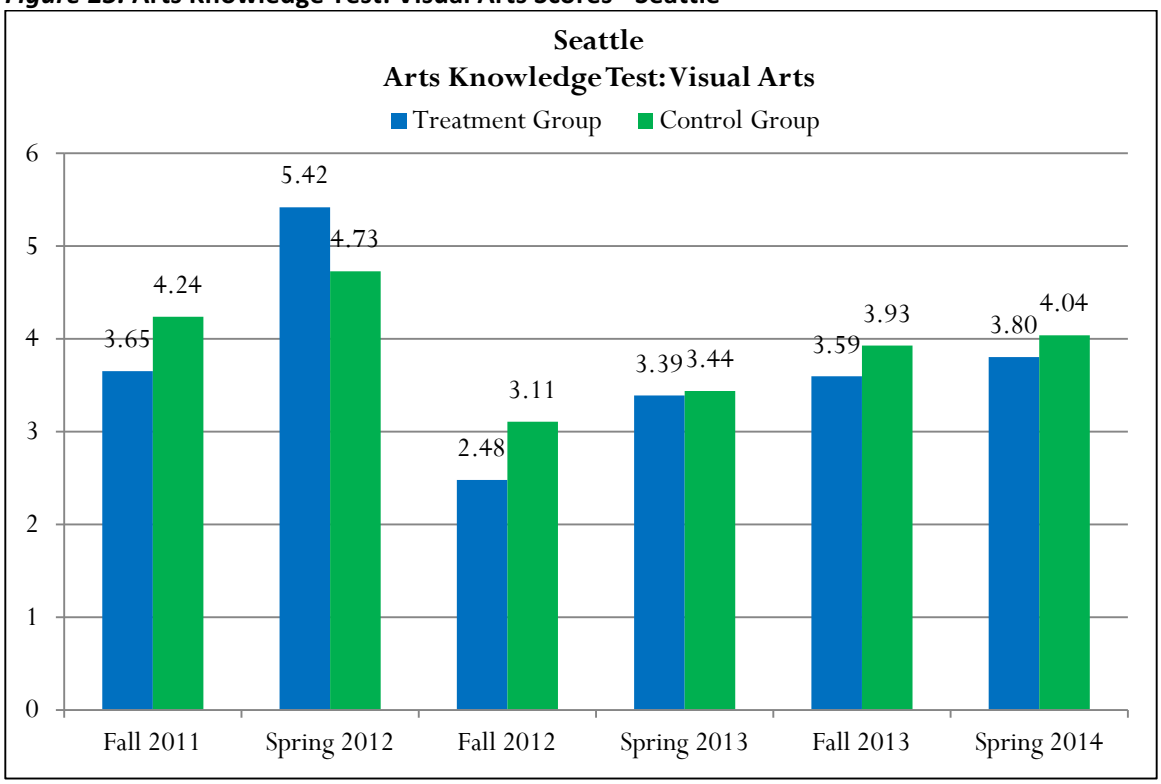


Figure 24. **Arts Knowledge Test: Total Scores - Seattle**

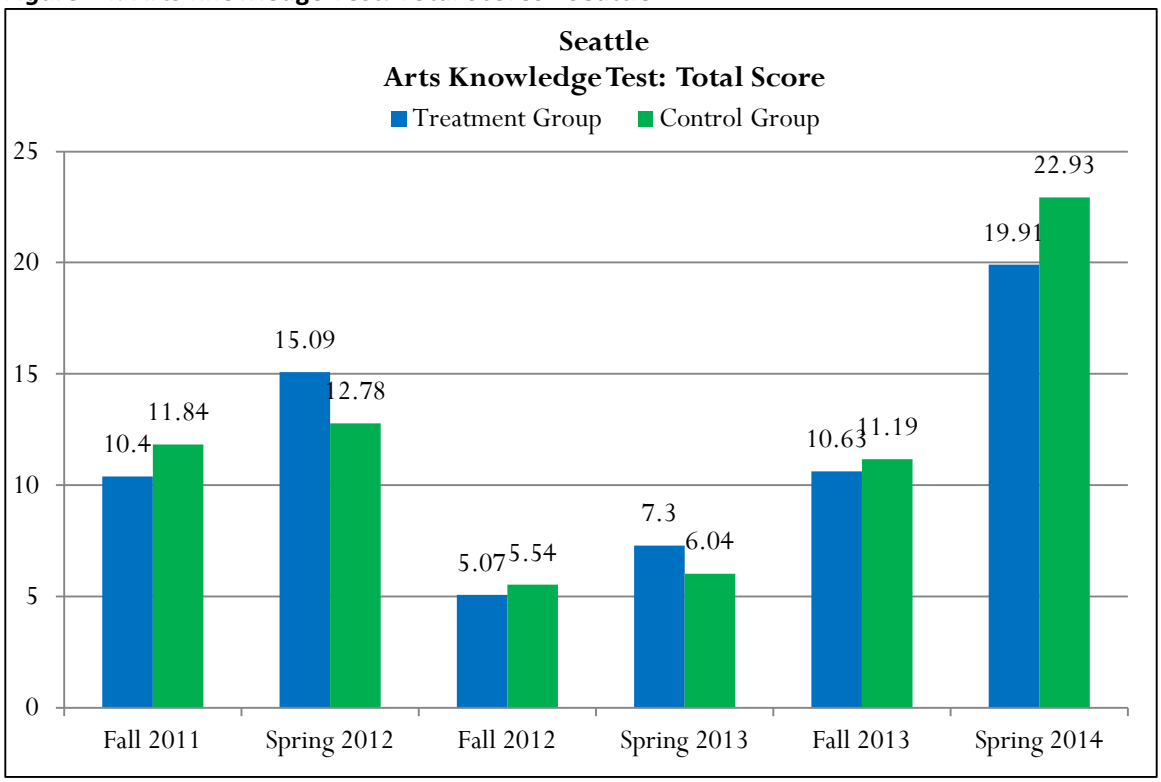


Figure 25: **Arts Knowledge Test: Dance-Eastern Washington**

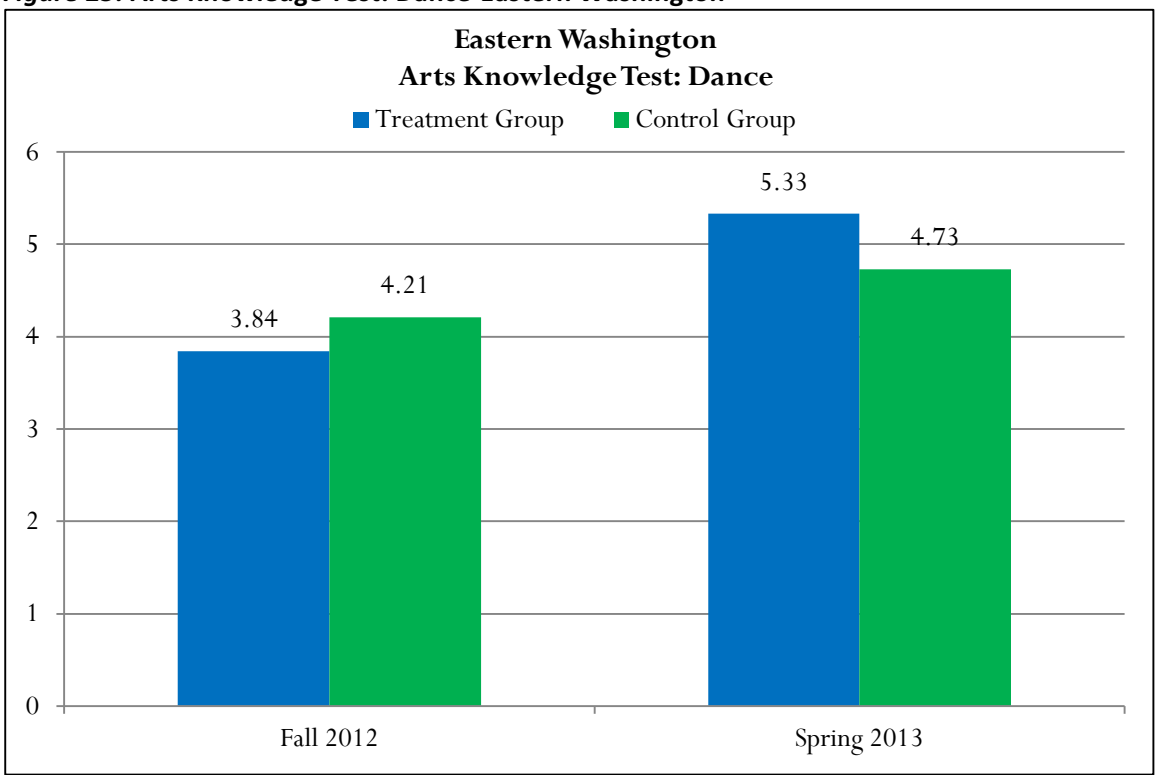


Figure 26: **Arts Knowledge Test: Theater - Eastern Washington,**

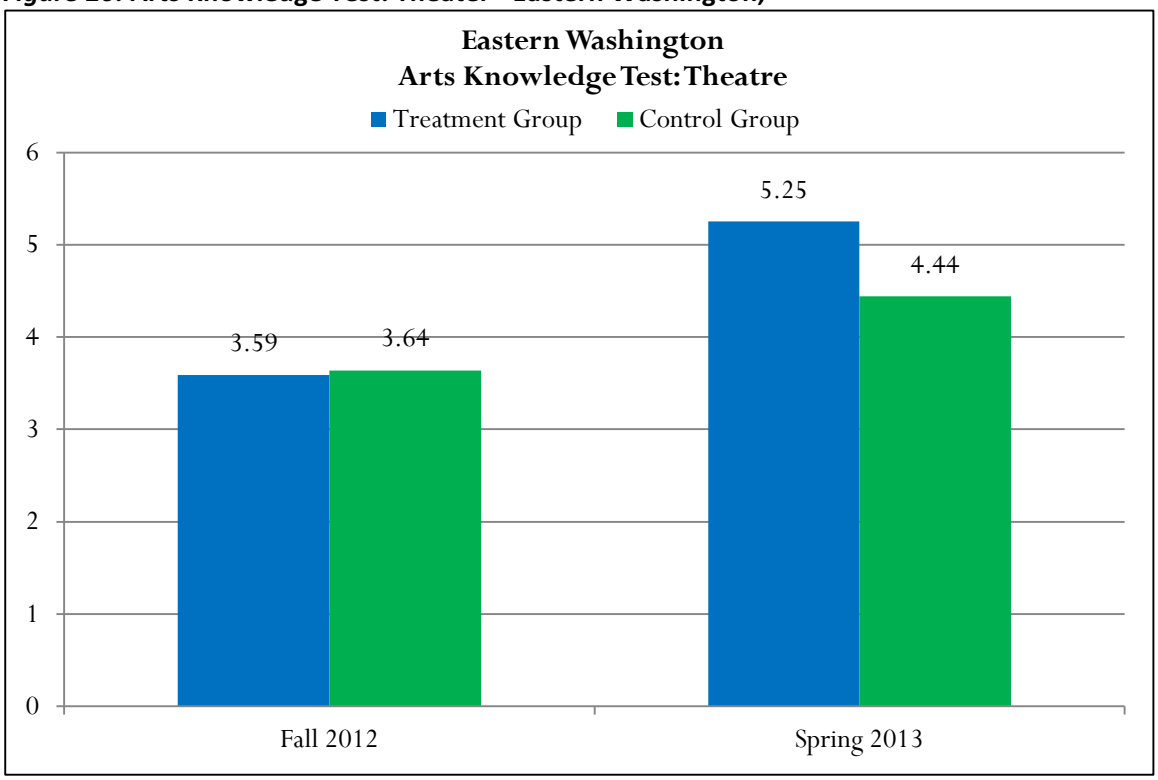


Figure 27: **Arts Knowledge Test: Visual Arts Eastern - Washington**

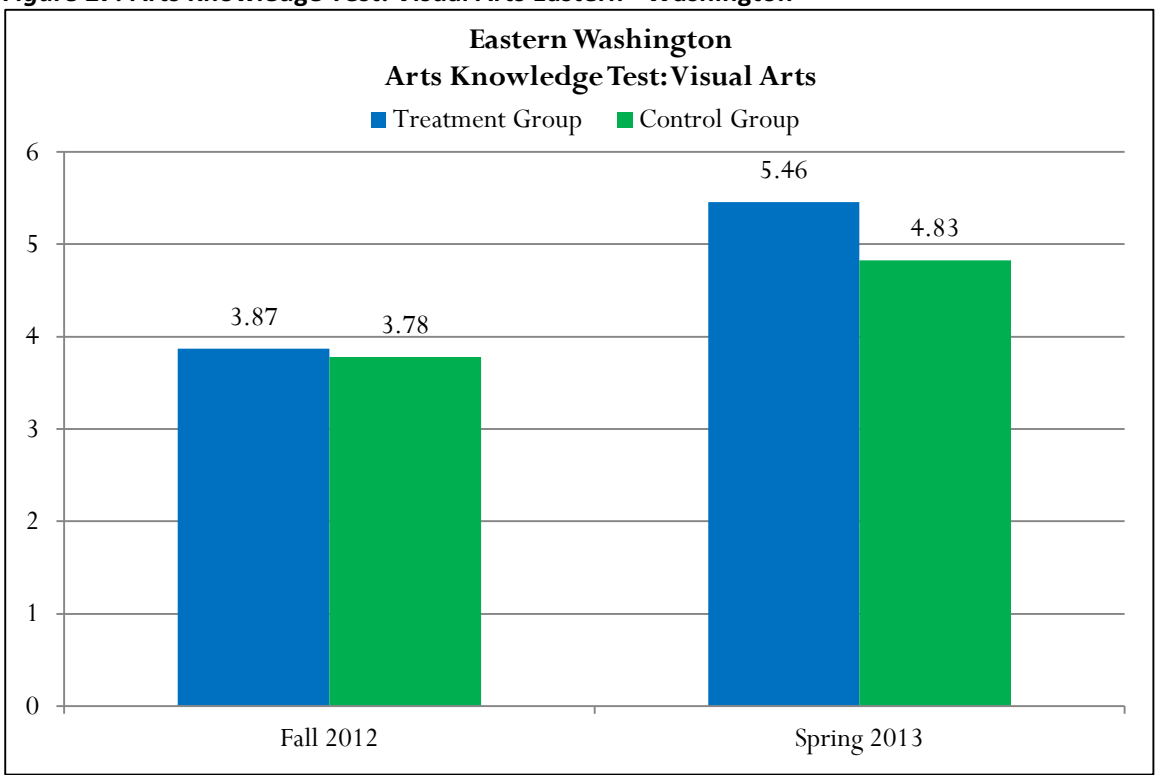
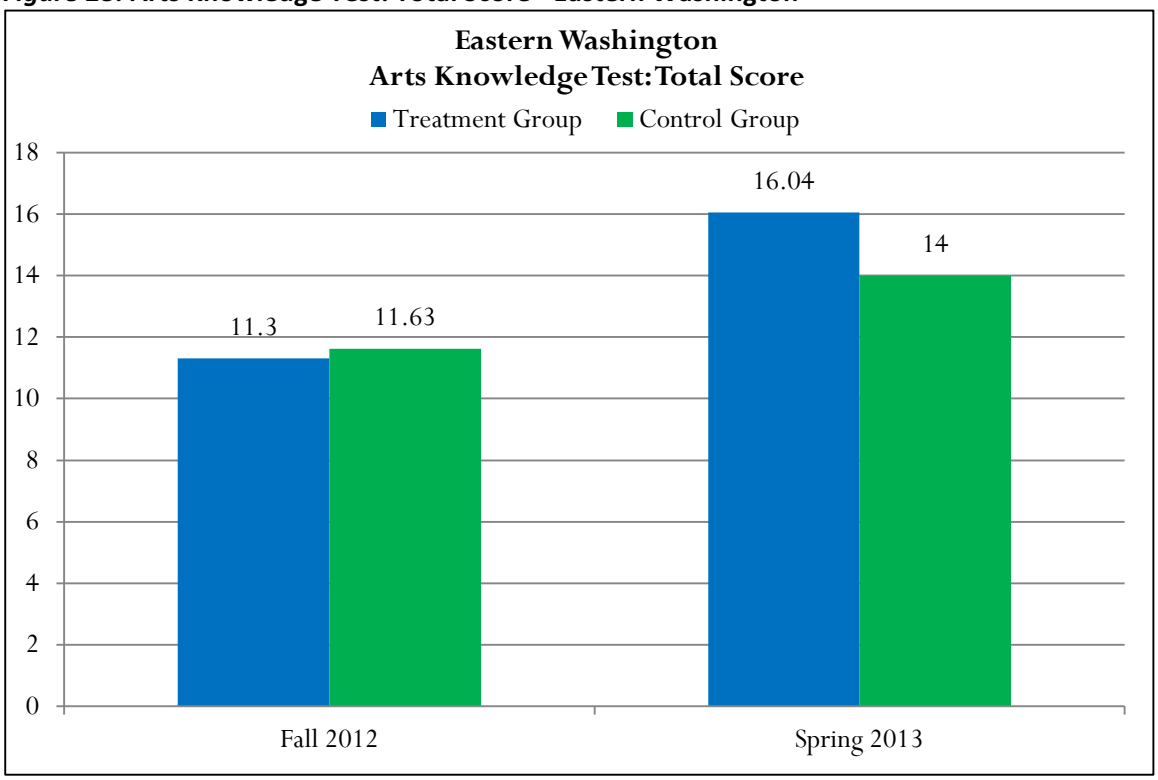


Figure 28: **Arts Knowledge Test: Total Score - Eastern Washington**



Measurement of Student Progress (MSP)

The Measurement of Student Progress (MSP) is Washington State's assessment for math and reading for grades 3-12. AIDE tracked these assessments for both treatment and control groups throughout the project collecting baseline MSP data in the spring of each year: 2011-Baseline; 2012-Training Year 1 in which the arts-infused reading curriculum in dance, theater, and visual arts was taught; 2013-Training Year 2 in which the arts-infused math curriculum was taught; and 2014-Sustaining Year in which teachers were on their own to implement from either or both the arts-infused reading and arts-infused math curricula. In Training Years 1 and 2, teachers had the support of an Artist Mentor in the classroom.

MSP scores for Seattle schools are shown in Figures 29-34 While there were some instances where the treatment group scored higher than control on the MSP, overall, results fluctuated greatly by grade and by group, with no clear pattern of improvement favoring a specific group. This outcome was not unexpected. Both the arts-infused reading and math curricula cover a limited number of concepts in their respective disciplines—those most authentically linked to the arts. It is difficult to know what if any impact the arts-infused lessons had on a summative high stakes test as it is not possible to access scores on individual test items.

Additionally, in Training Year 1, MSP math scores were gathered even though arts-infused reading was what teachers were implementing. Likewise, in Training Year 2, MSP reading scores were gathered even though it was the arts-infused math curriculum implementation year. In the Sustaining Year, teachers were free to teach either or both. At this point in the project there were 11 teachers left in the treatment group, six of which taught in the tested grades (3^{rd}-5^{th}). Two of the six reported teaching no arts-infused lessons at all. Both of these teachers taught at the school where a new principal was in place and was reported to be un-supportive of the project or the teachers in the project.

Eastern Washington MSP Reading proficiency levels of matched cohorts: the same students' scores for 2012 (pre-AIDE) and 2013 (Year 1) are shown in Figures 37- 39. Students who were 4^{th} graders in the 2012-13 school year had nearly the same proficiency levels across treatment and control as in the pre-AIDE baseline data. However, students who were 5^{th} graders in the 2012-13 school year showed substantial changes. In baseline measurement year 2012, students in control classrooms had a proficiency rate 6 percentage points higher than students in treatment classrooms. After Training Year 1, students in treatment classrooms had a proficiency rate approximately 18 percentage points higher than control students. This indicates a significant gain in proficiency rates in treatment classrooms over control classrooms.

What can be noted is that on the performance-based assessments cited previously, students scored exceptionally well, and the achievement gap virtually disappeared. While the achievement gap on MSP scores between blacks and Hispanics in reading and math, as shown in Figures 35 and 36 below, is still clearly evident.

Figure 29. **Seattle MSP Reading 3rd Grade 2011-2014**

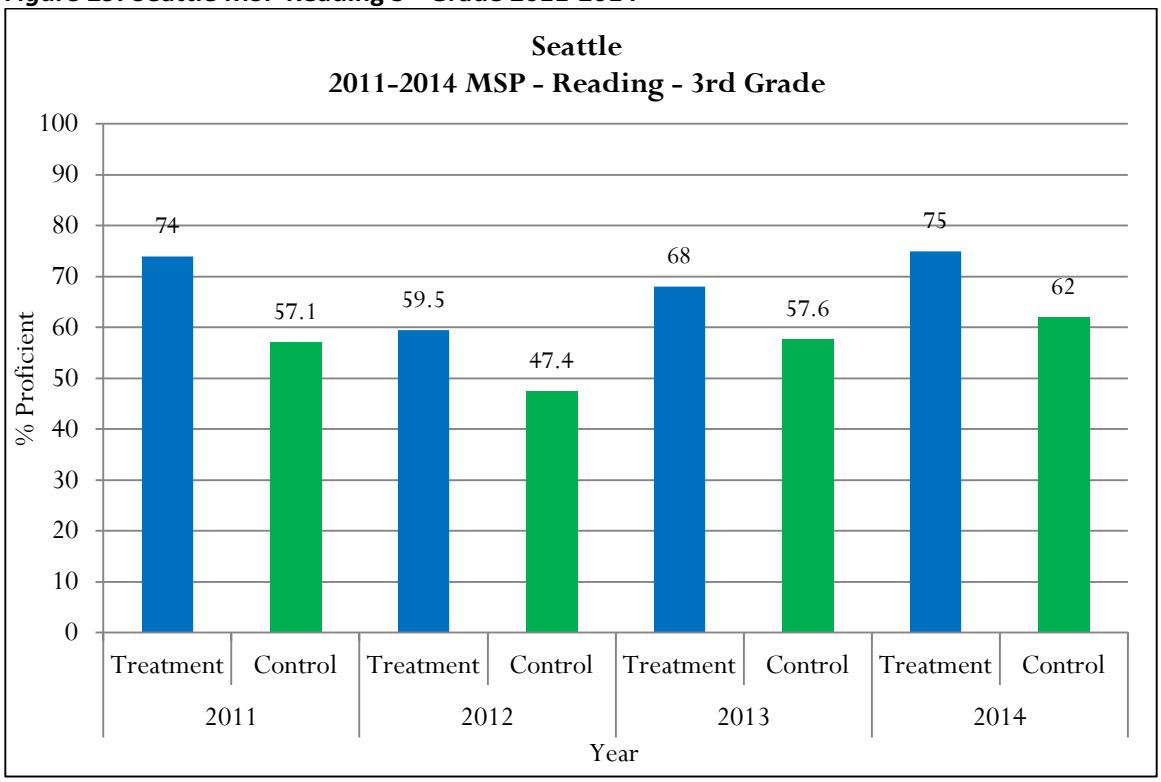


Figure 30. **Seattle MSP Reading 4th Grade 2011-2014**

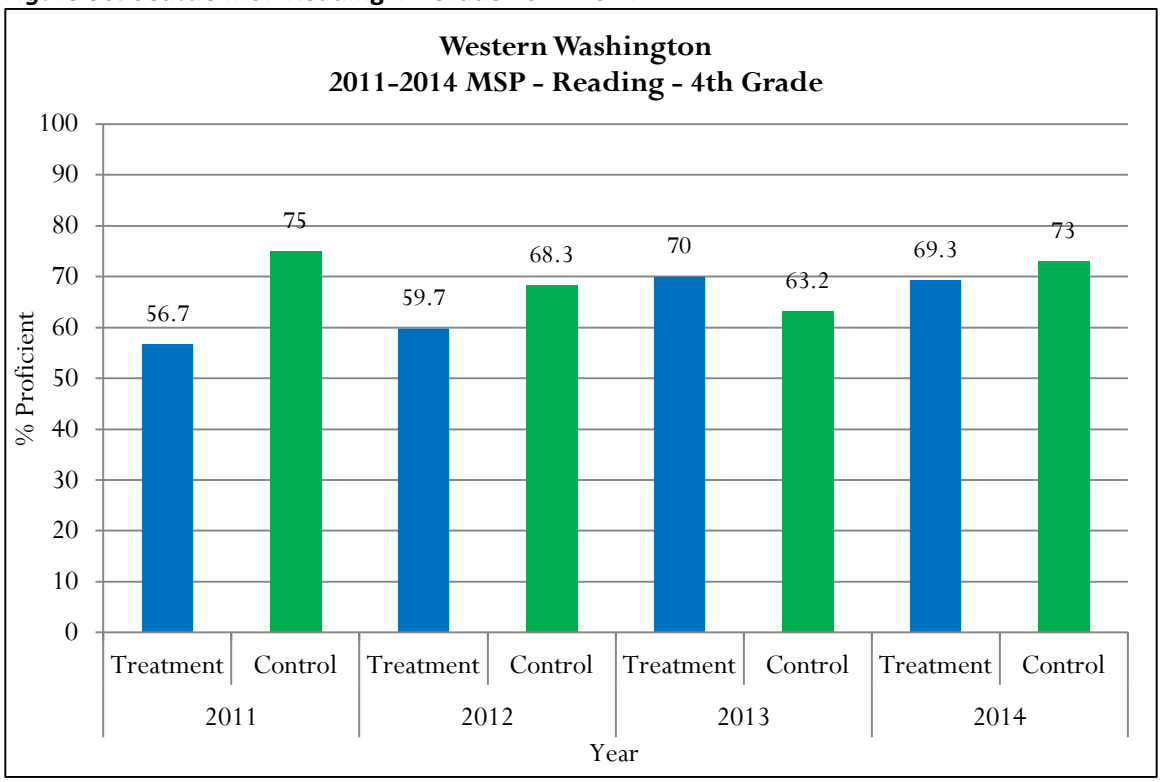


Figure 31. **Seattle MSP Reading 5th Grade 2011-2014**

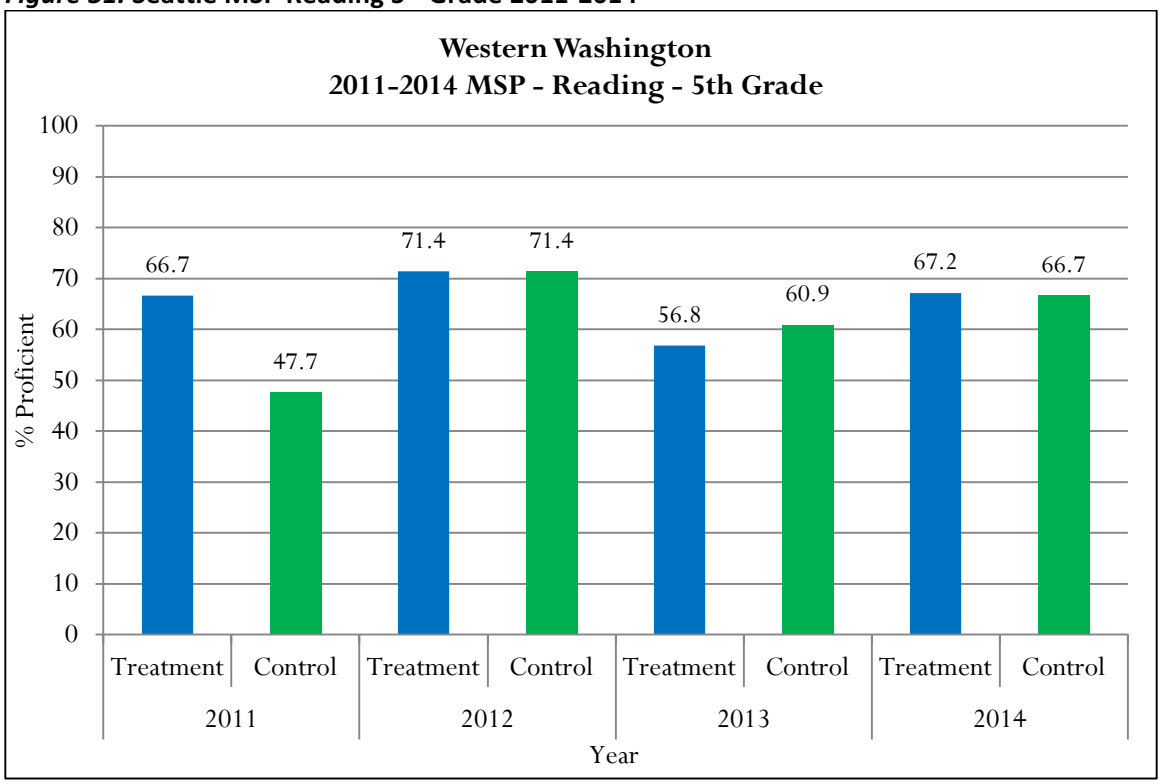


Figure 32. **Seattle MSP Reading 3rd Grade 2011-2014**

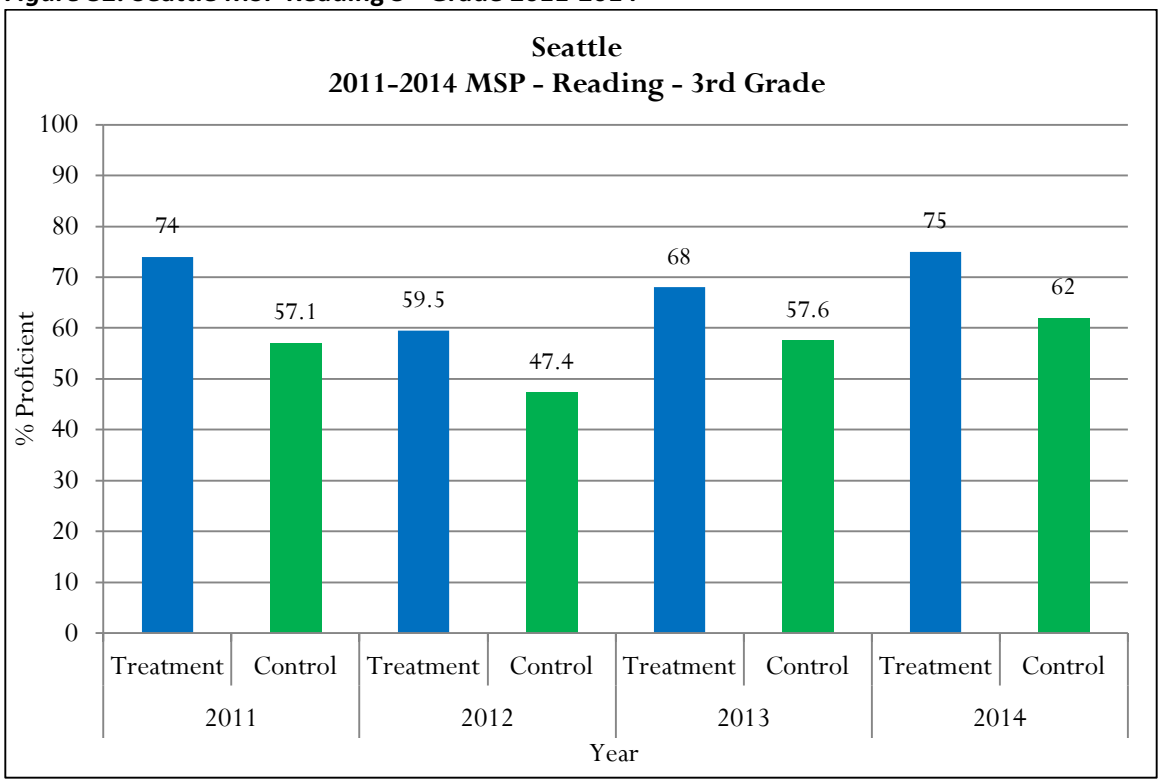


Figure 33. **Seattle MSP Reading 4th Grade 2011-2014**

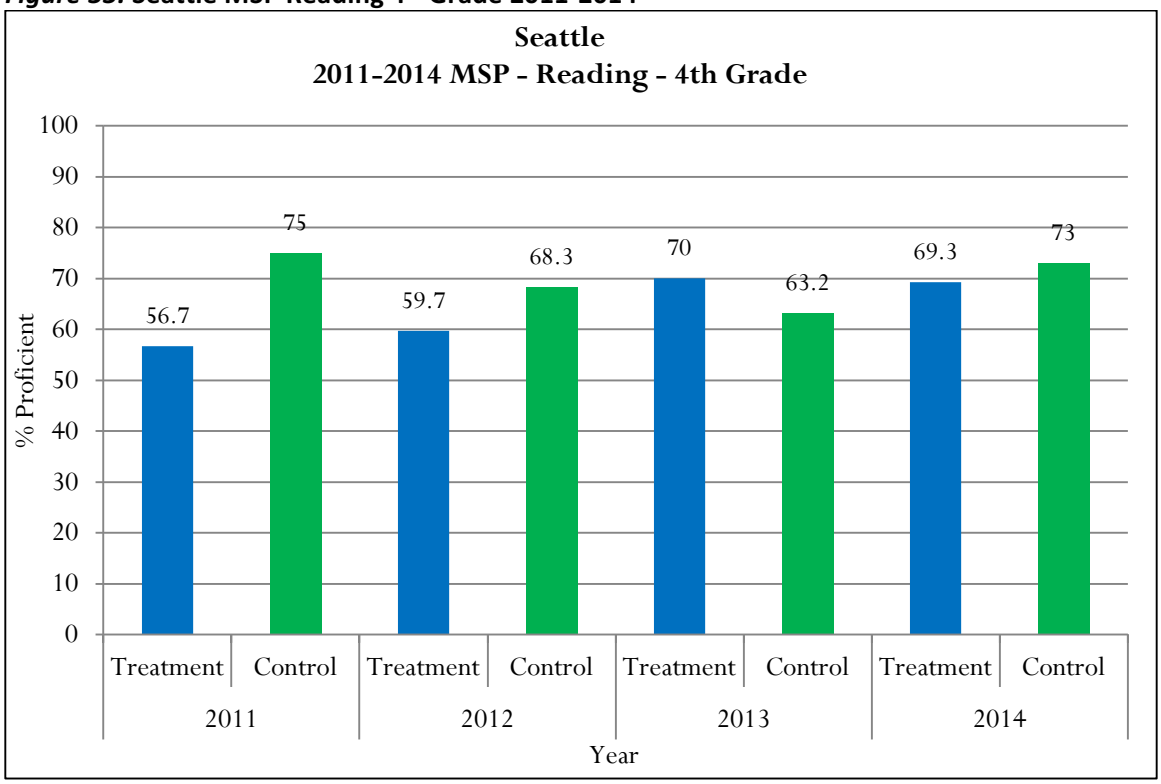


Figure 34. **Seattle MSP Reading 5th Grade 2011-2014**

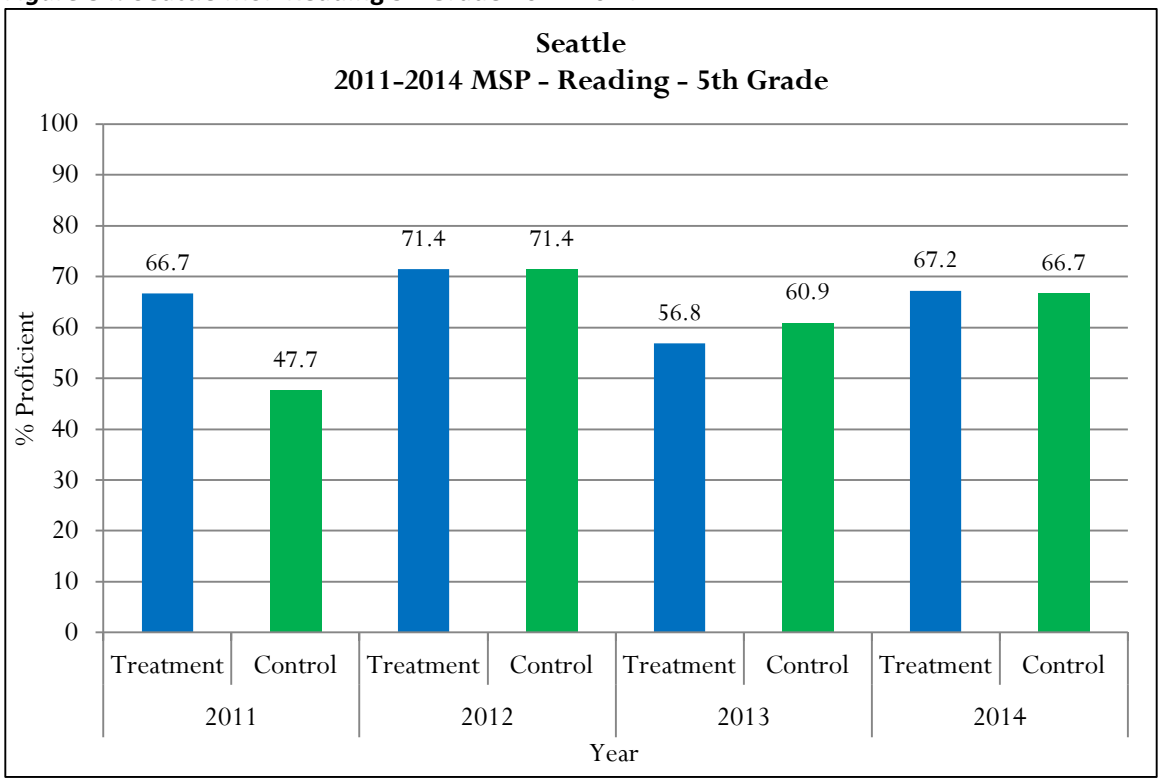


***Figure 35* – Average reading MSP score by race**

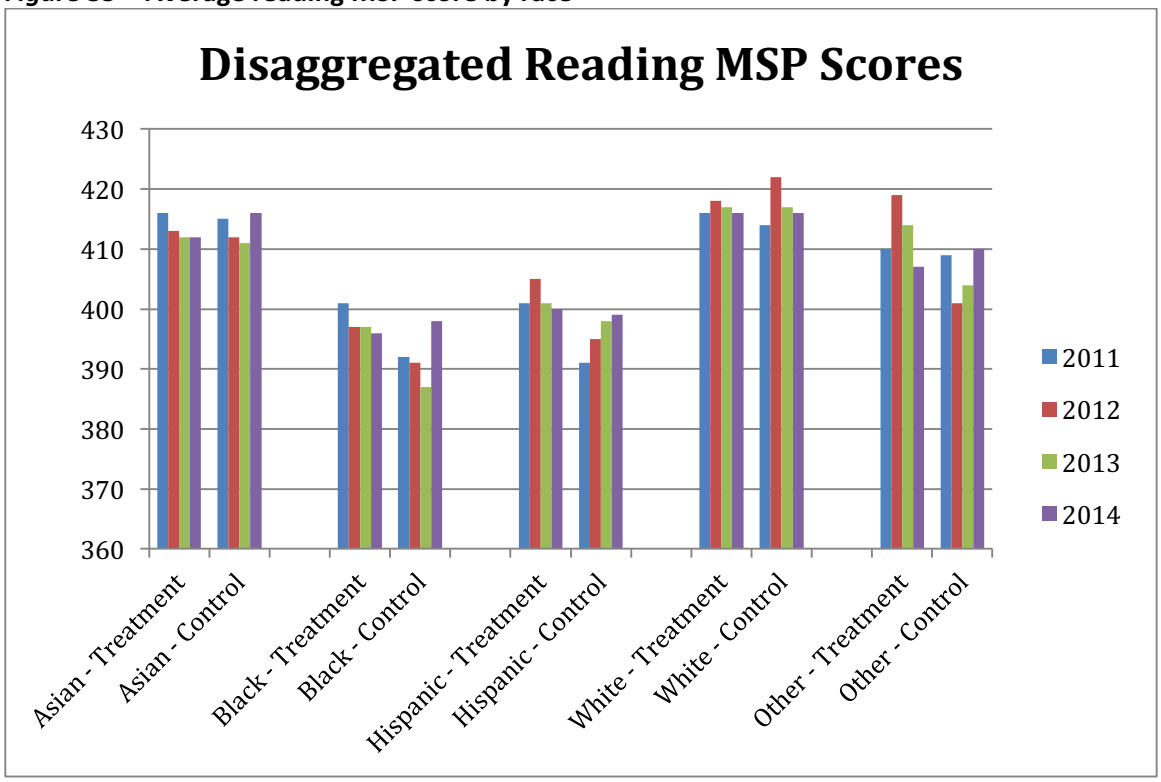


***Figure 36.* – Average math MSP score by race**

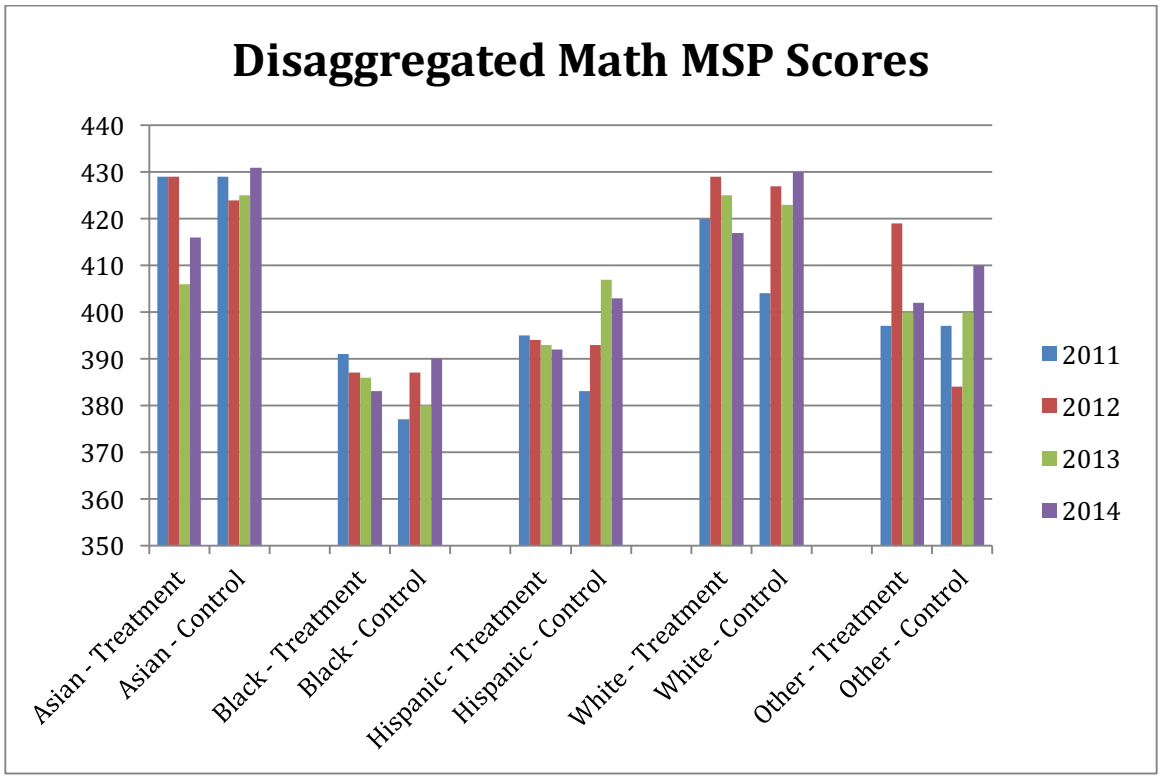


Figure 37. **Eastern Washington MSP Reading 2013**

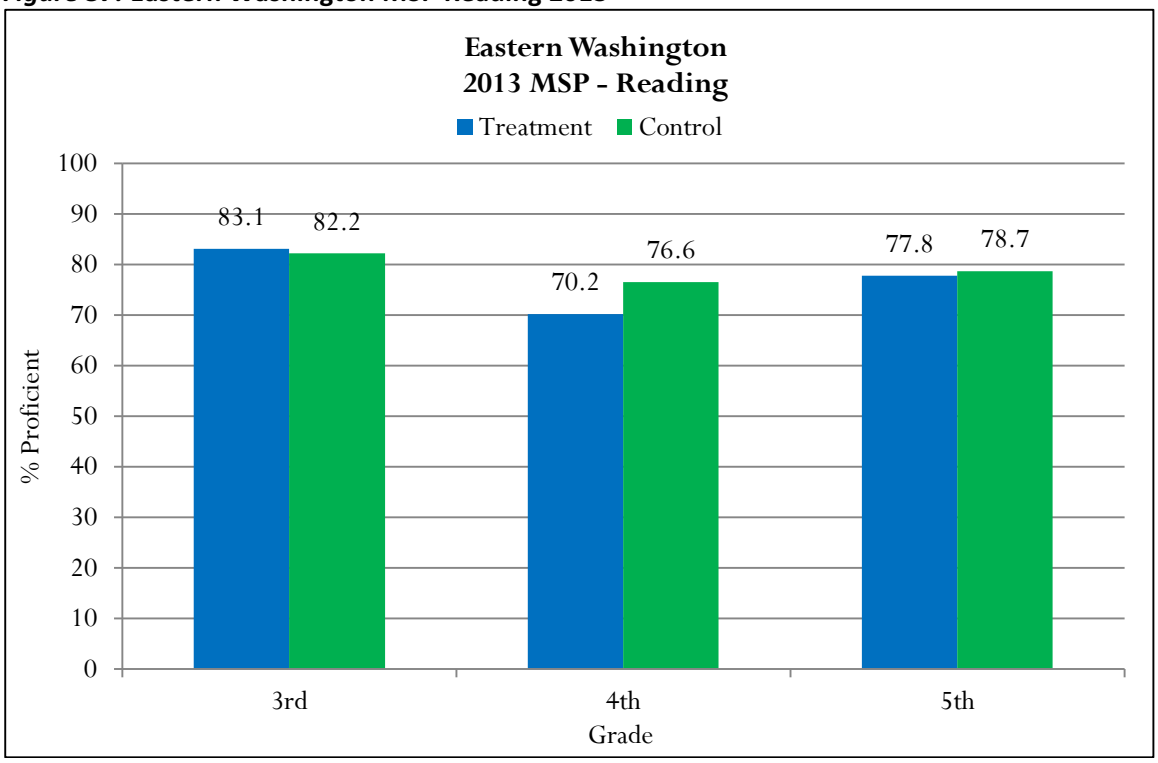


Figure 38. **Eastern Washington MSP Reading 2013 – Matched Cohort**

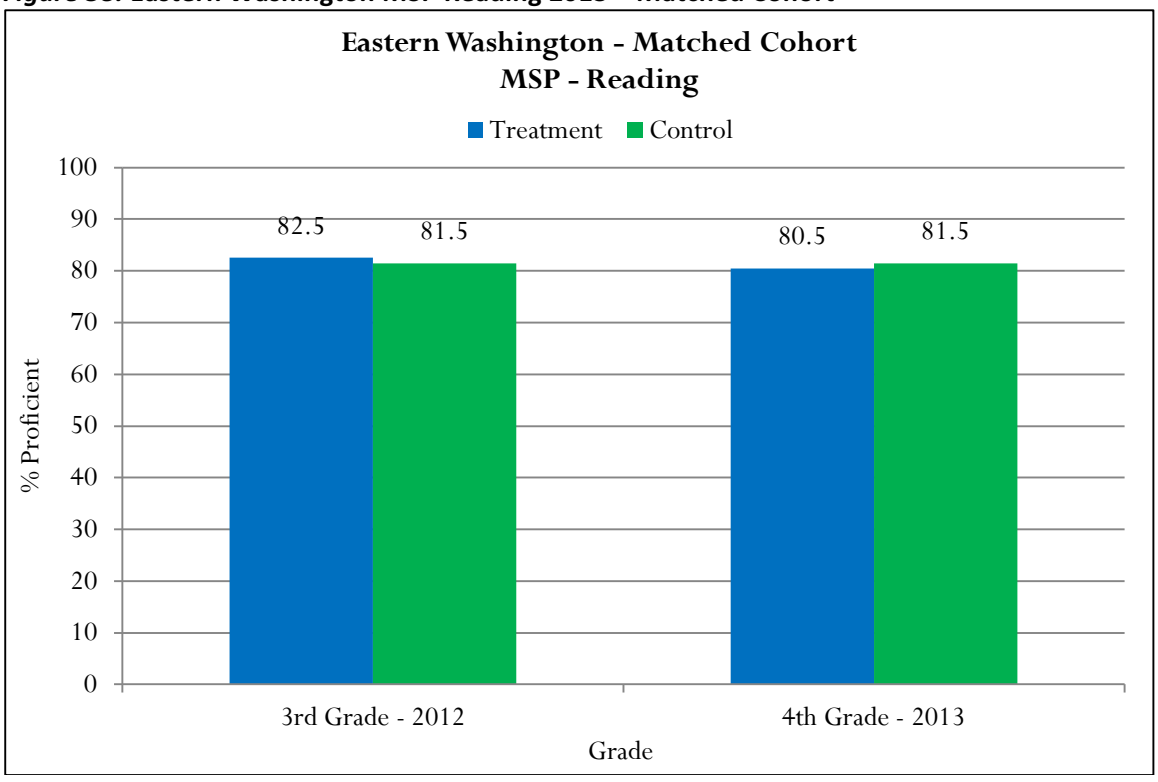
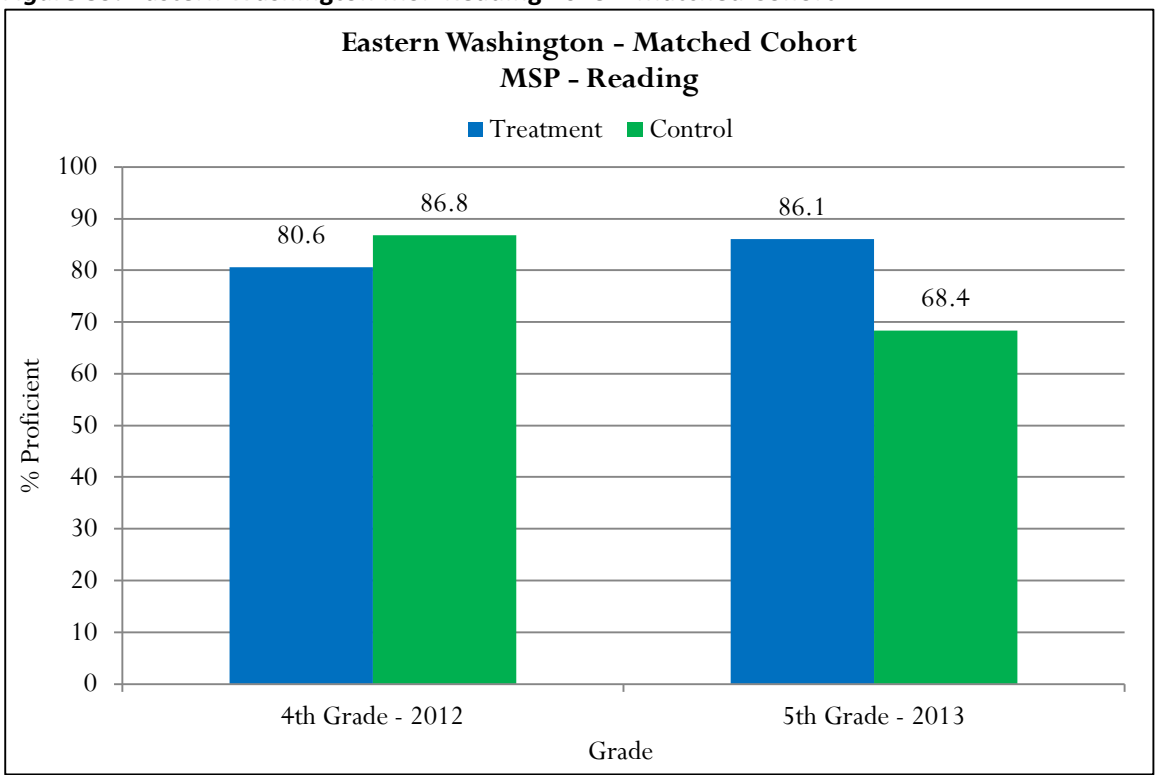


Figure 39. **Eastern Washington MSP Reading 2013 – Matched Cohort**



Program Outcomes

Arts Impact staff tracked completion of all professional development activities. It is an Arts Impact program expectation that each teacher complete a minimum of 80% of all professional development activities. Each year these activities included:

- Summer Institute – 30 hours
- Mentorship – 11 hours
    - Completed and submitted student PBAs from two lessons
- Professional Learning Communities – 6 hours
- Classroom study trip – 1 trip
- Supplemental Workshops – 6 hours (2, 3-hour workshops required; 10, 3-hour workshops offered throughout the year to select from).

In Seattle Training Year 1 (2011-12) 16 of 18 teachers completed at least 80% of all professional development activities. The two teachers that did not complete 80% were at 77%. The remainder completed between 81%-111% with eight teachers over 100%. Teachers are able to complete more than 100% of required hours by attending more than two Workshops. All 18 teachers completed the full mentorship, and 15 of 18 teachers completed all 30 hours of the summer institute. PLCs and workshops were the areas where teachers dropped hours most frequently. Those activities were offered during after-school hours or weekends and are more difficult to complete than summer training or the mentorship, which takes place in the classroom.

Figure 40. **Participation statistics 2011-12 Seattle**

		Assessment Documents		**Professional Learning Community Meetings**			**Class-room Study Trip**	**Work-shops**	**Total hours comple-ted**	**% hours comple-ted 95%**
Summer Inst. Hrs: 30 possible	Mentor-ship Hours: 11 possible	Student compiled assessments received		PLC #1 2 hrs Nov. 8	PLC #2 2 hrs Feb. 2	PLC #3 2 hrs May 3	SCT, PNB, UWWS, SAM Study Trip	2 workshops or 6 hrs per teacher required	Total program hours 53	Goal: All teachers complete 80% of total hours
522/540 or 97% comple-ted all 30 hours	198/198 or 100% comple-ted all 11 hours	Mentor-ship 1 Assess-ment Docu-ments Rec'd 18/18 100%	Mentor-ship 2 Assess-ment Docu-ments Rec'd 18/18 100%	14/18 78%	12/18 67%	11/16 69%	15/18 83%	16/18, 89% attended 1 13/18, 72% attended 2 or more	903/954 program hours comple-ted	16/18 teachers reached goal of 80% 8 teachers met or exceeded 100%

In Seattle Training Year 2 (2012-13) participation fell off. Ten of 18 teachers completed at least 80% of all professional development activities. The eight who were under 80% ranged from 65%-78%. The remaining ten teachers ranged from 89%-128% with six teachers completing 100%. Once again all 18 teachers completed the full mentorship. Ten of 18 teachers completed all 30 hours of the summer institute, with workshops and PLC's showing the most sporadic attendance.

Figure 41. **Participation statistics 2012-13 Seattle**

		Assessment Documents		**Professional Learning Community Meetings**		**Classroom Study Trip**	**Work-shops**	**Total hours comple-ted**	**% hours completed 95%**
Summer Institute Hours: 30 possible	Mentor-ship Hours: 11 possible	Student compiled assessments received		PLC #1 3 hrs Dec. 13	PLC #2 3 hrs Mar. 7	SCT, PNB, UWWS, SAM Study Trip	2 workshops or 6 hrs per teacher required	Total program hours 53	Goal: All teachers complete 80% of total hours
495.5/540 or 92% completed all 30 hours	198/198 or 100%	Mentor-ship 1 Assess-ment Docu-ments Rec'd	Mentor-ship 2 Lesson Plan Rec'd 18/18 100%	11/18 61%	10/18 55.5%	7/18 39%	9/18, 50% attended 1 8/18, 44% attended 2 or more	810.5/954 program hours completed	10/18 teachers reached goal of 80% 5 teachers met or

		18/18 100%							exceeded 100%

Participation levels during the Sustaining Year varied considerably between the three schools. Of the 18 teachers that began the project 11 remained. Teachers were asked to teach and assess AIDE arts-infused lessons from both the arts-infused math and reading curricula, submit student performance-based assessment data, attend PLCs, submit a teacher journal and take students on a cultural study trip. Teachers were provided a research stipend of $200 if they submitted all of the requested data and were paid for their time to attend the PLC's offered during after school hours. AIDE did not support the cost of cultural study trips for the Sustaining Year.

Teacher mobility and attrition was quite high. Reasons included maternity leave, reassignment to another school, grade level or to a district position, illness, and retirement. All three schools had a change in principal during the project, and at the district level key senior administrators changed multiple times including the superintendent, director of curriculum and instruction, principal supervisors, and director of evaluation and assessment. The Manager of Visual and Performing Arts remained the same throughout the project, which was very helpful, but continual shifts in leadership created significant challenges in maintaining the project as a priority within the district, especially when the arts continue to be seen as non-essential.

One school had very minimal participation. Four of the original six teachers remained but they completed very few activities. Of the three teachers that returned Teacher Journals only one reported teaching any arts-infused lessons for a total of only three hours. None of them attended PLCs. All four took their students on a cultural study trip to Seattle Children's Theatre, without support from the grant. Teachers reported that the principal at this school was very unsupportive of *AIDE*. The principal did not attend any Leadership Team meetings, even when one was moved especially to accommodate her schedule.

At the second school, two of the six original teachers remained. One of the teachers was very engaged reporting 32.5 hours of arts-infused teaching with the other teacher reporting seven hours. The teachers said they were trying to build sustainability but that "there was not a big chance to infuse art in math and reading/writing due to reading & math coaches making instruction decisions." Neither of the teachers attended the PLCs. Both teachers took their classes to the Seattle Art Museum. They also attended a Northwest Puppet Center performance (not a project partner) and brought in a Book-It Repertory Theatre's *Book It All Over* student performance for the whole school.

The third school had five of the original six teachers participating in the Sustaining Year and reported a total of 47 hours of arts-infused teaching. One of the six teachers could not find her documentation but we know that she was one of the most active participants at her school that would have increased the total number of hours of arts-infused teaching at this school significantly. All five teachers attended the PLCs, the only school that participated in the PLCs. They took their students to two UW World Series of Dance performances *Grupo Corpo* and *Alvin Ailey*. One of the teachers attended a two-day, 6-hour, arts-infused professional development workshop offered by Arts Impact at Seattle Art Museum at the behest of the district. This school also organized family and community activities around the arts that included

an Arts Walk and Dine Out, and a student Arts Sleepover. For the Art Walk, there was a piece of visual art representing every student-culture in the school. They created an arts plan for 2013-14 and "are working on co-teaching lessons in a scaffolding manner so that non-AI teachers may begin leading their own arts infused instruction." Even with this high level of participation, one teacher reported that the support systems "seem to be fragile and inconsistent." The principal and one of the teachers moved to another SPS elementary at the beginning of 2014-15 to create an arts focused school. However, while at the AIDE school, that principal was active in a principal leadership group that worked with ArtsEd Washington on developing integrated arts training for principals and advising on the development of the SPS arts plan *The Creative Advantage.* The principal has since contracted with Arts Impact to provide arts-infused professional learning for her new school staff.

In Eastern Washington Training Year 1 (2012-13), 21 of 24 teachers completed a minimum of 80% of professional development activities, ranging from 85%-98% completion. All 24 teachers completed 100% of the summer institute and a study trip and 93% completed all mentorship activities. Because of the long distances for the remote rural schools, workshops were difficult to attend.

Figure 42. **Participation statistics 2012-13 Eastern Washington**

		Assessment documents		Professional Learning Community meeting	Classroom study trip	Workshops	Total hours completed	% hours completed
Summer Institute hours: 30 possible	Mentorship hours: 11 possible	Student compiled assessments received		# of hours attended (1 – 3-hour PLC per school)	MAC, Jundt, GU, Whitworth Book-It Expansion Tour	Hours of workshops teachers attended 4 hours recommended	48 Total program hours	Goal: All teachers complete 80% of total hours
720/720 or 100% completed all 30 hours	247.5/264 or 93% completed all 11 hours	Assessment #1 21/24 88%	Assessment #2 17/24 71%	PLCs completed 6/6 100%	24/24 100%	6/24 25% attended 2 6/24 25% attended 3	1034.5/1152 program hours completed	21/24 teachers reached goal of 80% 8 teachers met 100%

Teacher Journals

Teachers were requested to complete electronic journals three times each year in December, March, and June. The goal of the journals was to gather data on frequency and intensity of arts-infused instruction, teacher observations of student engagement during arts-infused lessons, how performance based assessment data is used to inform instruction, and how many lessons in addition to the mentored lessons were taught.

In 2012-13, Training Year 2, 13 of 16 teachers returned at least one of the three journals. Three teachers returned all three, five returned two journals, and five returned one. Of the 16 teachers, nine reported teaching Arts Impact lessons in addition to the lessons they were teaching as part of their supported mentorships for a total of 109.75 hours of additional teaching. When the eight hours of arts-infused teaching during the mentorships for all 16 teachers is added, a total of 237.75 hours of arts-infused teaching was recorded. This is an average of 18.4 hours per teacher.

In the Sustaining Year, seven of 11 teachers reported teaching arts-infused lessons for a total of 89.5 hours, an average of 12.8 hours per teacher. However, one of the seven teachers accounted for 32.5 of those hours. If that outlier is removed, the average hours of arts-infused teaching per teacher is 9.5 hours, or about half as many hours as when an Artist Mentor supported them.

Teachers overwhelmingly reported that students were very engaged during the AIDE lessons as well as other benefits. One teacher reported,

> *"As we have continued in visual arts, I have seen my students increase in their ability of be creative with mistakes and be more intentional about demonstrating their art skills. They are more focused on the work and attend more to details. They are deeper thinkers."*

Another teacher described how students transfer learning from one subject to another,

> *"My students have continued to amaze me with their ability to transfer learning from one subject area into another, largely because of the infusion of concepts between the art disciplines and the core content area. My students are currently working on our "Dramatizing Characters" unit in reading and our work with theatre and statues activities have dramatically improved their ability to think and act like a character. This has also helped them make inferences and predict what will happen next in a story based on knowledge of character."*

And a third teacher noted,

> *"My first grade students have demonstrated a great passion for arts-infused teaching. Students LOVE their sketchbooks and always ask when we are going to do a read aloud with our sketchbooks where we use stop-and-jot, stop-and-sketch, etc. to enhance learning. Kids are bringing in ideas for arts lessons from things they have seen at home*."

Teachers reported using performance based assessment data most frequently to re-teach some or all criteria to the whole class and to identify individual students who need help with specific criteria, with 12 responses each. Teachers also reported using PBA data most frequently to inform students of their own learning to "point out areas where students need more practice."

Replication Outcomes

The intent of the project was to determine if the Arts Impact model could be successfully replicated in another region of the state. Pilot replication projects in Western Washington outside of the Seattle metropolitan area, Arts Impact's local region, indicated that it could be successful. The coordinating partner for AIDE replication was the Northeast Washington Educational Service District (NEWESD). NEWESD AIDE included four schools in four different districts—two remote rural and two small town schools.

The training program for replication site Artist Mentors and administrators was very successful. Over 100 hours of professional development over the course of a year occurred prior to the replication site implementing Training Year 1 for 24 teachers. Implementation of all training components was successful and carried out with fidelity. A few adaptations were made to accommodate the remote rural sites. Teacher and student outcomes were on a par with results obtained for Arts Impact programs in the Seattle area. Buy-in from teachers and principals in participating replication site schools was very high.

Despite the successful replication and implementation of the professional learning activities, it was necessary to discontinue replication in Eastern Washington in 2013-14 because AIDE was unable to obtain the necessary supplemental funding to support further implementation. Resources and Support and Capacity to Implement, two of the six factors listed by the National Implementation Research Network's (NIRN) Hexagon Tool to consider when contemplating implementation of evidence-based practices, were too weak to sustain replication. The six factors are discussed in the Hexagon Tool, Appendix C. The Hexagon Tool is the recommended Readiness to Benefit tool the AIDE project identified as part of Goal Four.

Grant products

The AIDE project set out to create specific grant products to support successful implementation of arts-infused professional learning and replication of evidence-based programs in multiple settings.

Key Features The enduring components and successful practices of the various Arts Impact models developed over the past 16 years is compiled in the Key Features document and is available on the Arts Impact website at www.arts-impact.org.

Video enhanced lesson plans The project created short video clips that have been embedded into the AIDE lesson plans to provide reminders and just-in-time support for teachers who have had Arts Impact training as they use the curriculum moving forward in their teaching. The videos provide explanations of key pedagogical components of the Arts Impact professional learning model: the enduring understanding, learning targets and assessment criteria, standards based learning in the arts, Common Core State Standards and the arts, performance based assessments, arts-infusion and concept based learning, using professional arts exemplars, prompting for creativity, guiding criteria-based reflection and the importance of family communication. In addition, short clips demonstrating the key arts concepts and skills in each lesson were developed. The clips show both professional artists demonstrating the concepts as well as children from the treatment schools. These lessons will support not only Arts Impact trained teachers but any educator who is teaching or integrating the arts. The videos are embedded in on-line versions of the lessons and are available on the Arts Impact website.

Readiness to Benefit Implementing any new evidence-based practices can be challenging. Implementing an arts-infused program, often not viewed as mainstream or essential to core education, is even more difficult. AIDE set out to identify conditions that need to be present for successful arts-integration. The Hexagon Tool, developed by the National Implementation Research Network (NIRN) provides a framework to analyze six broad factors to consider when doing early stage exploration of evidence-based practices. The six factors are: ***Need, Fit, Resources and Support, Evidence, Readiness for Replication, and Capacity to Implement***. When applied to an arts-infused context, considerations to guide a readiness discussion around the area of ***Need*** might focus on equity and access to quality arts education, data indicating low performance of at-risk students particularly students with disabilities and English Language Learners, and the need to develop 21st Century skills. When assessing ***Fit*** considerations might center around alignment with school or district priorities for improvement in math, reading or science to select an arts-infused focus area, the presence of a district level Arts Coordinator or Manager, and the value placed on the arts in the community. ***Resources and Support*** considerations should focus on the availability of arts-infused curricula, support for teachers such as Artist Mentors, quality professional learning, arts-focused learning communities, and an arts committee or council. ***Evidence*** of positive outcomes, fidelity of implementation, supporting research, and cultural responsiveness of the program should be present. To determine ***Readiness for Replication*** factors such as the qualifications and competency of the program purveyor and its staff, history and the presence of other sites where implementation has occurred, other replications, and organizational leadership should be evaluated. ***Capacity to Implement*** refers to the implementing organization and such factors as leadership, organization, financial capacity, and buy-in of teachers and families are critical.

Using a retrospective analysis of the implementation of Arts Impact in Eastern Washington with NorthEast Washington ESD as the implementing agency the following conditions were present. High ratings were noted in the areas of Need, Fit, Readiness for Replication, and Evidence. A medium rating in Capacity to Implement was indicated due to organizational and leadership factors at NEWESD where reluctance by high level leadership to operationalize implementation seemed to exist. A low rating in Resources and Supports was indicated in that NEWESD was not willing to dedicate time or staff to pursue resources outside of the AIDE grant, to support ongoing implementation.

The Hexagon Tool is included as Appendix B and can be accessed on the NIRN website at http://nirn.fpg.unc.edu/

UNANTICIPATED OUTCOMES

Increased support for arts infusion to close the opportunity gap For the first time, Arts Impact disaggregated the performance-based assessments (PBAs) by ethnicity from Training Year 2 in Seattle. It showed that when fully supported, the program helped to close the opportunity gap. The data has helped Arts Impact advocate for increased support for arts-infusion as a key strategy to support our most academically fragile students and opened doors to funders, districts and the Office of the Superintendent of Public Instruction (OSPI) in Washington. OSPI has authorized arts-integration as an approved strategy for improving student achievement. Arts Impact Director Beverly Harding Buehler was invited to present the model to the State Directors of Title 1, Title 2, Title 3, Student and School Success and College and Career Readiness. As a result of that presentation, in winter of 2014, Arts Impact was designated an approved vendor for arts-infused literacy and math for Schools in Improvement. The AIDE project has helped raise awareness of the value of arts-infusion to improve student outcomes for all students and become part of whole child education.

Supported district-wide arts plan AIDE coincided with Seattle Public Schools district-wide emphasis on arts instruction and arts integration. After a study highlighted unequal access to arts coursework throughout SPS, the district partnered with the city of Seattle and community arts organizations to create The Creative Advantage, an initiative aimed at providing equity of access to arts in SPS schools. A Creative Advantage program leader explained that AIDE findings "helped to support the case for arts integration as a critical strategy to be included in the overall Creative Advantage plan and [offered] a research base from which those decisions could be made."

District wide teacher leader training As a result of AIDE and the PDAE grants *TTAL* and *TTAL+,* SPS contracted with Arts Impact to train Career Ladder teachers in arts-infused teaching. Career Ladder teachers receive additional compensation for the extra work and responsibility of supporting and mentoring teachers in their buildings. It should be noted that teachers trained in AIDE and asked to be teacher leaders in their buildings were not provided additional compensation from the district. Training Career Ladder teachers may help solve the problem of arts-infusion not spreading out to the broader faculty as intended by the teacher leader model and remaining isolated in classrooms of Arts Impact trained teachers only.

Dissemination In spite of the need to discontinue AIDE in Eastern Washington, two teachers who completed the first year training presented at Washington ASCD in 2014 demonstrating an Arts Impact AIDE lesson to exemplify what "Making Learning Visible" means, the topic of their presentation. Even though they had only one year of Arts Impact professional learning, their teaching practice was obviously changed.

STRENGTHS

Instruction Teachers said their instruction in core subjects underwent a "180 degree change," although most were unsure whether to attribute the difference to AIDE specifically or to the Common Core State Standards (CCSS), which Washington State implemented during the course of the program, and supported by AIDE through training and "very intentional alignment." Curriculum writers met with experts in math and literacy, as well as representatives from OSPI, Puget Sound ESD and NEWESD to

retrofit the reading-infused curricula to CCSS and to design new math curricula from the ground-up aligned to CCSS. Creating, collaborating, critical thinking, communicating, persevering, and developing a growth mindset are core arts skills woven throughout the College and Career Readiness Standards in English Language Arts and Mathematical Practices of CCSS.

The Project Director explained that AIDE provided support for CCSS rollout, and in some cases "[AIDE] provided SPS teachers their very first training in CCSS, through the lens of arts integration." A key piece of the arts integration puzzle, the Project Director explained, was making sure teachers had solid knowledge of the core standards as well as art. "It is surprising . . . some [teachers] have a great understanding of their content in math or literacy, and some don't, even within the range of what they are expected to teach."

Several teachers identified a lasting impact from AIDE on their instruction describing greater intentionality in planning lessons and more self-reflection afterwards. Teachers also indicated trying to infuse art into more of their lessons, even when not implementing formal Arts Impact lessons. "I try to incorporate it into math because kids hate math. They just sit around and do worksheets. I try to do the balance mobiles. [Students] just explode with engagement," one teacher shared. Another teacher described incorporating theater during literacy:

> *We do performances a lot with our shared reading. "Act this out. What does it look like? If you were such-and-such [character], would you be in your personal space, or do you need to be out there?" . . . It's Arts Impact and literacy, and a little bit of overlap.*

At another school, a teacher explained "I think overall I'm using some of the language that was given to me through Arts Impact in my regular teaching throughout my curriculum bands." That teacher described using specific phrases such as "careful precision" and "using tools appropriately" in science and math lessons. Teachers also described applying innovative approaches to assessment taught in Arts Impact, such as the reverse checklist, that one teacher shared with a struggling colleague. "Just look for the kids who don't get it and keep track of them. That's one way to help assessment become a little more manageable," that teacher explained.

While most teachers indicated they still had limited understanding of the arts standards, they also overwhelmingly said they felt more comfortable infusing arts into their lessons than they did at the beginning of AIDE. One educator described the realization that she didn't "have to be an art teacher" in order to integrate art saying, "As an art teacher, you are looking for standards in a way that's very different from integrating art. It's 'yes, they get it,' or 'no, they didn't.' We don't have to grade from [a scale of] one to four. I'm not looking for that precision." Another teacher explained, "I'm far more inclined now to focus on an element of the art and teach that in concert with the other thing being taught. For example, if we're looking at a piece of art we're going to connect to our literature unit, we'll talk about the idea of contrast in the art." Yet another teacher described an increased awareness of the need to intentionally teach even seemingly simple art techniques, such as coloring: "A lot of my kids had never had crayons or materials before . . . I'd just assumed before Arts Impact that of course [students] know how to color, but that's not true."

Program Supports. Stakeholders identified the systemic support of Arts Impact as one of AIDE's successes. During the sustaining year, AIDE and TTAL+ (a PDAE project running simultaneously with AIDE) teachers met in one combined PLC. Program Managers explained the PLC meetings had, "a sense of renewed purpose and joy in connecting with other colleagues who were pursuing this work in a

variety of different avenues." Teachers also spoke positively of the PLC. One teacher described the relationships and support from other colleagues in the program as the most helpful part of AIDE, saying, "They've been the support for me for Arts Impact. Doing that learning with them helped me learn more from them." The Project Director described how, "there really wasn't an established professional learning community [PLC] in either the buildings or across the districts, around arts approaches to learning before AIDE . . . That work is continuing, and this year we will formalize the PLC as an opportunity not only for SPS schools involved in Arts Impact research, but all Arts Impact schools."

Teachers also spoke enthusiastically about the Arts Impact professional learning (PL) model. One teacher appreciated that PL focused on multiple grade levels, saying, "I was exposed to different grade levels. If there was [a lesson for a different grade level] I was really excited about . . . we could share materials [in the building] and try the lesson." Another teacher shared, "We did all the lessons ourselves so we would have a better feel for what the lessons are like. I really liked that." Although the Artist Mentors did not have a presence in the schools during the sustaining year, teachers continued to identify them as a key success of the program.

BARRIERS

Structural Integration Focus group respondents attributed the lessened focus on AIDE during the Sustaining Year at the school-level to change of building principals that occurred in all three treatment schools. New principals began at two schools, while a former co-principal stepped into a sole-principal role at another. One school was able to maintain a focus on AIDE, but it was primarily isolated to the classrooms of teachers who received the training. Spreading AIDE throughout the building, as was the intent of the project, was not as successful. According to focus group interviews with teachers and The Project Director, lack of buy-in from new principals became a challenge for AIDE implementation. She went on to say one principal could even be described as obstructive. Teachers also described the "tension" that occurred when the building administration did not buy into AIDE. "Now we are expected to continue and sustain [AIDE activities], but [the previous principal] was always talking about it," one teacher said, adding that AIDE was a lower priority to the new building administration. Another teacher shared the need for further training on CCSS, indicating that she would be more likely to try Arts Impact lessons again once she had a better understanding of CCSS.

During focus groups, teachers indicated it was also "really difficult" to maintain momentum for AIDE activities when their fellow teachers left the cohort. At one school the AIDE cohort originally consisted of one teacher per grade level, with the hope that those teachers could share ideas with peers, spreading arts integration throughout the school. When one teacher switched schools, it effectively eliminated the AIDE impact to an entire grade level. At another school, only two of the six original AIDE cohort remained in elementary classrooms during the sustaining year. Teachers there explained that the cohort used to meet and share ideas, but that those meetings stopped as participating teachers switched schools, grade levels, and roles.

With the increased pressure of statewide initiatives such as CCSS implementation and the Teacher Principal Evaluation Protocol (TPEP), teachers at all of the schools spoke of arts integration becoming less of a priority in their buildings. "There is always initiative fatigue, but it was worse than usual this year," the Project Director said, echoing what teachers indicated. At all of the schools, teachers felt more confident about their abilities to integrate arts, yet found themselves doing so less often. As one teacher said, "I can incorporate my literacy art lesson and my math-infused art lesson, but that was not the priority this year." Teachers overwhelmingly described taking AIDE "off the plate" in order to focus

on other responsibilities. An Artist Mentor described the frustration of watching one teacher "burn out," and leave the profession. "I'm not blaming Arts Impact," the mentor clarified, "but there are so many demands and challenges for teachers, the idea we're asking them to do just one more thing is also very challenging."

Focus groups also indicated the increased rigor of CCSS presented an additional challenge at schools with large populations of students performing below standard. During focus groups, stakeholders acknowledged the challenge of implementing curricular materials based on the standards, when many students are working well below standard. For example, one teacher chose not to implement an Arts Impact lesson on fractions during the sustaining year because the students "are just learning what it means to balance an equation. I had the math specialist look at [the lesson], and he thought it might be confusing and trip them up, even though it was Common Core-aligned." This sort of hesitance is challenging in light of program goals that emphasize using the arts as a bridge to learning rigorous concepts in other disciplines, especially for children from under-privileged backgrounds. The Project Director described the role the arts can play in math and literacy:

> *Many children feel removed from trying to make a case for something they've read in a book or tried to understand mathematically, but when they have an artistic way to explore those other core subject areas, they are engaged because the work has meaning for them. They are creating meaning through the process of doing arts-infused mathematics or literacy. That meaning-making piece is not just the hook – it's what actually gives children a bridge they can walk across again and again and again in other contexts to link an experience they care about with that subject.*

With so many competing priorities, the time involved planning and implementing Arts Impact lessons also emerged as a clear barrier during the sustaining year. "[Arts Impact] shortened the lessons this year, which I appreciated," one teacher said, but added that time was still the largest barrier in teaching Arts Impact lessons, especially with the pressure to stay on schedule with pacing guides. Teachers at one school explained they would feel more comfortable taking time for Arts Impact lessons if "it were coming down from the administration," again indicating the importance of principal buy-in. The Project Director explained, "Administrators and leaders have to understand that it does not take less time to integrate the arts; it takes more time. It's not like you can merge two huge content areas into a smaller amount of time delivering the information."

Sustaining activities without an artist mentor. During the two Training Years of AIDE, teachers benefited from a "tremendous layer of support" from their Artist Mentors. However, as one teacher said, "The third year, you are solo, and it gets hard." Teachers at one school described losing motivation during the sustaining year. "My biggest reason for performing or doing as much as we did was because I loved Dave and Debbie [the Artist Mentors for that teacher]. I felt I was doing it for them . . . Without my mentor, I lost steam." Teachers at other schools also indicated they'd struggled to sustain AIDE activities without the presence of an artist mentor. Some also indicated they needed more time to feel comfortable planning and implementing arts infused lessons on their own. "I feel like it wasn't enough time for me to really hammer out material management and some of the [other] nuances. . . I still need training wheels," one teacher said. Other teachers described feeling comfortable using the lessons on the Arts Impact website, but feeling unsure how to create their own arts-infused lesson plans.

According to the Project Director, schools also became less responsive without the mentors in the classrooms, especially in buildings with administrator turnover. One teacher admitted, "I didn't realize

we were being held to Arts Impact expectations [this year] until I started getting emails." Teachers shared that more communication during the sustaining year would have been helpful. One teacher said, "Even twice a year would make all the difference . . . if someone came to talk to us and said, 'How will you do Arts Impact this year? How can I help you?'" Another suggested having a designated "point person" in the building to coordinate AIDE activities during the sustaining year. This is an interesting comment since there was a minimum of one communication per month, and perhaps even more, reminding teachers to complete teacher journals (every three months), attend PLC's (twice), turn in assessments (multiple times), and multiple announcements about cultural partner offerings for study trips and workshops. It would seem that without the physical presence of an Artist Mentor or another person, emails were not as effective a communication tool.

Limited resources. Though teachers tended to identify time as the largest barrier to program activities, the Project Director emphasized funding as the greatest overall challenge to the program. "We entered into AIDE prior to the Great Recession, and we entered in with the expectation we would be able to raise matching funds. We just couldn't to the degree we needed to," she explained. As described in the interim report, limited funding ultimately led to the Eastern Washington schools dropping out of AIDE after a year of implementation. "A cautionary tale going onto new projects is that if we are allotted less [funding] than what the project budget really requires, we scale back before we begin," the Project Director shared.

Teachers identified dwindling art supplies, which were provided by the grant in the previous two years, as a barrier during the sustaining year. "Materials are often the biggest barriers teachers put up," a program leader said, explaining that the lack of materials or uncertainty about how to use the materials have emerged as reasons many teachers do not integrate visual arts into their lessons. Indeed, one teacher shared, "Those lessons would never have happened if I hadn't gotten [the materials]. Those materials are way too expensive." Teachers spoke positively about the materials they received through AIDE, but at the same time, several expressed apprehension as materials began to run out. "I'm not sure how I'm going to do many of the lessons if I don't have the materials," one teacher said. At another school, a teacher admitted feeling reluctant to use the remaining art supplies knowing they would not be replaced. "I'm a little bit of a hoarder with materials because as soon as we use the stamp pads up, I don't want to go and buy more."

CONCLUSIONS AND LESSONS LEARNED

Arts Infusion Impacts the Opportunity Gap AIDE outcomes demonstrated that the Arts Impact professional learning program produces consistent positive teacher and student outcomes across different geographical regions. Performance assessment data from Training Year 2 indicate that, when fully supported, the achievement gap disappears. The Project Director shared:

> *We were running against some pretty big odds, in terms of the economy and resources, the roll-out of Common Core State Standards and the Teacher Principal Evaluation Protocol, and the mounting pressure on teachers. …the gap data we were able to discover through the AIDE project was some of the most groundbreaking findings we've had yet to share.*

More time in direct professional learning As competing priorities make more demands on teachers it seems clear from AIDE results that teachers need a minimum of one additional year of training with an Artist Mentor to become an effective teacher leader. The Project Director shared, "Even taking on

something as infused as our approach without three years of support is difficult, and we saw that in spades in the sustaining year." Arts-infusion did not spread school-wide in the AIDE schools, but occurred in isolation. Additional time may have helped to mitigate this outcome. Complementary PDAE programs *Training Teachers: Arts as Literacy (TTAL) 2008-2011*, and *Training Teachers: Arts as Literacy Plus (TTAL+)* 2011-2014, involved a co-hort of teacher leaders from four Seattle elementary schools for six years. In the case of *TTAL* and *TTAL+,* teacher leaders were able to sustain arts-infused teaching on their own and support teachers in their buildings in arts-infused teaching. Systems for supporting arts-infusion and a culture of arts learning developed within these schools so that changes in leadership and staff made less of an impact on continued implementation.

Leadership is key to change Strong and stable principal and district leadership is key to successful implementation of new practices. The AIDE project began with strong support from the district and participating principals. However, high turnover rates resulted in leadership that did not buy in to the program and in one instance was overtly unsupportive. AIDE results were clear. The school with the strongest principal support during Training Years 1 and 2 had the highest level of participation and implementation in the Sustaining Year, in spite of the fact that there was a principal change in that final year. This highlights the importance of the principal to lead change, institute systems to sustain arts-infusion, and develop a strong teacher leader corps.

Effective professional learning model The data showed that when there was ongoing support, classroom instruction improved in the AIDE schools versus the controls schools. Though overwhelmed by current competing priorities, almost all of the teachers indicated they wanted to teach more Arts Impact lessons again in the future. Teachers identified Professional Learning communities, the summer institutes, and the classroom mentorships with Artist Mentors as especially helpful components of the program. All of these activities involve collaboration with their colleagues and with outside expertise. AIDE outcomes underscore the need to adhere to standards and best practice for professional learning such as those as stated in the Learning Forward Standards for Professional Learning.[3]

Increased advocacy for arts-infusion AIDE helped guide district conversations around arts-infusion and supported the development of *Creative Advantage* in Seattle Public Schools. Data showing that the achievement gap closed when learning is analyzed by performance-based assessments in the arts has been a key advocacy tool to gain support for integration as a strategy for improving student success across the district. And as mentioned earlier, AIDE results were instrumental in getting Arts Impact designated as an approved strategy by OSPI for improving school and student success.

Replication Several observations can be made in terms of replicating the Arts Impact model and embedding it in another organization in a different geographic region. First, it should be noted that replication of the professional learning design was very successful. An effective training program for new Artist Mentors and program administrators was developed and implemented with fidelity. Schools and districts in Eastern Washington were fully engaged and student and teacher outcomes were very positive.

What is more difficult, is replicating the infrastructure, culture, and resource supports that are necessary to make implementation successful. The most significant obstacle to successful replication in Eastern Washington was underestimating the amount of resources—time and money—necessary to support

[3] *Learning Forward Standards for Professional Learning. http://learningforward.org/standards-for-professional-learning#.VZGumShhj0A 2011.*

training new Artist Mentors and administrative staff to implement in four schools, with two of them being remotely located. Once the program was underway in Eastern Washington there was tremendous buy-in from the Project Director, Artist Mentors, participating districts, principals, schools, and community cultural partners. However, NEWESD leadership did not share the same entrepreneurial focus or culture that exists at Puget Sound ESD, the home agency of Arts Impact, so that efforts to seek additional program funding were not supported. It might also be noted that Arts Impact's origins were as a non-profit organization prior to becoming a program of Puget Sound ESD, and already had a culture of aggressively seeking funding from both public and private sources. This approach to program support was not part of the administrative culture and practices of NEWESD which relied more on state initiatives and programs funded and driven by the Office of the Superintendent of Public Instruction.

RECOMMENDATIONS

Performance-based assessments In light of the achievement gap data gathered through the AIDE project, performance based assessments in and through the arts should be studied more thoroughly to fully understand the benefits to students, especially for English language learners, students with disabilities, and at-risk students. Students need opportunity to demonstrate learning in and through the arts as an alternative pathway for showing what they know and can do. A more balanced approach to assessing to get a true measure of student achievement is needed especially when we see the opportunity gap disappear when students show their learning in and through the arts.

More time to develop teacher leaders Previous Arts Impact research clearly shows that the two-year professional learning model is sufficient for teachers to gain confidence and competence to infuse the arts in their own classrooms, but additional time is needed to develop the confidence and competence to coach fellow teachers in arts-infusion. We recommend providing a minimum of three years of direct professional learning and Artist Mentor support that includes the basic two-year Arts Impact professional learning model with at least one (and perhaps more) additional year (30-40 hours) to develop coaching and mentoring skills. Collaboration time with teacher colleagues and with content specialists (Artist Mentors) also emerged as a key component listed by teachers to develop teacher leader skills. It is critical that collaboration time be built in to school structure and systems as a sustaining component of arts-infused teaching.

Strategies for developing early buy-in from the entire school faculty around arts-infused teaching before selecting the teacher leader team should be investigated. Development of a school arts team and school arts plan should become part of the training model to establish systems that will sustain through teacher and principal changes.

Professional Learning Communities are crucial for on-going support, so much so that training on implementation of effective learning communities should also be added. Compensation and/or career ladder opportunities for teacher leaders would provide incentive for sustaining the work as well as developing capacity for district-level coaches to support classroom teachers in arts-infusion.

Leadership Leading and supporting implementation of new and innovative programs, especially a program that is seen as outside of "essential" content, takes strong and courageous leadership. The role of the principal is critical to sustaining arts integration and embedding it in the instructional culture of the school. ArtsEd Washington developed a Principal Arts Leadership program and network that could be used as a resource and building block for supporting principals in developing systems to sustain arts-infused instruction. The role of district leadership is also critical to sustainability. Principals must respond to priorities set by the district and balance the many initiatives thrust upon them. It is important that

data continue to be gathered on the positive outcomes of arts-infusion so that leaders are willing to include arts-integration as part of their overall strategy for improving student outcomes.

Readiness to Benefit Before replicating or implementing a new program, a thorough evaluation of readiness, using an instrument such as the Hexagon Tool by a team representing all the stakeholders, is strongly advised. A significant weakness in just one or two of the six key components for successful implementation can signal failure.

IN SUMMARY

AIDE has made an excellent case for the benefits of arts-infused teaching for traditionally low-performing students. It has shown how the opportunity gap disappears when students are assessed in and through the arts and can demonstrate their knowledge in performance-based assessments. The project has also demonstrated once again that professional learning in and through the arts transforms and improves teacher practice and builds personal artistic confidence and skills in teachers.

Through the process of implementing the Arts Impact model in another geographic area of the state, much was learned about the conditions and structures that need to be in place for successful replication. A very effective model for training Artist Mentors and administrative staff was developed and documented. Schools and districts in remote rural and small town rural settings embraced arts-infusion as a positive strategy for improving student outcomes in their schools, just as has been demonstrated in the large urban setting of Seattle. What came to light was the importance of evaluating the presence multiple factors that impact implementation of an evidence-based model. A successful professional learning model is just one component of several areas that must work together to provide an environment in which arts-infusion can thrive and sustain. The NIRN Hexagon Tool was identified as useful tool to analyze readiness to implement.

Creation of a more efficient and cost effective professional learning model to scale up arts-infusion across a district or state still needs more research. While the two-year Arts Impact professional learning model puts teachers on their feet to infuse the arts in their individual classrooms, developing capacity for teachers to be leaders in their buildings takes additional time and support structures. For teachers to be able to feel empowered to embed arts-infusion into their practice, they must have the support of principals and district leaders telling them that arts-infusion is an acceptable and effective strategy to improve student achievement. AIDE brought to light that there is still much work to be done to change the belief that arts-infusion is a valid strategy for student achievement from a few isolated and impassioned leaders to a broadly accepted belief that receives resources and funding support on an equal basis with other content areas.

Appendix A: Scope and Sequence: AIDE Arts-infused Reading Curriculum

ARTS-INFUSED LEARNING: Dance, Theater, Visual Arts, and Literacy						
GRADE	**KINDERGARTEN**	**FIRST GRADE**	**SECOND GRADE**	**THIRD GRADE**	**FOURTH GRADE**	**FIFTH GRADE**
READING GLE FOCUS	2.1 Demonstrates evidence of reading comprehension 2.1.2 Understands how to create mental imagery 2.1.4 Understands how to use prior knowledge 2.1.5 Infers meaning 2.2.1 Know story sequence 2.2.3 Understands story elements: characters, actions, feelings	2.1 Demonstrates evidence of reading comprehension 2.1.2 Understands how to create mental imagery 2.1.4 Understands how to use prior knowledge 2.1.5 Infers meaning 2.2.1 Know story sequence 2.2.3 Understands story elements: characters, actions, feelings	2.1 Demonstrates evidence of reading comprehension 2.1.1 Understands how to use questioning when reading 2.1.3 Applies comprehension monitoring strategies during and after reading 2.1.5 Infers meaning and predicts 2.2.1 Understands sequence 2.2.3 Understands story elements: characters, actions, feelings	2.1 Demonstrates evidence of reading comprehension 2.2.1 Understands sequence 2.1.4 Connects self and character 2.1.5 Infers meaning 2.1.6 Creates mental images 2.2.3 Understands story elements: characters, actions, feelings	2.1 Demonstrates evidence of reading comprehension 2.1.3 Determines importance 2.1.5 Uses text to make inference 2.2.1 Understands sequence 2.2.3 Understands story elements: characters, actions, traits, feelings	2.1 Demonstrates evidence o reading comprehension 2.1.4 Applies comprehensio monitoring strategies before during and after reading 2.1.5 Uses graphic organizer t support inference 2.2.1 Applies understanding o sequence 2.2.3 Understands story elements: characters, action motivations, feelings, problen 2.4.2 Analyzes writing style
DANCE/ READING **Focus on Sequence**	**Arts-Infused Concepts:** Action Beginning, middle, end **Reading Concepts:** Folktale Plot **Dance Concepts:** Movement Self and general space Shape Size (big and small)	**Arts-Infused Concepts:** Action Beginning, middle, end Beginning problems/solution Expression **Reading Concepts:** Folktale Plot **Dance Concepts:** Choreography Energy: sharp and smooth Level: high and low Movement Self and general space Shape Tempo: fast and slow	**Arts-Infused Concepts:** Action Expression/emotion Similar/Different **Reading Concepts:** Folktale Plot **Dance Concepts:** Choreography Level Mirroring Movement Self and General Space Shape	**Arts-Infused Concepts:** Action Event Exaggeration Expression **Reading Concepts:** Plot Prequel Sequel Title **Dance Concepts:** Choreography Energy Movement Self and General Space Shape Size Tempo	**Arts-Infused Concepts:** Action Event Expression **Reading Concepts:** Plot Title **Dance Concepts:** Choreography Movement Repetition Self and General Space Shape	**Arts-Infused Concepts:** Expression Meaning Sequence **Reading Concepts:** Plot **Dance Concepts:** Accumulation Choreography Energy Movement phrase Shape
THEATER/ READING **Focus on Character**	**Arts-Infused Concepts:** Action Character Emotions **Reading Concepts:** Inference **Theater Concepts:**	**Arts-Infused Concepts:** Action Character Emotions Visualization **Reading Concepts:** Background knowledge	**Arts-Infused Concepts:** Action Attributes Character **Reading Concepts:** Inference Outcome Prediction	**Arts-Infused Concepts:** Action Attributes Character Dialogue Emotions Inference Objective	**Arts-Infused Concepts:** Action Attributes Character Emotions **Reading Concepts:** Inference	**Arts-Infused Concepts:** Action Character Climax Falling action Feelings Problem Resolution Rising action

	Body Expression Gesture Pantomime Posture Vocal choice	**Theater Concepts:** Facial expression Pantomime Physical choice Sense memory Vocal choice	Scenario **Theater Concepts:** "IF"	**Reading Concepts:** Descriptive language **Theater Concepts:** Neutral Objective Obstacle Physical choice Vocal choice	**Theater Concepts:** Facial Expression Gesture Neutral Obstacle Physical choice Vocal choice	**Reading Concepts:** Story sequence Summarizing Synthesis **Theater Concepts:** Denouement Gesture Tableau
VISUAL ARTS/ READING **Focus on Setting**	**Arts-Infused Concepts:** Setting **Reading Concepts:** Mental pictures Prior knowledge **Visual Arts Concepts:** Implied texture Overlapping	**Arts-Infused Concepts:** Setting **Reading Concepts:** Mental pictures Prior knowledge Sense memories **Visual Arts Concepts:** Actual texture Overlapping Repetition Unity	**Arts-Infused Concepts:** Imagination Setting **Reading Concepts:** Prior knowledge Text (questioning) **Visual Arts Concepts:** Abstraction Colors: warm/cool Exaggeration Visual dynamism	**Arts-Infused Concepts:** Setting **Reading Concepts:** Inference Mental imagery Prior knowledge **Visual Arts Concepts:** Abstraction Color: warm/cool Expressive color Mood	**Arts-Infused Concepts:** Emphasis Interpretation Setting **Reading Concepts:** Antonym Main idea **Visual Arts Concepts:** Contrast Value	**Arts-Infused Concepts:** Setting Unity **Reading Concepts:** Style (analysis) Synthesis **Visual Arts Concepts:** Repetition Symbolism

Appendix B: Scope And Sequence: AIDE Arts-infused Math Curriculum

AIDE YR 2: MATH and DANCE/VISUAL ARTS						
DISCIPLINES	**DANCE/MATH INFUSED**			**VISUAL ARTS/MATH INFUSED**		
GRADE	**KINDERGARTEN**					
LESSON	**Lesson 1**	**Lesson 2**	**Lesson 3**	**Lesson 1**	**Lesson 2**	**Lesson 3**
CCSS MATH DOMAIN(S)	**Operations and Algebraic Thinking** Equality/Equivalency	**Operations and Algebraic Thinking** Numeracy	**Geometry**	**Numbers and Operations in Base Ten** **Counting and Cardinality**	**Geometry**	**Operations and Algebraic Thinking** Equality/Equivalency
MATH/ARTSINF USED, MATH and ARTS CONCEPTS	**Math/Dance Infused Concepts:** Balance Difference Same **Math Concepts:** Equal Equation **Dance Concepts:** General space Kinesphere Movement Self-space Shape	**Math/Dance Infused Concepts:** Addition Subtraction **Dance Concepts:** General space Movement Puzzle shape	**Math/Dance Infused Concepts:** Shape **Math Concepts:** Triangle Square Rectangle Trapezoid **Dance Concepts:** Kinesphere	**Math/Visual Arts Infused Concepts:** Circle Line Shape Space **Math Concepts:** Array Counting Group Sorting **Visual Arts Concepts:** Composition	**Math/Visual Arts Infused Concepts:** 2-D, 3-D Above, Below, Beside Cube Curved Rectangle Shape Square Triangle **Math Concepts:** Composite Corner Side **Visual Arts Concepts:** Composition Stamping	**Math/Visual Arts Infused Concepts:** Above, Below, Beside Grid Square **Math Concepts:** Equal Equation **Visual Arts Concepts:** Balance Collage Craftsmanship Repetition
GRADE	**1ST GRADE**					
LESSON	**Lesson 1**	**Lesson 2**	**Lesson 3**	**Lesson 1**	**Lesson 2**	**Lesson 3**
CCSS MATH DOMAIN(S)	**Geometry**	**Operations and Algebraic Thinking** Equivalency	**Measurement and Data**	**Measurement and Data**	**Geometry**	**Operations and Algebraic Thinking** Equivalency
MATH/ARTSINF USED, MATH and ARTS CONCEPTS	**Math/Dance Infused Concepts:** Part Whole **Math Concepts:** Circle Fourth Half Quarter	**Math/Dance Infused Concepts:** Comparison **Math Concepts:** Greater than >\ Less than < Equal to = **Dance Concepts:** Movement Shape	**Math/Dance Infused Concepts:** Height: Short, Tall Length: Long, Short **Math Concepts:** Measure **Dance Concepts:** General space Kinesphere Movement	**Math/Visual Arts Infused Concepts:** Diagonal Horizontal Line direction Long, Medium, Short Vertical **Math Concepts:** Length Measure Unit	**Math/Visual Arts Infused Concepts:** Shape Circle Square Rectangle **Math Concepts:** Composite shape Fourth Fraction Half	**Math/Visual Arts Infused Concepts:** Repetition Symbol **Math Concepts:** Addition Equal Equation Subtraction **Visual Arts Concepts:**

	Dance Concepts: General space Mirror Movement Self-space Shape		Self-space Shadow Shape	**Visual Arts Concepts**: Composition Variety	Quarter **Visual Arts Concepts**: Balance Collage Composition	Print Texture Unity Variety

DISCIPLINES	**DANCE/MATH INFUSED**			**VISUAL ARTS/MATH INFUSED**		
GRADE	**2ND GRADE**					
LESSON	**Lesson 1**	**Lesson 2**	**Lesson 3**	**Lesson 1**	**Lesson 2**	**Lesson 3**
CCSS MATH DOMAIN(S)	**Numbers and Operations in Base Ten** Place Value	**Operations and Algebraic Thinking** Equality/Equivalency	**Geometry**	**Operations and Algebraic Thinking** Equality/Equivalency	**Numbers and Operations in Base Ten** Place Value	**Geometry**
MATH/ARTSINF USED, MATH and ARTS CONCEPTS	**Math/Dance Infused Concepts:** Count Size **Math Concepts**: Place Value **Dance Concepts**: Kinesphere Movement Self-space Shape	**Math/Dance Infused Concepts:** Count Solve **Math Concepts**: Addends Addition Equals Equation Subtraction Sum Word problem **Dance Concepts**: Choreographer Energy: smooth and sharp Shape Space: self and general	**Math/Dance Infused Concepts:** Shape **Math Concepts**: Angle Equal Polygon Hexagon Pentagon Quadrilateral Triangle Regular and Irregular Side **Dance Concepts**: Kinesphere Sequence	**Math/Visual Arts Infused Concepts:** Identical Repetition Rows Shape **Math Concepts**: Addition Columns Equation Even Odd Quarters **Visual Arts Concepts**: Collage Composition Contrast Unity Warm and Cool Colors	**Math/Visual Arts Infused Concepts:** Grid Horizontal Shape Vertical **Math Concepts**: 100s,10s,1s Equal to Greater than Less than Place value **Visual Arts Concepts**: Balance Limited palette Non-objective Repetition Rubbing Unity	**Math/Visual Arts Infused Concepts:** Diagonal Geometric shape Hexagon Horizontal Pentagon Triangle Vertical **Math Concepts**: Fraction Part Quadrilateral Regular Side **Visual Arts Concepts**: Composition Craftsmanship Movement
GRADE	**3RD GRADE**					
LESSON	**Lesson 1**	**Lesson 2**	**Lesson 3**	**Lesson 1**	**Lesson 2**	**Lesson 3**
CCSS MATH DOMAIN(S)	**Operations & Algebraic Thinking** Multiplication	**Numbers and Operations Fractions**	**Geometry** and **Measurement and Data**	**Fractions** & **Operations and Algebra** Equality/Equivalency	**Geometry** and **Measurement and Data**	**Operations and Algebraic Thinking** Multiplication
MATH/ARTSINF USED, MATH and ARTS CONCEPTS	**Math/Dance Infused Concepts:** Counts Sets **Math Concepts**:	**Math/Dance Infused Concepts:** Counts **Math Concepts**: Fractions	**Math/Dance Infused Concepts:** Measurement Rectangle Shape	**Math/Visual Arts Infused Concepts:** Asymmetry Horizontal Shape Symmetry	**Math/Visual Arts Infused Concepts:** Geometric shape Grid Horizontal Space	**Math/Visual Arts Infused Concepts:** Horizontal Shape Symmetry Vertical

	Multiplication **Dance Concepts**: Energy: Shaking, Sharp, Smooth, Swinging	 **Dance Concepts**: Choreography Levels: High, Low Shape Space: Self, General	**Math Concepts**: Area Perimeter **Dance Concepts**: Bound Movement/Shape Choreographer Free Movement/Shape	Vertical **Math Concepts**: Area Equal Fraction: Part, Whole Quarter **Visual Arts Concepts**: Collage Complementary color Composition Contrast Informal balance	Vertical **Math Concepts**: Addition Area Half Rectangle Square **Visual Arts Concepts**: Background Balance Composition Space: negative, positive Unify Weaving	**Math Concepts**: Array Divide Equation Expression Group Multiply Row **Visual Arts Concepts**: Assemblage Balance Composition Ground Repetition
DISCIPLINES	**DANCE/MATH INFUSED**			**VISUAL ARTS/MATH INFUSED**		
GRADE	**4TH GRADE**					
LESSON	**Lesson 1**	**Lesson 2**	**Lesson 3**	**Lesson 1**	**Lesson 2**	**Lesson 3**
CCSS MATH DOMAIN(S)	**Numbers and Operations Algebraic Thinking** Number Patterns	**Geometry** Angles	**Numbers and Operations Fractions**	**Numbers and Operations Algebraic Thinking** Number Patterns	**Numbers and Operations Fractions**	**Geometry**
MATH/ARTSINFUSED, MATH and ARTS CONCEPTS	**Math/Dance Infused Concepts:** Pattern **Math Concepts**: Rule Number **Dance Concepts**: Locomotor movement Non-locomotor movement Shape Space: self, general	**Math/Dance Infused Concepts:** Angles **Math Concepts**: Acute angle Line segment Obtuse angle Right angle Straight angle **Dance Concepts**: Focus Locomotor movement Shape	**Math/Dance Infused Concepts:** Counts Sequence **Math Concepts**: Fractions **Dance Concepts**: Choreographer Movement Shape	**Math/Visual Arts Infused Concepts:** Grid Pattern **Math Concepts**: Addition Prediction Rule Subtraction Symbol **Visual Arts Concepts**: Background Color Palette Contrast Line Repetition Shape Template	**Math/Visual Arts Infused Concepts:** Fraction Horizontal, Vertical **Math Concepts**: Denominator Eighth, Half, Quarter **Visual Arts Concepts**: Background Collage Composition Depth Nonobjective Proportion Space Translucent	**Math/Visual Arts Infused Concepts:** Angle Diagonal Parallel, Perpendicular **Math Concepts**: Angles: Acute, Obtuse, Right Endpoint Horizontal, Vertical Ray **Visual Arts Concepts**: Abstract Composition Converging line Depth Gradation Overlapping Tone Value
GRADE	**5TH GRADE**					
LESSON	**Lesson 1**	**Lesson 2**	**Lesson 3**	**Lesson 1**	**Lesson 2**	**Lesson 3**
CCSS MATH DOMAIN(S)	**Operations & Algebraic Thinking:** Variables	**Geometry** Quadrilaterals	**Numbers and Operations Fractions**	**Operations & Algebra** Equality/Equivalency	**Fractions** & **Measurement & Data**	**Numbers and Operations Fractions**

MATH/ARTSINF USED, MATH and ARTS CONCEPTS	**Math/Dance Infused Concepts:** Counts Value **Math Concepts**: Equation Variable **Dance Concepts**: Choreographer Locomotor movement Non-locomotor movement Shape	**Math/Dance Infused Concepts:** Sequence Shape **Math Concepts**: Angle Kite Parallelogram Trapezoid Polygon Quadrilateral Rectangle Rhombus Side Square **Dance Concepts**: Choreographer	**Math/Dance Infused Concepts:** Pattern **Math Concepts**: Addition Fractions Subtraction **Dance Concepts**: Body percussion Choreographer Contrast Energy: Sharp, Smooth Movement Shape			

Appendix C: Hexagon Tool – National Implementation Research Network

The Hexagon Tool

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